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A WEEKLY REVIEW OF MEDICINE

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LIST OF ILLUSTRATIONS IN VOLUME LXVIII.

PAGE
Diseases of the Upper Rectum. Full-page Illustration Facing 1
Quinine Amaurosis 6
Nasal Rhinolith 45
Cæsarean Section. Two Illustrations 73
Epithelioma of the Larynx. Two Illustrations 75
Anatomy and Physiology of the Nervous System. Ten Illustrations 76–80
J-shaped Contact Tool. Two Illustrations 81
A New Form of Instantaneous Cut-off. Three Illustrations 139
Cerebral Neoplasms. Three Illustrations 155, 159
Deflected Nasal Sæptum. Five Illustrations 182
Instruments for Operating on the Deflected Sæptum. Five Illustrations 184
Diagram Illustrating Cardiac Murmurs 187
Oculo-motor Diagrams. Two Illustrations 194, 195
Amyloid Bodies in the Central Nervous System 217
Colloid and Hyaloid Bodies. Three Illustrations 218, 219
Fissura Calcarina. Four Illustrations 220, 221
Galvano-cautery Electrode 253
Edison Direct-current Cautery Transformer 255
Brain Anatomy and Psychology. Four Illustrations. 327, 330
An Operating Table and Chair. Two Illustrations. 333, 334
Catheters for Cystitis 355
The Potentor. Four Illustrations 374, 375
Implantation of an Artificial Vitreous. Four Illustrations 397, 399
Caryocinetic Figures in Nerve Cells 400
Foreign Body in the Larynx 408
Laryngeal Retractor 408
Thymus Gland 445
Photograph of Two Portions of the Ileum 446
Cerebral Abscess. Three Illustrations 471, 472
Bernays Aseptic Sponge 475
Cretinism 476
Growth in Spondylitics. Four Charts 508, 509
Lobar Pneumonia. Six Sphygmographic Tracings. 523, 525
Leprous Ulcer of the Lip. Full-page Illustration..Facing 541
Cerebral Tumor. Four Illustrations 543, 545
Cardiac Syphilis. Eight Microscopic Illustrations.. 578, 582
PAGE
Transmission of Disease by Insects. Four Illustrations 594, 598
Fibro-lipoma of the Larynx. Two Illustrations 614
Chart of Fields of Vision and Color 667
Section through Appendicular Wall 685
Fæcal Concretion 686
Appendix Wall in Simple Appendicitis 687
Long Strictured Appendix 687
Pyappendix 689
Beginning Perforation in Pyappendix 689
Fibrous Degeneration of Pyappendix 689
Radiograph of Bones of the Knee 692
Pernicious Anæmia. Four Photomicrographs of Blood 697, 698
Section through Erectile Tissue of a Bull's Nasal Mucous Membrane 733
Section through Erectile Tissue of a Bullock's Nasal Mucous Membrane 733
Intestinal Ectropion 761
Tabetic Talipes Valgus 789
Use of Currents from Central Stations. Five Diagrams 802, 804
Malarial Fevers on the Pacific Coast. Map 811
Cultivation of the Plasmodium Malariæ. Three Full-page Illustrations with Temperature Charts..Facing 835
Malarial Plasmodia. Three Illustrations 836, 838
Blood Examinations. Six Illustrations 835, 838
Three Temperature Charts 836, 839
Direction of Incision in Appendectomy 841
Removal of the Appendix 841
Removal of the Mucous Membrane in Appendectomy... 842
Suturing the Stump in Appendectomy 842
Use of Currents from Central Stations. Five Diagrams 846–848
Syringe for the Injection of Antitoxine 888
Trephine for Intracerebral Injection 889
Anatomy and Physiology of the Nervous System. Two Illustrations 909, 910
Gold and Zinc Puncture Electrodes 913
Bulbous Channel Gold Electrode 913
Massey's Transportable Galvanic Battery 914

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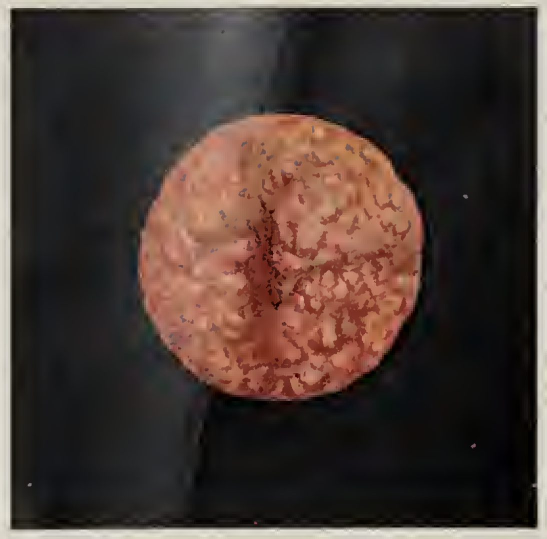
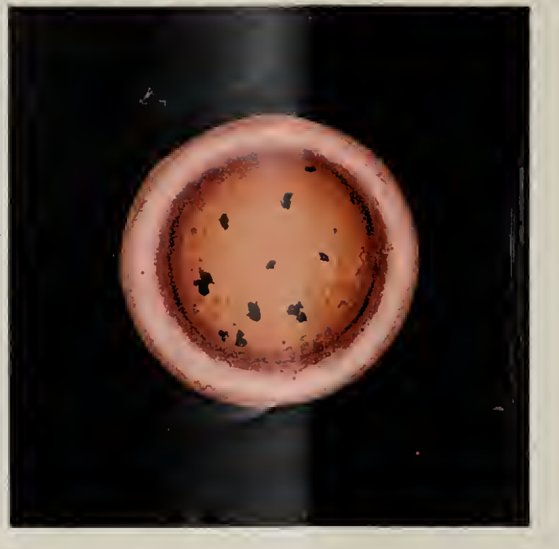


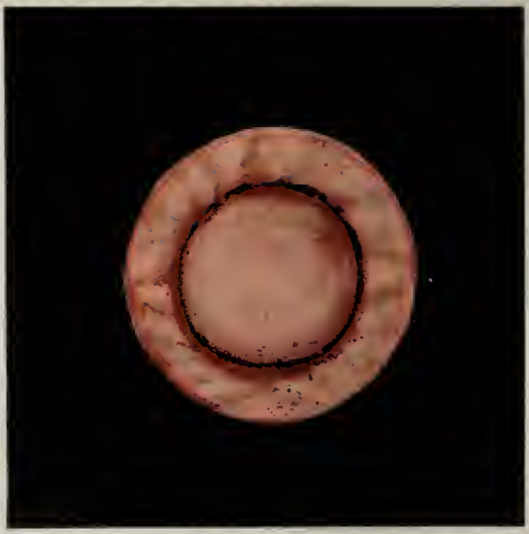
Carcinoma of Sigmoid.

IV.



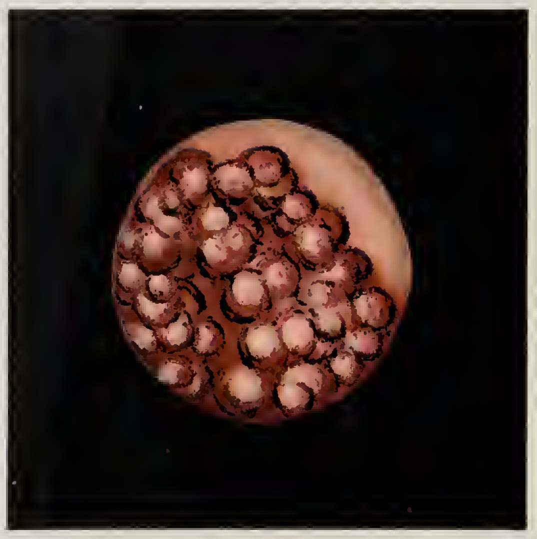
Atrophic Catarrh of Upper Rectum, with adherent fæcal masses.

V (a).



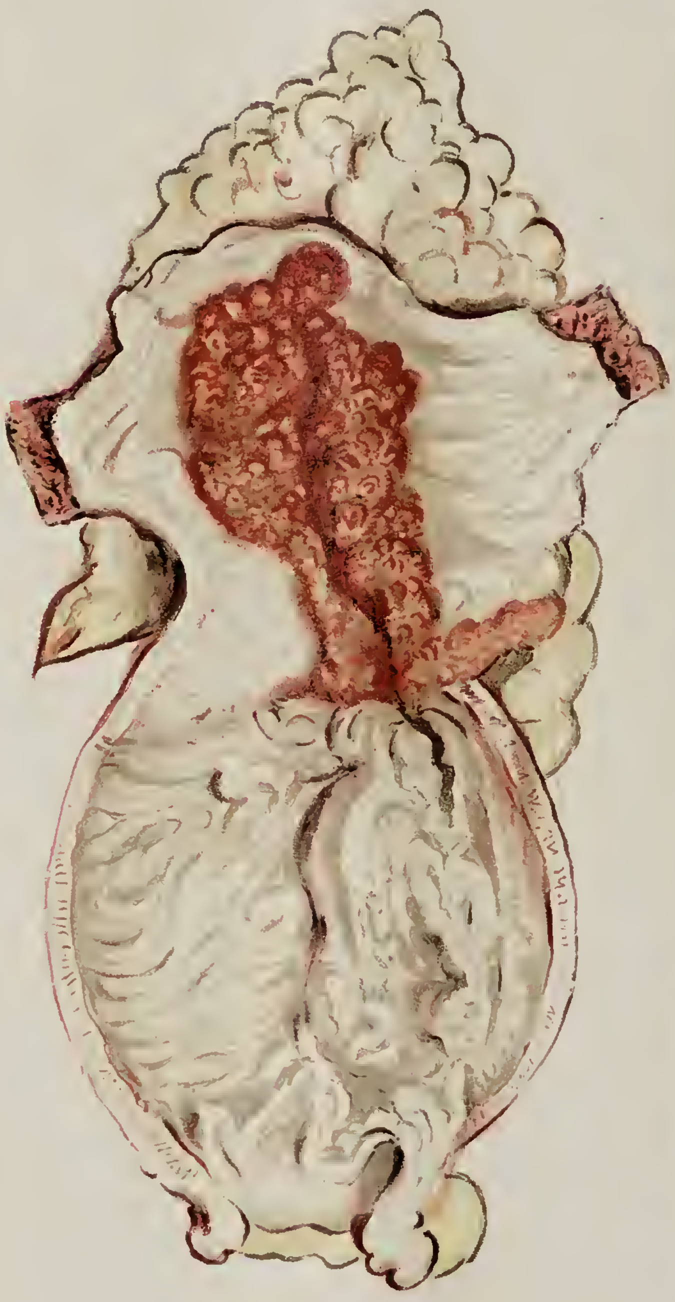
a. Normal Mucous Membrane.

II.



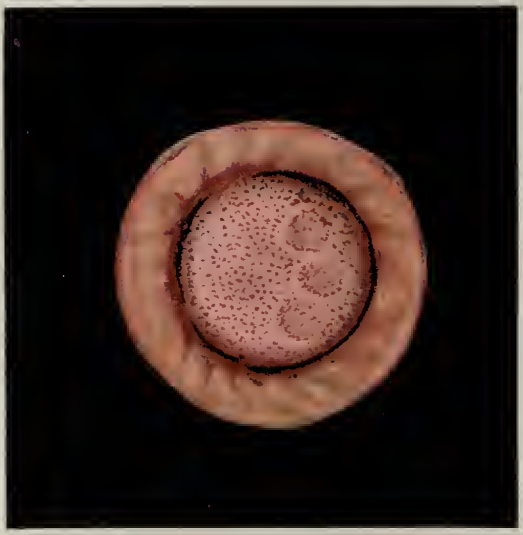
Papilloma.

VI.



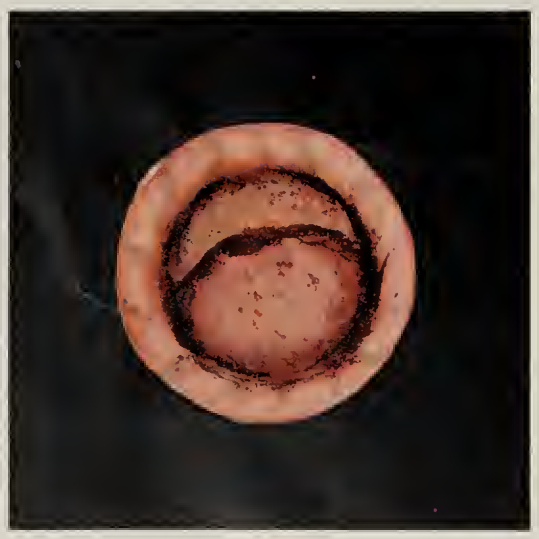
Appearance of Sigmoid after removal of Cancer and opening of gut.

V (b).



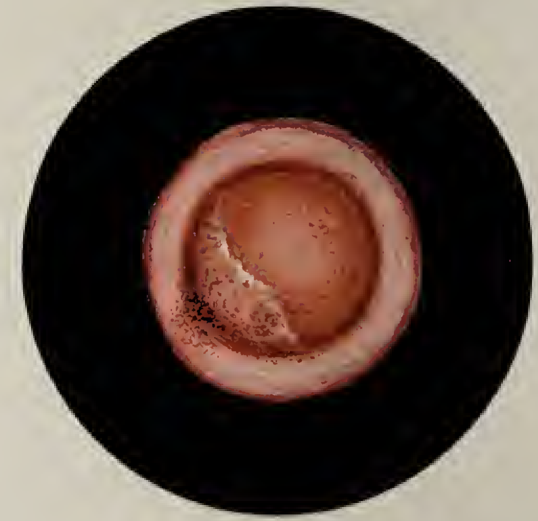
b. Follicular Ulceration of Sigmoid.

III.



Fibroid Polypus at junction of rectum and sigmoid.

VII.



Simple Ulceration of Sigmoid, with prolapse into rectum.

DR. TUTTLE'S ARTICLE ON LOCAL EXAMINATION AND TREATMENT OF DISEASES OF THE UPPER RECTUM AND SIGMOID FLEXURE.

THE NEW YORK MEDICAL JOURNAL, JULY 2, 1898.

Original Communications.

LOCAL EXAMINATION AND TREATMENT OF DISEASES OF THE UPPER RECTUM AND SIGMOID FLEXURE.

By JAMES P. TUTTLE, M. D.,
PROFESSOR OF DISEASES OF THE RECTUM IN THE NEW YORK POLYCLINIC.

THE distinguishing feature of modern medical science is the substitution of accuracy for generalities, sight for inference. The former, it is true, can never entirely replace the latter, but, on the other hand, diagnosis from inference, however logical, will never be accepted as conclusive when actual observation is possible. The old adage, "seeing is believing," is peculiarly applicable to the study of medicine, for such strange phenomena often appear in the human system that nothing short of seeing will convince us of their existence, and sometimes we even doubt our own eyes.

Until within recent years all internal diseases were diagnosticated through subjective symptoms, auscultation, and palpation. With the advent of the concave mirror and reflected light, as applied to medicine, came the new era of actual sight, and following this came the invention of instruments for examining the various organs of the body having apertures of approach from without. The various specula, the cystoscope, the endoscope, the gastroscope, and the proctoscope are all the products of a desire to see and know what we hitherto inferred or guessed.

The object of this paper is to bring before the profession something of the knowledge of diseases of the upper rectum and sigmoid flexure gained by actual observation of the conditions and parts through the proctoscope and sigmoidoscope, or, as they are better known, the "Kelly tubes." The instrument has been fully described by Dr. Howard A. Kelly in the *Annals of Surgery*, 1895, xx, p. 468, and I will not consume space by repeating this description here. The applicability and limitations of the instrument are still subjects of discussion, but it is only fair to judge of it by its use in experienced hands, and not by accidents from it in the hands of tyros in medicine, or the possibilities of what might be done with it. All medical means and instruments are dangerous in untrained hands, and between them it is only a question of degree. The wonderful X ray, which was thought so harmless at first, has become a menace to the life and limbs of every patient examined, and the scalpel—well, that is dangerous in the hands of almost all of us—yet who would be without either?

It has been said that only part of the intestinal circumference can be seen at once through this instrument. This is partly true, but by proper manipulation the other parts may be brought into view in their turn, and whatever pathological condition is there can be clearly observed. What may be seen through the instrument is only limited by what may exist within the lower twenty to thirty-five inches of the intestinal tract. I state these figures advisedly, as they were obtained by actual measurement in experiments upon the cadaver. Constriction of the calibre of the gut through organic disease or by pressure from without, and extreme tortuosity of the sigmoid flexure, with adhesions, are about the only conditions which prevent the use of the instrument. Volvulus, fæcal impaction, or intussusception might also limit its application, but it would still be useful in diagnosticating these conditions, and thus serve the very purpose for which it was designed. As an aid in teaching diseases of the rectum, the instrument is invaluable. It is impracticable to let twenty-five or thirty students introduce their fingers into a patient's rectum; but, unless this is done, or the parts are brought into view, they might just as well read a description of the case in books. Moreover, when they do introduce their fingers, the teacher can never be certain that they feel what he is trying to demonstrate. With the Kelly tube in place, however, as many may look as will without detriment or pain to the patient, and the knowledge thus gained is far greater than the average man can gain from touch. It is only the finger so delicately educated that it becomes an eye and probe in one that gains much from a rectal examination, and even such an one is limited to the four inches above the anus.

I do not propose to speculate upon the possibilities of this instrument, but simply to describe what I have seen and accomplished through it. The illustrations are water-color drawings of the parts as seen through the tube by the artist himself, and have not been touched up by imagination or theory.

Neoplasms.—Neoplasms, while not the most frequent of the pathological affections of the sigmoid and upper rectum, are of paramount importance from a diagnostic point of view. The early symptoms of tumors of the intestine are so obscure, and so often identical with those of simpler diseases, that they are frequently mistaken for functional or inflammatory disorders and so treated until it is too late to cure the patient by operative procedures. Especially is this true of the first and most important one to be described—viz., cancer. The frequency of this growth in the rectum, sigmoid, and colon, the stealthiness of its invasion, the obscurity of its early symptoms, are well known to all of us. The fact that its early removal gives the patient comparatively long relief, if not absolute cure, has been well established, and emphasizes the importance of any means that will assist us in an early diagnosis of this disease. Carcinomas can be seen and recognized almost from the first appearance of symptoms, if they can be brought into view, and it is my firm conviction that the systematic use of the Kelly tubes in all cases of irritation of the rectum, sigmoid, or lower colon would reduce the mortality from cancer in these parts at least fifty per cent. Even before the continuity of the mucous membrane is broken, the red, indurated spot of invasion may be recognized through the tube and felt with a probe, and when ulceration has begun the appearance is so typical that mistake is almost impossible. The red, congested ulceration, nodular, covered with muco-pus, bleeding upon the slightest touch, involving or attached to the muscular wall of the gut and causing more or less constriction in its calibre, are typical appearances and can scarcely be mistaken for any other disease when seen. But the symptoms produced by this same condition are so like those of other diseases that diagnosis from them alone is very likely to result in error. Such mistakes are not confined to quacks or the ordinary practitioners of medicine. They are made by those who, through their careful work, have become authorities in our profession.

The specimen and drawing marked No. I* were taken from a patient who had passed through the hands of no less than four of our most eminent practitioners. Their diagnosis had been "chronic catarrh of the bowels," "mucous colitis," "chronic constipation," and "hæmorrhoids." Examination through the sigmoidoscope showed the patient to be suffering from cancer of the sigmoid flexure about twelve inches from the anus, and a timely excision has prolonged his life at least a year.† That the sigmoidoscope showed all these doctors to have been mistaken does not prove that they were careless. They formed their opinions from the patient's symptoms, and he had symptoms of every condition named—*e. g.*, mucous stools, constipation, flatulence, bleeding at stool, frequent and unsatisfied desire to defecate. Nothing could be made out by rectal touch, abdominal palpation, or through the ordinary rectal speculum.

This is but one of a number of cases in which the diagnosis was barely, if at all, suspected before the instrument was used. The early symptoms vary greatly. There may be diarrhœa or constipation, there may or may not be pain; loss of blood may be an early or late symptom, but there is nearly always present flatulence, symptoms of intestinal indigestion, more or less tenesmus, and frequent inclination to go to stool without result. Loss of flesh is not a constantly early symptom, and when it does occur can easily be attributed to the imperfect assimilation of food consequent upon the indigestion.

It becomes thus all the more important that actual examination of the parts should be made in all patients suffering from persistent symptoms such as these:

Fibrous and adenoid polypi, while common in the lower rectum, are not frequently seen in the sigmoid and upper rectum, but they do occur. Specimen and drawing No. II show one of these diagnosticated and removed through the tube from about eight inches and a half above the anus. They produce local and reflex irritations. They may cause constipation, as in the present case, and although they do not cause death, the entire functions of the alimentary canal may be disturbed by them, and a condition of invalidism be indefinitely prolonged by their existence. I have seen one such case entirely recover after the removal of a polypus from high up in the rectum beyond the reach of the finger or the ordinary rectal speculum.

Papillomata are rather a rare growth in the rectum, so far as my experience goes. They occur, however, and may be found at any point from the anus upward. I present in picture No. III a beautiful example of this growth diagnosticated through the sigmoidoscope and removed from the sigmoid flexure nine inches and a half above the anus. These growths are much more difficult to remove than the fibrous and adenoid polypi on account of their broad attachment to the mucous membrane and short pedicles. They are composed of numerous arteries held together by a connective-tissue stroma and covered with epithelium. They bleed freely upon handling, and when they are cut or twisted off dangerous hæmorrhage is likely to follow. The symptoms are almost identical with those of cancer of the rectum, and even when brought into view the unpractised eye may very easily mistake them for epithelioma. They may be distinguished, however, by the healthy condition of the mucous membrane at their base, the absence of infiltration in the intestinal wall, no constriction in the intestinal calibre, and, above all, by the fact that they nearly always occur as multiple growths with absolutely healthy areas of mucous membrane between them.

Fibroids, lipomata, dermoid cysts, and other neoplasms of the rectum may be diagnosticated and sometimes treated through the tube, but, as I have never seen them through it, I will not draw upon my imagination for a description.

Flat, broad-based adenoid growths are comparatively frequent in the lower rectum, but are rarely seen above three or four inches from the anus. I have seen two cases through the tubes, six and seven inches up the rectum respectively. There was a condition resembling the adenoids of the nasopharynx. They were moist, soft, glandular-looking growths, pale in color, and confined to the posterior wall of the intestine. I removed them by cauterization. One patient was completely cured; the other was benefited but not cured, as he suffered from an atony of the intestinal walls which nothing seemed to benefit.

It is evident that submucous growths, and those attached to the outer wall of the gut, could not be seen through this instrument. Fortunately, however, most of the neoplasms which develop in the intestine begin in the mucous membrane or just beneath it, and can be certainly diagnosticated when within range of the tube.

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* The rings which appear in all the pictures except No. V are due to the reflection of the light from the interior surface of the tubes. The instruments which I now use have the last inch of their interior surface unplated.

† The patient is apparently well, and beyond a slight constriction at the point of union suffers no inconvenience from the operation or tumor.

One case of sarcoma of the rectum has been seen and the diagnosis which had been made by the fingers verified through the short tube. This growth was low down in the rectum, however, and could have been seen through other instruments.

As to the treatment of neoplasms in the sigmoid and upper rectum, little need be said in this paper. The malignant ones should be radically removed by the sacral or inguinal route, as appears most favorable in each individual case. When the tumor is confined to the sigmoid, my present opinion is that the inguinal operation is quite as rapid, produces less shock, and is not so liable to post-operative complications as the sacral. But when the upper end of the rectum is involved alone, or with the sigmoid, then the sacral method is the most feasible. The limitations of operation consist in the physical condition of the patient and the involvement of contiguous organs. When the growth has extended to the bladder, the uterus or its appendages, or to the pelvic walls, operative interference—*i. e.*, radical removal—is not advisable. When the tumor is freely movable, however, thus indicating that it is confined to the intestinal walls, the higher it is in the sigmoid the more favorable it is for operation.

As to polypi and papillomata, they may generally be dealt with through the tube itself. Polypi may be removed by either a wire snare or by crushing the pedicle with a long forceps, and leaving the forceps to cut through, or by catching the tumor with a volsella forceps, twisting it off below the pressure forceps. I have removed them in both ways with perfect satisfaction, although I believe the employment of the snare is the more exact method.

Adenomata may be either crushed off by alligator forceps or removed by cauterization. By the former method we are able to obtain specimens for examination and thus determine their nature, whether malignant or not—a not inconsiderable advantage; and besides, we can never be absolutely certain that cauterizing agents will not burn too deep and produce perforation. It will thus be seen that the field of the tube, as an operative instrument, is limited, but so far as diagnosis is concerned we are just beginning to learn its possibilities.

Non-surgical Diseases.—Thus far our observations have been restricted to affections which are amenable to surgical treatment only. What will be of more interest to the general practitioner are those which may be termed the *non-surgical diseases*.

There are three types of catarrh of the rectum, sigmoid, and colon—viz., the *simple acute catarrh, hypertrophic catarrh*, and *atrophic catarrh*.

The symptoms and appearance of these varieties are definite and distinct, although it is quite difficult for the artist to portray them.

The *simple acute catarrh* is identical in its onset and course with acute coryza. There is first a fullness and aching of the parts, accompanied by slight elevation of temperature. The bowels are constipated, and soon a sense of heat and burning in the rectum and pelvis supervenes. After a day or two the constipation gives way to a diarrhœa, watery and mucous, which may or may not contain pus, according to whether ulceration has taken place or not. After a few days these symptoms subside, and if proper care of the patient has been observed normal health is restored, provided, of course, ulceration has not taken place. If this has occurred, however, the progress and possibilities of the disease are only limited by the extent, location, and possibilities of ulceration of the bowel.

In the *first* stage of the disease the mucous membrane is œdematous, swollen, dry, and hot to the touch; the walls of the bowel lie in close contact with each other. Through the proctoscope the mucous membrane presents a bright, shiny, red appearance and bulges into the lumen of the speculum. The redness is uniform, however, and there is no appearance of varicose veins over it.

In the *second* stage the œdema is lessened, there is a slimy, moist condition, and the proctoscope shows abundance of mucus, sometimes containing mucopurulent shreds.

This acute inflammatory condition may, no doubt, extend into the colon, but so far as my examinations have gone the condition is confined to the rectum and sigmoid flexure.

Owing to the fact that the sphincters are spasmodically contracted and the muco-cutaneous margin of the anus is generally involved in the inflammatory process, the introduction of the sigmoidoscope is very painful in this disease, and as an instrument for treatment it is only useful in the later stages, when the affection has become chronic or ulceration has occurred. At this period it is invaluable.

Rectal irrigation through a properly constructed irrigator is the rational treatment for this condition. Large quantities of cool saline or boric-acid solution should be passed through the parts several times a day, after which about ten ounces of some soothing application, such as starch water or flaxseed tea with laudanum, should be introduced into the sigmoid through a small-sized Wales bougie carried in to its full length. After the acute condition has subsided a saline laxative may be given, the irrigations being continued, but the enemata left off. Such internal therapeutic agents as are necessary will suggest themselves to the practitioner and need not be mentioned here.

Since I have been using the tubes I have not been fortunate enough to see a case of membranous proctitis or colitis, and therefore can not add anything to what is already known upon this subject.*

Chronic atrophic catarrh of the rectum, sigmoid, and colon is a very common disease. About twenty-five per cent. of the cases seen in my rectal clinic are of this nature. Where it begins I am not prepared to say, but in the majority of cases it does not extend above the sigmoid flexure. A dry, brittle condition of the mucocutaneous tissue about the margin of the anus is a pathognomonic symptom of this disease. Small fissurelike cracks in this region are constantly present or may be produced by stretching the folds apart. They do not give actual pain, but cause a pruritus ani, which is at times almost unbearable. Some of the most intractable cases of pruritus are due to this condition. These patients are constipated, the stools are in round, hard, dry lumps, frequently resembling "sheep rolls," and there is very little mucus passed with them. Local examination shows the mucous membrane to be dry, of a dark-red, congested color, with fissurelike cracks in it. In the early stages enlarged varicose veins may be seen through the mucous membrane. There is a very slight quantity of mucus on the surface, and this is thick and tenacious. Attached to the wall of the gut all along may be seen little masses of inspissated fæcal matter, as is shown in picture No. IV. There is frequently an accumulation or impaction of little round fæcal balls in the ampulla of the rectum and in the sigmoid flexure, making examination and treatment impossible until they are removed. Procidentia or intussusception of the upper portion of the gut into the lower is very frequent in this disease. When this exists, intestinal colic is one of the symptoms, and frequently considerable quantities of thick mucus are discharged after one of these attacks, the evacuation being followed by a sense of extreme exhaustion in the patient. Through the tube this prolapse can easily be seen, resembling very much a normal cervix uteri in the vault of the vagina. This prolapse explains the difficulty of introducing a bougie in these cases, and accounts for the fact that so many of them are diagnosticated stricture of the rectum or sigmoid. Small areas of superficial ulceration or abrasion may frequently be seen in this form of catarrh, and in the parts so affected numerous little bleeding points appear when the instrument is pressed upward.

The picture of simple ulceration with prolapse was taken from a case of this kind, but the ulceration here was more marked and extensive than is generally found.

Intestinal atony is frequently associated with this form of catarrh and adds a most serious complication to the disease. Indeed, it seems almost impossible at times to overcome this condition and start the intestines to the performance of their regular functions. Perhaps when we understand its pathology we will be better able to control it.

Treatment.—The treatment of this form of catarrh consists in cleansing and keeping clean, so far as possible, the diseased portion of the intestinal tract. The rectal irrigator is useful for this, but not so effective as flushing of the parts with large quantities of saline or boric-acid solutions. Very mild solutions of bichloride of mercury or nitrate of silver are useful in very chronic cases and when there is atony, for in these cases it is desirable to stimulate as much as possible the peristaltic and glandular activity of the intestine. But above all the local remedies in this disease I rate argonin. Half an ounce of a five- to ten-per-cent. solution of this drug, injected so as to be distributed along the sigmoid flexure and upper rectum, is followed by the happiest results in these cases.

When there is distinct ulceration, the insufflation of nosophene, aristol, or iodoform upon the parts through the sigmoidoscope is an excellent adjuvant to treatment.

A diet such as will require as little intestinal digestion and produce as little fermentation as possible should be vigorously enforced, and such remedies as will aid in digestion and stimulate glandular secretion should be prescribed.

Hypertrophic catarrh of the rectum and sigmoid is also a common disease, but not so frequent as the atrophic form.

It is generally associated with a catarrhal condition of the whole system. It occurs in plethoric, stout, flabby individuals. Persistent moisture about the anus; soft, liquid, or mucous stools, and marked flatulence, with poor digestion, are indicative of the affection. Through the sigmoidoscope the mucous membrane appears pale, œdematous, and soggy. It is more or less covered with a thin mucopurulent secretion. It does not bleed upon pressure, and ulceration is rarely present. There is always more or less fluid and fæcal matter in the rectum and sigmoid in this disease except just after stool.

The condition generally extends as high as or higher than the tubes will reach. Several efforts have been made to obtain pictures of this condition, but as none of the drawings are satisfactory I do not present them.

The rugæ of the mucous membrane are exaggerated, there are no varicose veins, no fissurelike cracks, the sphincter is relaxed, and the Kelly tubes pass in very easily to their full length. The irritating moisture about the anus may produce pruritus, condylomata, or a condition resembling moist eczema. There are rarely any hæmorrhoids, and these are of an external connective-tissue variety. The tongue is generally coated white and flabby, and sometimes there is a slight jaundiced tint to the conjunctivæ. The symptoms are those of intestinal indigestion, and the patients are generally treated long and faithfully for this condition before any examination of the lower end of the intestinal tract is made.

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* Since writing the above there has come under my care a marked case of this nature. The mucous membrane of the sigmoid, as high up as I have been able to see, looks like the surface of the skin after a fly blister has been removed—namely, abraded, of a bright red color, and covered with thin muco-pus.

It is but just to say that some cases are cured by proper therapeutic and dietetic regimen; but where the condition has become chronic, a more radical and local treatment is demanded.

Treatment.—A meat-and-hot-water diet should be rigidly adhered to in these cases.

Intestinal antiseptics or antiferments should be administered by both mouth and rectum. Saline laxatives, especially the phosphate of sodium before breakfast in the morning, are of great benefit. General tonics, outdoor or gymnasium exercise, and massage, do much toward restoring these patients to health, but all of these will fail in the majority of cases if the proper local treatment is neglected. After experiments with various remedies, I have about settled down to the use of one remedy in this condition—viz., aqueous fluid extract of krameria. This used in various strengths seems to act almost as a specific in this disease, and it seems useless to devote time to other remedies well known to all physicians. The extract is not found in the shops, and I have had to have it made specially for my use, although I have no doubt any capable pharmacist could make it. The important thing is to be sure that it does not throw down a resinous precipitate when water is added. From one to six ounces of a twenty-five-per-cent. solution are thrown as high up into the intestine as possible, the strength being regulated by the condition of disease, after each morning stool. Improvement will generally begin after two or three applications, but frequently the benefit is felt the very first day.

Simple Ulcerative Colitis.—Osler (*Practice of Medicine*, page 397) describes this disease as a not uncommon affection. In the sigmoid flexure and lower colon ulcerations are comparatively frequent. The above author, however, remarks that there are never pus and blood in the stools. On the other hand, Vierordt (375) says bleeding occurs from ulcerations of any kind in the large intestine. In those portions of the intestine which are in access to the tube both blood and pus are generally present in the intestine. The quantities are not sufficiently large to be noticeable unless very carefully looked for in the stool, but it does not appear rational to have ulceration without blood or pus. The simple ulcerations that I have seen have all been very superficial. Some have been quite extensive in area, but none have entirely surrounded the lumen of the bowel. They are covered with a thin layer of muco-pus, which can be easily wiped off and leaves a granular base, irregular in shape, and slightly elevated edges, sloping toward the centre.

A typical ulcer of this kind is shown in picture No. V, which also shows the prolapse of the upper portion of the sigmoid into the lower. The ulceration is just on the fold where the prolapse begins. This prolapse extended down into the rectal ampulla at times, giving rise to the typical symptoms of the so-called third degree of procidentia recti, which disease I described at length before this society two years since. The two conditions frequently coexist, and while it is not yet proved which precedes the other, it appears to me that the ulceration is likely the result of the frequent intussusception and consequent abrasion and traumatism by the obstructed fæcal passages. On the other hand, it may be argued that the ulceration occurring first produces irritation, excessive peristaltic action of the bowel, and consequent prolapse. While I incline to the former view of the matter, I am not yet prepared to make a positive statement as to cause and effect.

Symptoms.—Chronic diarrhœa of a lienteric character, alternating occasionally with constipation, a sense of weight or constriction about the pelvis, impaired digestion, and continued loss of flesh, are the subjective symptoms that would call attention to this disease. Local examination and the actual sight of the ulcer are the only means by which a positive diagnosis can be made. The appearance and distinctive features of these ulcers have been described above.

Treatment.—The treatment consists in flushing the colon with saline or boric-acid solutions and the application to the ulcer of some therapeutic healing agent, together with such constitutional remedies as may be suggested by the condition of the patient. As applications to the ulcer, I have found argonin and antinosine the most effective, but I have no doubt other remedies may prove quite as efficient in the hands of others.

The subject of specific ulcerations, such as the syphilitic, tuberculous, dysenteric, etc., is too large and important to be discussed in a general paper of this nature. I have described them in a paper before the American Medical Association in 1895, and those who are interested in this subject can find the same in print.

Follicular Inflammation.—In the sigmoid flexure or pelvic colon there is occasionally found a condition which may be termed follicular inflammation. The mucous membrane is hyperæmic, and when put upon the stretch little nodular swellings can be seen elevating it at many points. The summits of these elevations sometimes present slight abrasive ulcerations, as is shown in picture No. VI. These ulcerative spots are very small, but they bleed upon touch, and therefore can not be called simple mouths of the follicles. This condition is accompanied by a secretion of mucus, although it is not so profuse as in hypertrophic catarrh, nor so thick and tenacious as in atrophic catarrh of the bowel.

Patients suffering from this disease have a peculiar form of constipation. They rarely have a satisfactory stool, but go to the closet two or three times a day, especially in the morning, passing a few small round masses of fæcal matter coated with thin mucus. They suffer from flatulence and digestive derangements, and find little relief from the use of laxatives and remedies for indigestion. It is an extremely chronic disease, and yields very slowly to treatment. Some years ago I operated upon a patient with the most aggravated symptoms of this kind for stricture of the bowel. A constricting band was found and relieved. I found, however, in the wall of the small intestine myriads of little hard bodies, about the size of No. 2 shot. I took them to be inflamed follicles, but Dr. Vissman, who was present, thought they were fibroids. Under appropriate treatment the woman entirely recovered, but, as I did not then use the Kelly tubes, no examination of the colon was made, and nothing more positive can be said about this case. I believe, however, that the condition was similar if not identical with the one just described.

In conclusion, I wish to make two applications of the knowledge gained from a very large number of these local examinations of the sigmoid flexure and upper rectum.

Morning Diarrhœa.—The so-called morning diarrhœas, the symptoms of which have been so admirably described by Dr. Francis Delafield, are, in my opinion, always due to some organic disease of the rectum, sigmoid, or descending colon. It may be cancer, polypus, papilloma, ulceration, or catarrhal disorder, but in every case I have seen I have been able to find some irritating condition of these parts to account for the diarrhœa, and still more, the diarrhœa has disappeared when the cause has been removed. The history of the case, the symptoms, the nature of the stool, etc., may lead us to fairly correct conclusions as to the cause of this condition, but we can never be certain until we have actually seen the parts, and upon this certainty will depend the accuracy and efficiency of our treatment.

Mucous Diarrhœa.—Mucous diarrhœa is another condition due to actual disease. It is always associated with the follicular inflammation of the sigmoid flexure and colon. I have seen it frequently in atrophic catarrh of these parts, and perhaps other diseases may cause it, but I have not observed them. The colicky pains and exhaustion after stool accompanying this condition are due to temporary partial obstruction and consequent spasm. Prolapse or intussusception of the sigmoid is one of the most frequent causes of this. I have frequently seen this condition through the tube, as shown in picture No. V, and when the parts had been restored and a full high enema given the mucus was passed without any pain at all.

The nervous conditions associated with this form of diarrhœa appear to me to be all due to the diseases causing it, and not *vice versa.* The doctrine that it is a neurosis appears to me utterly without foundation and not tenable in view of the conditions always found.

35 West Forty-fifth Street.

Psychiatry in the Medical Curriculum.—According to the *Kansas City Medical Record* for June, the University of Jena will in future require an examination in psychiatry for its medical degree.

A DISCUSSION OF THE PATHOLOGY OF QUININE AMAUROSIS.

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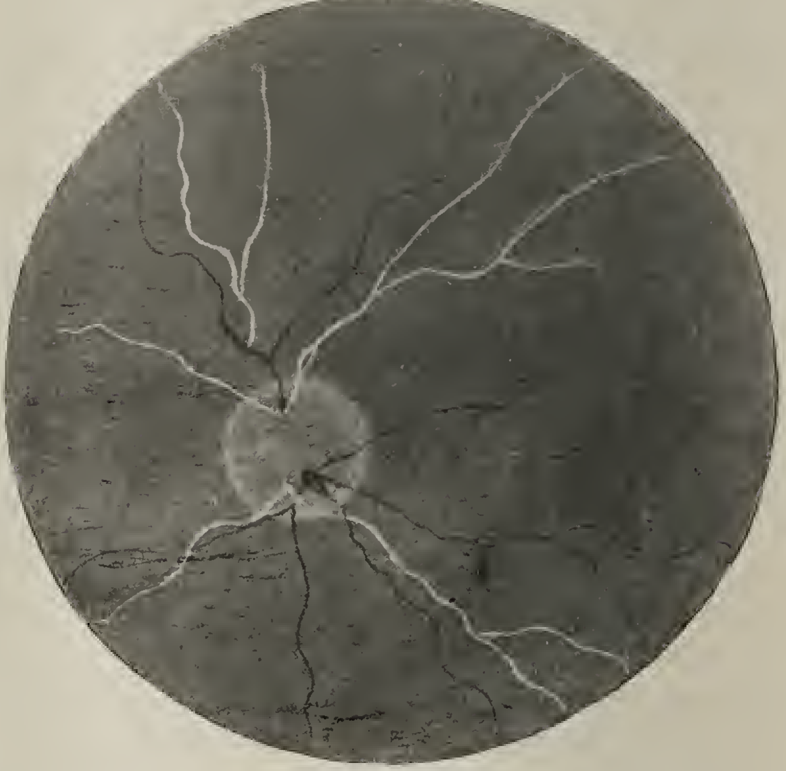
This case presented such well-marked distinguishing peculiarities as to deserve attention from any one knowing the fundus.

It was that of a young woman who was given two hundred and forty grains (sixteen grammes) in thirty hours. It was given because of a diagnosis of pernicious malarial fever, subsequently treated as yellow fever. At the end of that period she was only apprised of a lamp held close to her face through the heat terminals of the fifth nerve, the optic not responding. There was neither deafness nor tinnitus observed by or complained of to the physician in charge.

When I saw her the fundus needed no history. Her vision for infinity was $\frac{20}{49}$. Reading, Jaeger No. 2. Corrected, she read $\frac{20}{30}$ and Jaeger No. 2. The ophthalmoscope showed the fundus here exactly presented. The narrowing of the retinal vessels' calibre was remarkable, considering the visual acuity.



The reduction in calibre of the retinal artery was at least one half.

The accepted explanation of quinine amaurosis is a spasm of the tunica musculosa (conventionally, tunica media). It is reasonably sure that the sudden blindness is due to a narrowing of the vessels supplying the rods and cones, because this can be brought about by no other conceivable agency. Granted that no physiologist can conceive of muscular tissue, striated or unstriated, maintaining such a condition, then, in the absence of definite absolute testimony, to be credited only to a pathologist competent to prepare and judge judiciously sections of the retinæ of the rare sufferers of this amaurosis, I submit this explanation for the consideration of the profession.

First, granted the above assumption true, and a look at the illustration precluding a periarteritis, because of the absence of any exudation, then why is this diminished calibre permanently maintained?

When an arteriole responds to the irritation of the vaso-constrictor impulses to its muscular coat, the endothelial cells must necessarily reduce their superficial area. With this condition established, a *vis a tergo* preventing the endothelium from absolute contact, the rapid administration of the irritant, quinine, keeping the contractions at, approximately, near summation, it becomes necessary for the overstimulated tunica media to be reenforced.

Irritation, inflammatory causes being absent or non-operative, logically produces proliferation.

The endothelium being necessarily in extreme, strenuous contraction to its protoplasm's utmost, and being acted upon by the arterial pressure, it, theoretically and practically, does not respond further. The tunica media, being held at or near its summation of impulse, can not.

Between these two lies a tissue areolar in structure, and consequently eminently adapted for changing its relation to space, and even more adapted to respond to irritation by proliferation. That the vessel wall does not dilate by reason of its exhausted muscles failing is due, I believe, to the formation of rigid connective tissue from the fixed tissue cells of the subepithelium and elastic lamina. When this is established, the function of the tunica media is gone, and the vessel remains permanently smaller because atrophy follows the supplanting of its contractile function. This theory is additionally supported by the consideration of the fact that all the tissues involved are of mesoblastic origin, and by reason of their well-known metaplasia proliferate their own or other mesoblastic units. The maintenance of a patulous though diminished arteriole, as seen in these cases, without a sign of inflammation, demands such an explanation, and, so far as the writer knows, no other explanation will agree with the observed conditions and with modern pathology.

The appended charts are only to show that the peripheral retina was nourished and the threadlike vessels patulous. The treatment was atropine and cardiac stimulants. Faithful effort was made to take advantage of the susceptibility of the superior cervical sympathetic ganglion to the vaso-inhibitant influence of a constant current pushed to the bearable ampèrage.

The perimeter charts, the test for infinite distance, the test of near vision, with and without ametropic correction, all showed improvement.

Quite possibly time alone would have shown the same recovery.

Another Medical Journal.—We learn from the *Medical and Surgical Bulletin* for May of the projected issue of a new medical journal, the *Memphis Lancet*, to be published on July 1st, at Memphis, Tennessee.

THE
EARLY RECOGNITION OF GENERAL PARESIS
(PROGRESSIVE DEMENTIA).*

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When the president of this section requested me to prepare a paper on some subject of general interest, it occurred to me that it might not be unprofitable to discuss the difficulties besetting the early diagnosis of general paresis. As conscientious physicians we can not fail to recognize the grave results that may accrue to the patient and to those dependent upon him if the diagnosis of paretic dementia has been established. If the patient is a man of affairs, it becomes the physician's duty to advise the family that such person is no longer able to manage his own estate or his own business; or, if he is on the point of undertaking some important step in life, the physician is under the necessity of acting not only in his medical capacity, but also as counselor and friend. It is for these various reasons that prompt recognition of general paresis is far more important than the early diagnosis of many other diseases. The opinion is common that the suspicion of general paresis in a given case is usually well founded—if there is reason to suspect the disease, it is already beyond suspicion; but there are exceptions to this rule as to all others, and the practitioner errs more frequently in failing to recognize dementia paralytica than in mistaking it for some other disease.

As in tabes dorsalis, so in progressive dementia, the full-fledged form of the disease bears its unmistakable symptoms; but, like tabes, it is often most insidious in its onset, and its earliest symptoms are variable and poorly defined. If a patient presents a history of an active, successful life up to the age of thirty-five or forty years; if, after a period of slight irritability or of moodiness, he has become unmindful of his duties toward his family; if he has become lax in his morals and in his business methods; if he fails to keep important engagements; if a change in his mental attitude is indicated by a turn from rational economy to wasteful expenditure; if in any one of a thousand ways he proves that his judgment is defective and his memory poor, we may well suspect some form of general paresis. Let the patient, in addition, be in a distinctly exalted mood; let him utter marked delusions of grandeur, or be subject to epileptic and apoplectic seizures; let him present a distinct reflex iridoplegia, tremor of the face and hands, the peculiar stammering and tremulous speech, knee-jerks that are either exaggerated or absent, and no one can doubt the diagnosis of the disease. The problem is complicated by the fact that in point of time the physical symptoms often, though not invariably, precede the mental, or the physical signs may be well marked while the mental phenomena are still in doubt; yet no one should venture to make the diagnosis of general paresis from the physical symptoms alone, unless there be at least some indication of a change in the person's psychic state. Our attention will naturally be directed to those early physical symptoms which are most characteristic of the disease, and which, if they occur in conjunction with any mental defect, point to the existence of progressive dementia.

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* Read before the Section in Neurology of the New York Academy of Medicine, February 18, 1898.

Before proceeding to the discussion of these details, let us take note of the change which, according to different authors, is said to have come over the clinical type of general paresis. Krafft-Ebing [*] states that such a change has been noted during the past decade; an opinion which is shared by Mendel and other European alienists. In this country this same sentiment has been voiced in a recent article by Collins.[†] That the cases of general paresis differ somewhat from those observed fifteen and twenty years ago may well be granted. In a general way the present writer had been impressed with the truth of this view, but a calm and careful study of sixty-two histories taken from his private records has shown the necessity of making a more guarded statement. The change referred to has been exhibited in several ways: First, and this seems to be the most important point, paretics appear to live, or to linger, longer than they formerly did. Not more than half of my patients suffering from progressive dementia have died within a period of three years; nine of them have exceeded the period of six years, and one is leading a blissful, though demented, existence for more than ten years since the diagnosis was made. Secondly, the unusually long remissions have often been surprising, and a few recoveries in cases in which the early diagnosis seemed to be beyond doubt have been particularly noteworthy. Thirdly, marked delusions of grandeur do not appear to be as common as in former days. I have seen fewer of those who owned sufficient ships to build a bridge reaching from New York to Liverpool, and it is a long while since I have met a paretic whose imagination was as vivid as that of an architect whom I treated some ten years ago, who believed himself commissioned by the King of Bavaria to fill Munich with elegant palaces, each palace to have windows of diamond instead of common glass. The patient with great poetical talent, with tremendous capacity for manipulating the stock market, the man who is going to buy up all the vacant lots to build homes for the poor, still cross my path. The patient who was ready to pay Dr. Granger one hundred thousand dollars for his home and give him a million in addition, and the man who had patented a contrivance by which people were to be brought back from the other world, have ambitious rivals. There is almost as frequent mention in my histories of that happy and exalted frame of mind which is the paretic's only blessing. "Never felt better in my life," spoken in a way that the phonograph alone can reproduce, has the same ominous ring as of old. The delusions may be less marked, but the euphoria and the exalted mood are as typical as ever. Possibly the hypochondriacal state is a little more common in the earlier history of the disease; but, if so, the fact can be proved only by larger statistics than are at my command.

The older writers insisted that that form of general paresis which was characterized by an exalted mood took a less violent course than those that were characterized by the hypochondriacal state, or by the early development of dementia. It would seem, therefore, if the disappearance of the delusion of grandeur as a common symptom of general paresis mean anything at all, it means that the disease, as we see it nowadays, is less favorable than that of two or three decades ago; and yet the greater longevity of the paretic of to-day is opposed to this interpretation. The better care of the patient and the earlier removal from his surroundings may, however, be factors of some importance. I can not agree altogether with the view that a motor type of the disease is more prevalent at the present time. The motor or, better said, the physical symptoms were fully appreciated by the prominent alienists of twenty or thirty years ago, and had been given due weight in the later writings of Mendel,[*] Westphal,[†] Binswanger,[‡] Mickle,[#] Blandford,[||] and others; nor should we disregard the fact that in a number of instances the typical physical signs have not appeared until after the full development of mental symptoms.

Before deciding whether a disease has changed in the course of years, it is well to ask whether we are not possibly beginning to note minute differences between a type as established years ago and other affections which resemble a given type so closely that it is difficult to differentiate between them. All of us remember the time when progressive muscular atrophy represented a very definite and, as we supposed, a spinal disease. We have passed through the stages in which these atrophies have been subdivided into many different groups, so that at the present time the term "progressive muscular atrophy" conveys no definite meaning as to the part of the nervous system specially affected. The term is now generic rather than specific. Just so some of us recognize the fact that the clinical type of tabes dorsalis may represent morbid conditions that are to be distinguished from posterior spinal sclerosis. In like manner, too, the term "general paresis" includes a number of clinical types dependent upon varying morbid processes. Before we decide that general paresis is not so fatal a disease as it was a decade or two ago, or that it is at the present time more amenable to treatment than it was in former years, we must make sure that we are not confounding with this disease other diseases whose clinical symptoms are so much like those of general paresis that we find it convenient to include them under one heading, although the symptoms are due to morbid processes which resemble each other chiefly in this, that they lead to the same terminal condition. How else could we explain the very marked resemblance in the clinical features between general paresis of the classic order and syphilitic and alcoholic dementia, or between the former and traumatic meningo-encephalitis terminating in atrophy of the cortical elements?

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[*] *Die progressive allgemeine Paralyse*, Vienna, 1894.

[†] *Medical Record*, February 5, 1898.

[*] *Die progressive Paralyse der Irren*, Berlin, 1880.

[†] *Archiv für Psychiatrie*, i; *Gesammelte Abhandlungen*, i, p. 204.

[‡] *Festschrift*, Hamburg, 1891.

[#] *General Paralysis of the Insane*, London, 1886.

[||] *Twentieth Century Practice of Medicine*, xii.

The problem may be simplified by assuming that there are different morbid processes producing the ordinary symptoms of progressive dementia. Of the vascular origin of the disorder in the majority of instances there can be little doubt; it is not difficult to conceive that the circulatory disturbance may follow upon acute infections, upon cerebral injuries, or upon a specific endarteritis. During the vascular stage the cellular elements (chiefly of the cortex) may exhibit impaired function, but need not be permanently destroyed. Under such conditions remissions and recoveries are possible, but they are not conceivable at a time when the long-continued vascular disturbance has led to a destruction of a large, or of the largest, number of brain cells and fibres. In some few cases the cellular elements may be primarily diseased and yet not be beyond the possibility of improvement and recovery. A recent French writer, Marandon de Montyel,* distinguishes between a progressive and a retrogressive form of paretic dementia, the latter being synonymous with pseudo-paresis, which, as he claims, "is always of toxic or infectious origin, and after an unusually violent onset reaches a climax and then recedes toward complete recovery." Such a form, this author supposes, never passes beyond the hypochondriacal stage. Further studies in the morbid anatomy of paretic dementia must reveal the truth or falsity of these theories. The terminal stages of the morbid process are sufficiently well known; the earlier stages need investigation. Leaving all theories aside, the clinician must decide whether or not he can recognize those forms which are certain to be fatal and those which hold out a fair prospect of improvement or recovery. If this is to be done at all, it must be done when the first signs of cerebral disease appear.

In the earlier stages of every form of progressive dementia the physical signs arrest our attention. Chief among these are, in the order of their importance: (1) The stammering, tremulous speech; (2) the tremor of the facial muscles and of the tongue; (3) the pupillary symptoms; (4) the change in the individual's handwriting; (5) the exaggeration or the absence of the reflexes.

1. The disturbance of speech is unquestionably one of the earliest symptoms, and is so characteristic that one is not infrequently tempted to make the diagnosis of progressive dementia if a patient who has shown some mental change has in addition that peculiar stammering utterance which makes the use of words of many syllables, or of sentences in which there is any alliteration, particularly difficult. Yet it occurs at times in persons whose mental deterioration is of distinctly alcoholic origin. I have the histories of two such patients in whom I was led to make the diagnosis of general paresis from this and other symptoms, and with the recovery that set in the disturbances of speech disappeared.

2. The tremor of the facial muscles, which occurs only in progressive dementia and in chronic alcoholism, is a symptom of the greatest value. If alcoholism can be excluded, it is unquestionably a grave symptom, and may well support the diagnosis of general paresis.

3. The pupillary symptoms have by many writers been placed first among the physical symptoms. In several patients of mine they have not been developed until long after the appearance of the characteristic speech disturbances and of the facial tremor. The typical Argyll Robertson pupil is common enough, and particularly in those forms associated with tabetic symptoms. The complete immobility of the pupils, both to light and during accommodation, is present in a large number of cases, and is often associated with inequality of the pupils and with the history of preceding ocular palsies, all of which occur more commonly in those who have been exposed to the syphilitic contagion. The irregular contour of the pupil has been described as occurring in paretics. It is not dependent upon a preceding iritis, is more probably due to defective innervation, and is, by the way, often seen in persons with constitutional syphilis and also in some young and healthy persons.

4. The changes in the handwriting are of special value, not only as illustrating the tremor of the fingers and of the hand, but as giving the first evidences of that mental dissolution which is most marked in acts which have been performed with the greatest skill. The dropping of letters from words that were written with ease and almost unconsciously, the omission of syllables, the running together of words that should be separated, and the entire failure to punctuate, may be the first signs pointing to serious mental defect. Too much importance should not be attached to the tremor alone, for in other diseases, and particularly in multiple sclerosis, very similar physical disturbance occurs.

5. The reflexes invite close attention, for, if absent, they may be part of the symptoms of a tabetic process with which progressive dementia is frequently associated. If exaggerated, great care should be taken not to formulate the diagnosis of general paresis unless a purely neurasthenic condition can be safely excluded.

Without underrating the great value of these various symptoms we must remember that the diagnosis of paretic dementia can be established only if some one or more of these physical signs are present in association with mental symptoms, however slight these may be.

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* Quoted in *Revue neurologique*, January 30, 1898.

The normal individual near or past middle life is the creature of well-established habits of thought and action. Any departure from the standard which the individual has established for himself should at all times be regarded with considerable suspicion, and any changes in the person's bearing that are not in keeping with his position in life—extravagances which he has no right to indulge in, or economy which he need not practise, indifference to his family, which was not his wont, or sudden devotion to persons whom he formerly would have shunned—should be taken to be symptoms of grave mental disorder. Defective judgment and, above all, defective memory, of which the patient himself frequently complains, are the mental signs that can well be placed in the same scale with the physical signs to which I have referred above. I need not, however, dilate further upon the psychic symptoms of the disease, for I may well suppose that they are familiar to all.

In spite of our accurate knowledge of the disease, its earliest stages may easily be confounded with other affections. The first of these is cerebral neurasthenia. The question of differential diagnosis between this recoverable affection and progressive dementia comes up often enough.

Many years ago the late Dr. Mackenzie sent A. M. F. to my office with the request for a diagnosis as to his mental condition. The patient was thirty-nine years of age, was an excessively hard worker, and had been happily married for five years. His previous history, so far as I could gather it from him and from his wife—a talented lady—was that he had been nervous for a year, ever since a partner went to Europe, leaving great responsibilities upon the patient's shoulders. He complained of headaches, of difficulty in remembering occurrences of years ago, of a difficulty in concentrating his thoughts, and also stated that without provocation he seemed extremely irritable; was drowsy all day long. He was puzzled and anxious about his condition. He hesitated a little in speech, but this might well have been due to the excitement of the examination, for he repeated test sentences that were given him with ease and correctly. His pupils were equal and reacted promptly. There was marked tremor of the hands and of the tongue, but not of the facial muscles; the knee-jerks were lively. I made the provisional diagnosis of cerebral neurasthenia, but suspected the possible beginning of dementia paralytica. Four days after my first examination I was summoned hastily from my office with the statement that this patient had had an epileptic seizure. Before I could reach him other physicians, who had been called in, had begun to catheterize him, evidently supposing that the epileptic attack was due to a uræmic condition. But to me, who had seen the man a few days before and had had doubts as to his mental condition, the diagnosis was clear at once, and the epileptic seizure proved that the man was doomed to general paresis. The epileptic seizures recurred several times during the first week, the dementia developed rapidly, and the patient was taken to Bloomingdale, where he died within a period of a few months, having developed all the typical symptoms of dementia paralytica.

The patient has appeared to me to be an excellent type of the most rapidly developing form of general paresis, and one can hardly suppose that the same morbid process underlies the disease in such a case as when it runs the slow course it does in so many others, covering a period of years, with remissions of varying duration.

The differential diagnosis between cerebral neurasthenia and general paralysis is not always established as quickly as it was in the history of the case above mentioned.

Another patient, whom I saw in September, 1890, complained of sleeplessness and inability to concentrate his mind upon any one thing. He was a well-bred, intelligent man of twenty-nine years of age; he stammered a little under excitement, but claimed that this was not unusual. The suspicion of dementia paralytica was aroused, but his pupils reacted promptly; deep reflexes were normal, and his memory was excellent; the slight tremor of the hands and tongue was not more marked than in neurasthenic patients. After resting from business and sojourning in a well-known sanitarium he was much improved. Nine months after the first examination the pupils were still normal. In September, 1891, after a hot summer, he seemed to break down completely; the pupils became unequal, and the right reacted poorly to light; there was marked facial tremor; knee-jerks were a little subnormal; speech defect very marked; memory slightly impaired. Upon this there followed a period of improved health, so that he took up bicycling, and showed considerable interest in music and in current affairs. One day he returned with the statement that he "is getting happier all the time," and from that day onward there was a continuous and rapid progression of the disease to a fatal issue, about four years after the onset. It is noteworthy that in this case, too, the supposed neurasthenic condition lasted nearly a year, and the mental symptoms appeared long before the pupillary phenomena were in evidence.

As a rule, in cerebral neurasthenia the complaints are of a hypochondriacal order; the loss of memory is more apparent than real, the patient having all his dates and facts accurately in mind. In writing, his hand may tremble, but he does not omit letters or syllables, and if perchance he does, he quickly recognizes the omission, and his pupils do not present the altered reactions associated with the classic form of dementia.

In cases in which the diagnosis is at all doubtful a short period of observation will generally clear up the mystery, for the neurasthenic recovers rapidly under the influence of rest; the paretic may quiet down a little, but the physical symptoms once established do not disappear.

Progressive dementia may well be confounded with alcoholic conditions, and the question arises whether we can distinguish in the earlier stages between alcoholic and other forms of progressive dementia. The question is well worth considering, for the prognosis differs so materially that much depends upon a correct answer to this question. A single history will illustrate the point.

M. F. D. consulted me in January, 1896. He was a merchant, aged forty-four years, single. Four weeks previous to his visit to me he was taken with a chill while in Chicago, and from that time on had not felt well. He began to notice that he could not find words to express himself. He was much alarmed over this condition, returned hurriedly to the city, and on his way to New York noticed that his left arm and leg were numb. His extremities seemed weak, but he was at least able to walk. He also felt a numbness in the right hand and experienced considerable difficulty in writing. He acknowledged that he had been drinking for many years without ever becoming intoxicated, and had stopped drinking four weeks ago. When asked whether he was troubling himself about anything, he stated: "I am not fretting about anything. I am one of the healthiest men in town." He conceded that he was not able to attend to his business, but did not think that it was of any consequence, although he was dependent upon it. He stated that his memory was very good, but when questioned as to the day of the week or the day of the month, was wholly at sea. He was unable to find words for ordinary objects, such as paper weight, writing desk, or radiator. When given test sentences, he made a horrible jumble of them. When asked to write his name and address, he did it correctly. He wrote Philadelphia, Syracuse, and Rochester without a mistake, but failed utterly in writing Constantinople, which he made Constinoble and could not be made to see that it was not spelled correctly. On attempting to read a paper aloud, he omitted words, and hesitated in reading words of more than two syllables. His speech was tremulous and exactly like that of patients with progressive dementia. The knee-jerks were absent. There was no Romberg symptom and no girdle sensation. The grasp was good.

The physical and mental symptoms were so much like those of the classical form of general paresis that one might well have made that diagnosis, but the subjective sensations of numbness in the arm and legs, and the tremor of the hands, which was typically alcoholic, led me to give a somewhat more favorable prognosis than the symptoms at the time seemed to warrant. The patient was isolated, put under strict surveillance, and in the course of the next three months improved to such an extent that all but the physical symptoms, including the speech disturbance, disappeared. His mind seemed clear; he began to interest himself in daily occurrences, and within a period of nine months after my first examination he was able to return to his work, to which he has attended regularly ever since. As the history reads at the present time, the diagnosis of an alcoholic dementia seems evident enough, but there are other cases in which the diagnosis is not so readily made, particularly if the alcoholic condition is a more acute one, and if some of the other signs of chronic alcoholism are wanting. If such symptoms as marked tremor of the tongue and hands, paræsthesia, and signs of peripheral neuritis are present in a case exhibiting some of the typical symptoms of dementia paralytica, one may well hope that the symptoms are due to the effect of alcoholic poisoning upon the cortical cells, a condition from which the patient may recover, and the diagnosis of dementia paralytica should be held in abeyance for a considerable length of time.

(*To be concluded.*)

TREATMENT OF HOARSENESS IN SINGERS AND SPEAKERS.*

By F. A. BOTTOME, M.D.

Hoarseness, it is perfectly understood, is a symptom common to many pathological conditions. It is not the purpose of this paper, therefore, to describe all the diseases of the upper air-passages in which this symptom is prominent.

It is assumed at the start that the singer or speaker who comes to us from time to time for the relief of this symptom has been under our personal care or under the care of some equally qualified physician, and that the nasal cavities, the nasopharynx, and throat have been placed in the best possible physiological condition.

Notwithstanding this, however, singers do become hoarse, and the first question they ask concerns the possibility of its continuance and their ability to sing or speak at a given time.

Time, then, is the important element in these cases—not of weeks or of days, but of hours. Therefore the treatment differs, if not in kind, at least in the energy with which we carry it out; and our success, according to the patient's judgment, is measured by the promptness of relief afforded him.

Perhaps the commonest condition which causes hoarseness is a simple acute laryngitis, the result of some undue exposure, or of an ordinary exposure when the system is depressed.

To appreciate to what extent public singers and speakers are subject to exposure one has only to spend an evening behind the curtain.

An opera-singer, for instance, "makes up" in a small, hot, ill-ventilated box of a room, and emerges from this oven to shiver for an hour on a large, cold, draughty stage.

Doubtless the excitement acts as a strong tonic and keeps the performer's system toned up to such an extent that he is able to withstand this exposure. Nevertheless he does frequently succumb, and at such times we are called upon to relieve him. The husky voice tells the story no less than the appearance of the larynx in the laryngeal mirror, and the question of treatment becomes of paramount importance. The temptation to treat the case locally is great, but, I think, at this early stage, local treatment is not indicated, or at least only that of a mild soothing nature. The problem is how best to relieve the intense congestion; how best to determine the blood from the congested part. To accomplish this I know of no better method than the old-fashioned treatment: Give the patient a hot mustard footbath and put him to bed; to robust patients prescribe ten grains of calomel; then aconite till physiological effects are reached; over the larynx externally an icebag or Leiter's coil. Finally, the occasional spraying of the nose and throat with menthol in albolene or one of the soothing combinations so much in vogue at the present day.

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* Read before the Section in Laryngology of the New York Academy of Medicine, April 27, 1898.

During this time the patient must not utter a word, but must make known his wants only by pencil and paper. At the end of twelve or, at the most, twenty-four hours, an examination of the larynx should show a decided improvement, and now the line of treatment may be altered to a distinctly tonic character. Before the patient gets up, an alcohol bath and a brisk rubbing should be ordered and a strong tonic administered. My own preference is for the tinctura ferri chloridi, given in a half-drachm dose in glycerin and water after meals, and continued three times daily in diminishing doses till the patient has fully recovered.

It is best not to discontinue this too soon, bearing in mind the unusual exposures to which these patients are subjected, and the importance of keeping their systems toned up. Now is the time for the local treatment, which will vary somewhat according to the condition of the larynx as shown in the mirror. If the whole larynx still shows some congestion, one of the astringents, as nitrate of silver, ten grains to the ounce, may be applied, preferably in the form of a spray, as in this way the whole laryngeal mucous membrane is bathed in the solution. Frequently only a narrow line of congestion is visible along the free edges of the cords, and in this condition a more concentrated solution of menthol in albolene (a drachm to the ounce), applied directly to the cord with a cotton applicator, will act nicely; or the nitrate of silver may be applied in the same way. The patient, especially if he be a singer, will now be anxious to try his voice, but this he must be permitted to do only gradually, commencing in the middle register and by degrees working up and down the scale. After a rest for an hour or two, the voice may again be tested until, little by little, its power returns.

The time which must elapse before the patient can resume his duties varies, of course, with different individuals and in the same individual at different times, but we shall find that it will not retard the progress of the case to infuse into the patient a large amount of hope and, when the time comes for his performance, a certain degree of confidence.

Not infrequently we can be of great service to our patient if we will be present at the first performance after he has recovered from such an attack, and treat him between the acts; nor will the time be lost if we spend some moments in impressing upon the patient's attendant the importance of seeing that he is thoroughly rubbed down after the performance and provided with dry flannels. It is in the personal attention to these small details that we shall gain success, and surely prophylactic measures are of no less importance than those directed toward the curing of an acute attack.

The sudden accumulation of mucus upon or between the vocal cords is a condition which produces temporary hoarseness and frequently causes the voice to break when singing or speaking. It is a condition which is exceedingly annoying, to say the least, especially in singers who may be singing in perfect voice, when, suddenly, without a preceding cough, the larynx will become obstructed by some secretions, the voice will break and remain husky for a short time, and then become perfectly clear again. This condition may occur during an attack of bronchitis, even of a mild degree, and at such a time it is easy to understand how a particle of bronchial secretion may lodge upon or between the cords and cause this hoarseness. But I have seen this condition occur when there was no evidence, such as a cough, to indicate any degree of bronchitis or inflammation of the trachea, and yet it has seemed to me that the secretion which acts as a foreign body in the larynx in these cases must come from below, probably from the tracheal mucous membrane. The treatment in these cases has been deep inhalations of menthol in albolene from the globe inhaler, and the use of the same solution with a hand atomizer by the patient just before singing or speaking, in the hope that the oily solution would coat the mucous membrane of the trachea and prevent these small particles from being detached and carried into the larynx by the upward current of air.

Temporary paralysis of the vocal cords is a condition which occasionally happens, and when it occurs in speakers or singers is of considerable importance. I do not refer to recurrent paralyses due to pressure upon the recurrent nerve or those of central origin, but those cases which Bosworth classes as ephemeral paralysis of the recurrent nerve. This author cites two cases occurring during acute nasopharyngitis accompanied by laryngitis. I have seen two cases—one in a clergyman, who had had a severe paroxysm of coughing in the night, which lasted for nearly an hour before relief was obtained. Examination the following day showed the cords lying in the cadaveric position, and there was an inability to produce adduction. This condition continued for six weeks, during which time the voice was completely lost.

The second case was in a young woman, a chorus girl in the opera. She gave a history of having suffered from an acute cold in the head for a few days, during which time, however, her voice was not much affected. After an unusually long and severe rehearsal, she noticed her voice was gone and that she could hardly even whisper. Examination of her larynx showed no evidence of inflammation or congestion, but adduction to a slight degree only was possible. This condition lasted two weeks, gradually disappearing under a treatment consisting of faradaism applied externally over the larynx, and strychnine administered in full doses.

In the classes of cases above considered the conditions were, of course, of an acute variety, and it is not, as we have already said, the purpose of this paper to consider the treatment of this symptom of hoarseness as it occurs in chronic conditions which depend largely upon a diseased condition of one of the accessory cavities. Nor can we consider the treatment of hoarseness which is due to a faulty technique in the use of the voice, with the exception, perhaps, of one condition, which, though chronic in its nature, is peculiar to singers, and a proper understanding of the treatment of which is important to bear in mind.

The condition is that of singers' nodules. Most works on laryngology which mention this condition recommend the removal of these nodules by the application of strong caustics or the use of crushing forceps. Such means, however, ought not to be thought of except as a last resort, since they are attended with considerable risk of injury to the cord, and hence of permanent damage to the patient's voice. As the ætiology of these nodules, however, is becoming better understood, the proper line of treatment is becoming clearer.

It is understood now that these nodules are the result of faulty methods of singing, especially of that part which has to do with the tone placing, and, which is especially interesting to us, that a correction of this fault, and systematic exercise which has for its purpose the placing of the tone well forward, will cause the disappearance of the nodules without other treatment.

Our duty, then, to these patients is either to ourselves instruct them in the proper method of tone placing, or put them under the instruction of a competent vocal teacher.

218 Lenox Avenue.

A STUDY OF

ALCOHOL, TOBACCO, COFFEE, AND TEA

AS CAUSATIVE FACTORS IN THE PRODUCTION OF NERVOUS DISORDERS.*

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When we consider the great strides which science has taken during the past century, the increase in wealth, means of locomotion and transport, and improved facilities for the communication and interchange of ideas throughout the world, coupled with the study of the vast multitude of accumulated facts and the problems of civil government, and we add emotional causes, business cares and worry, hereditary tendencies to nervous breakdown, the various blood diseases which especially attack and produce weakening and degeneration of nerve tissue, and the rôle played by the lower organisms in producing toxines in conditions of low vitality, one can readily appreciate that the human brain cells and central nervous system are subjected to a great and continuous strain, and that to pass this ordeal successfully requires a healthy, well-nourished brain and nervous system, proper methods of diversion and intervals of rest, with perhaps occasional resort, under certain circumstances and rules differing in different individuals, to food accessories which act as brain and nerve stimulants and help to preserve more uniform rhythm and hinder somewhat retrograde metamorphosis. One can not wonder, therefore, that food accessories are widely and instinctively used, and that the study of such substances has become most important, looking toward the forming of rules for their use on a scientific basis.

In this paper I can not lay much claim to originality; it has rather been my aim to concentrate as much as possible the light that has been thrown on these subjects by scientific investigation up to the present time, and to draw out the experience of others.

The following statistics, very kindly furnished me by the Bureau of Statistics at Washington, will give an idea of the general consumption of these agents in the United States, and add interest to our investigation.

During the year 1895 the total amount of distilled spirits consumed was 78,828,561 gallons. Wines consumed, 19,644,049 gallons. Malt liquors consumed, 1,043,232,106 gallons. Total consumption of wines and liquors, 1,140,764,716 gallons. Total consumption per capita of distilled spirits, 1.12 gallon; of wines, 0.28 gallon; of malt liquors, 14.95 gallons; of all liquors and wines, 16.35 gallons per capita by a population amounting June 1, 1895, to 69,753,000. In 1870, with a population of 38,558,371, the consumption per capita of distilled liquors was 2.07 gallons; of malt liquors, 5.31 gallons; and wines, 0.32 gallon, so that, with a population nearly double in 1895, there was a decrease in the consumption of distilled spirits to 1.12 gallons, and an increase in the consumption of malt liquors to 14.95 gallons, nearly three times as much per capita, the consumption of wines remaining at about the same figure. This shows the increase of the use of liquors weak in alcohol, and the decrease of the use of those strong in that substance, and also indicates the importance of our looking after the proper manufacturing of our malt liquors.

As regards coffee, we find the net imports in 1895 were 643,234,766 pounds, valued at $94,599,880, or a consumption per capita of 9.22 pounds, the consumption per capita in 1870, with a population of 38,558,371, having been 6 pounds per capita; with population nearly double in 1895, the consumption of coffee has increased only about 3 pounds per capita.

In the matter of tea, we read the net imports in the year 1895 were 96,437,042 pounds, valued at $12,979,869, with a consumption per capita of 1.38 pounds. In 1870, with a population about one half that in 1895, we note the consumption of tea per capita as 1.10 pounds, so that we find the consumption of tea has increased slightly, and also that of coffee, while the use of malt liquors has evidently increased largely.

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* Read before the New York State Medical Association at its fourteenth annual meeting, held in New York, October 12, 13, 14, 1897.

As to the use of tobacco in the United States, the Acting Commissioner of Internal Revenue wrote me as follows, May 22, 1896: "The receipts from the sale of internal revenue stamps during the fiscal year ended June 30, 1895, indicate a consumption as follows:

Tobacco	248,269,638	pounds
Snuff	10,831,474	"
Cigarettes and cheroots	4,163,972,440	
Cigarettes taxed at 50c. a thousand	3,327,403,780	
Cigarettes taxed at $3 a thousand	1,073,897	

An exhaustive study of alcohol, coffee, tea, and tobacco, involving a consideration of their history, chemistry, use and abuse, and general physiological and pathological effects, is too wide a subject for our present consideration. I shall therefore confine myself to a brief presentation of their physiological actions so far as at present known, and a study of their influence as causative factors in the production of nervous disorders; and we must first lay down the general principle that there is no universal standard for all, but that the effects of these agents differ under different circumstances, such as climate, age, temperament, and various other conditions, and that human instinct is a valuable guide, and, as Abraham Lincoln remarked, "You can not fool all the people all the time." On the other hand, nothing has been more clearly demonstrated than the fact that there may be aberrations of instinct, and that instinct must be guided in many instances by reason.

These substances, as to their physiological effects, may be roughly classified in the present stage of our knowledge as follows:

Alcohol is a stimulant in moderate doses and a narcotic in toxic quantity, and, in a certain sense, a food.

Tobacco is a stimulant and sedative, used in moderation, and relaxant, depressing, and paralyzing in its toxic effect.

Coffee and tea are nervous stimulants in physiological and nervous depressants in toxic dose, without narcotism, such effects differing with varying circumstances, such as the individual factor, habit, climate, and so forth.

We will now consider the action of alcohol.

1. As to its general effect on the human race as derived from the researches of statistics.

2. The physiological effects on the human system so far as known.

3. The part it plays as a causative factor in nervous disorders.

As to the general effects of alcohol upon the human race, Dr. Alexander Collie wrote to the London *Lancet* in November, 1887, giving quotations from a paper written by M. Fournier de Flaix, in which the following observations were made: "Alcohol is not, then, a scourge which threatens the European race with the fate of the Oceanic races, inasmuch as the nations that consume most alcohol are the nations whose criminality is least and whose vitality is greatest. Italy consumes very little alcohol—its criminality is appalling. Spain consumes three times less alcohol than Italy—its criminality is double. Sweden, Denmark, and Norway, with a population of about one third, consume four times the quantity of alcohol consumed in Italy, and yet the criminality of the former is small, while that of the latter is large. Russia consumes four times the alcohol of France, but the birth rate is almost double." Thus, he says, the hypotheses are upset. The most vigorous, the richest, and the most moral of the nations are those which consume alcohol. The prediction, he says, that alcohol will destroy civilization and the human race is not supported by facts. France consumes less alcohol than the United Kingdom; its birth rate is less, and its mortality, criminality, and suicide rates are greater. Those parts of France are the most vigorous where the consumption of alcohol is greatest. The immortal Shakespeare said: "Good wine is a good familiar creature if it be well used; exclaim no more against it." "Alcohol is a good gift to man, a good servant, a bad master," says another.

It seems, then, most important at this juncture to lay aside prejudice, and, with the wave of the enthusiastic search for truth which characterizes the present age, endeavor to learn what alcohol is—its status as a food or stimulant, or both; its physiological effects on the human system varying with different circumstances—and to endeavor to ascertain the laws governing its skillful and profitable or unprofitable use.

The physiological effects of alcohol are still not well known, some authorities regarding it as food, others not. Its entire effect on the nervous system is not understood. Its hereditary influence is still a matter of dispute. Experiments are now being carried on under the auspices of the Committee of Fifty which, it is to be hoped, will add to our knowledge in this respect, and so far they have given us some interesting results as to its effects on digestion, its retardation of the growth of the yeast plant, and the lessening of the physical and psychical activity of dogs and cats. The last two points are of special interest in connection with the investigations of Dr. Otto Snell as to the effect of alcohol on mountain climbers; he received sixty communications from mountain climbers, thirty-seven of which, or sixty-two per cent., condemn the use of liquors, wine, or beer as an impediment rather than an aid; twelve are for a moderate use of wine, but pronounce against brandy or beer; and only five of the sixty expressed their belief that alcoholic drinks are beneficial or harmless to climbers.

The general conclusion drawn by Dr. Snell from these answers is that while in exceptional cases alcohol may be harmless or possibly useful, as a rule great moderation is desirable, while the majority of experts are for total abstinence until after the climb is over, and some even strongly urge abstinence or great moderation on the day before the expedition.

The study of food products now being carried on is also another step in the right direction, and it is our fervent wish that further results may enable us at some future time to construct a nutritive diet on physiological principles which can be adapted to individuals with varying temperament, hereditary and constitutional conditions, and environment. At present, as Professor Nitti says in his essay on the Food and Labor Power of Nations, the law binding the labor power of nations to their system of diet is not yet a definite conquest of physiology, and has only reached the stage of an empirical truth based on the researches of statistics.

Alcohol is produced by the fermentation of all saccharine bodies by the action of a particular ferment (*Torula cerevisiæ*) on saccharine substances, causing them to split up into alcohol and carbon dioxide. The fermentation ceases when the proportion of alcohol present reaches eighteen per cent. Its characteristic chemical properties are its affinity for water, its coagulating power on albuminoids, and its antifermentative power when stronger than eighteen per cent. As to its physiological action, many important facts have been ascertained. Locally, prolonged contact with the integument produces a sensation of warmth which, if continued, results in inflammation. It hardens the integument by its coagulating power on albuminoids and its affinity for water. On the stomach and intestines, when taken in small quantities properly diluted, its effects are first local, causing an increased activity of the capillary circulation and stimulation of the glandular apparatus of the mucous membrane of the mouth and stomach, followed by a free secretion from the gastric follicles, due probably to the increased supply of blood and stimulation of the gastric nerve. On the effect of alcohol on the various processes of digestion, the investigations of Chittenden and Mendel have thrown much light. The results of these investigations upon the effects of alcoholic preparations on the action of the different ferments concerned in the digestion of food are difficult to sum up, owing to the difference of action of the various liquors according to the preparation under consideration.

Roughly, we may conclude that alcoholic preparations in small quantities do not interfere with gastric digestion—on the contrary, under some circumstances they increase it; that the digestion of starchy foods by the saliva and pancreatic juice is not markedly retarded by small quantities of absolute alcohol; a small percentage of absolute alcohol may even lead to a slight increase in digestive power; but wines retard pancreatic and salivary digestion, and malt liquors retard salivary digestion, and trypsin proteolysis is interfered with by all such preparations. Further investigation is needed to decide their influence on absorption, secretion, and peristalsis.

On the circulatory system the first effect of alcohol in small quantities, according to Dr. McArthur, is to stimulate the heart, causing a slight increase in frequency and a marked increase in force, a dilatation of the cutaneous capillaries, and probably also those of the brain. In poisonous doses a lessening of the heart's power by one twentieth and the blood pressure by one sixth occurs. The circulatory system is the last to succumb to the toxic effect of alcohol. According to Rolleston, alcohol forms a compound with the hæmoglobin of red corpuscles which takes up and parts with oxygen less readily than normal hæmoglobin. This leads to a general diminution in the metabolism of the body, and as a result the amount of fat in the body may be increased.

On the central nervous system, according to Rolleston, alcohol has first of all an indirect effect by its action on the circulation; it supplies the brain and spinal cord with more blood and so increases their activity. It acts directly on the nerve cells as a functional poison; hence, though first stimulated by alcohol, the central nervous system becomes subsequently depressed. The higher centres connected with mental activity suffer first. After the cerebrum, the cerebellum and cord are affected, and last of all the automatic centres in the medulla controlling the vaso-motor, respiratory, and cardiac movements become paralyzed. As some one has said, there is much in the action of alcohol on the nervous system that we are still ignorant of.

Temperature.—Small doses of alcohol frequently repeated will cause a slight primary rise in temperature, but in liberal quantities it lowers bodily temperature.

According to Rolleston, as a result of the dilatation of the peripheral vessels, and the large amount of blood passing through cutaneous areas, the loss of heat by radiation and convection is greatly increased. With regard to the influence exerted on the production of heat, most of the evidence goes to show that metabolism is diminished and thermogenesis less than normal. Dr. Nansen says that the use of stimulants and narcotics of all kinds should be abandoned in the region of the North Pole. He experimented with tea, coffee, tobacco, and spirits in turn, and found that he could contend against cold and fatigue better when he abandoned their use entirely. Alcohol in appreciable quantity diminished cell activity.

The liver, being the first to receive the blood freshly charged with alcohol in a more concentrated condition than after dilution by the general circulation, is the first to feel its stimulating effects. The liver cells are stimulated, and as a result we have an increased flow of bile.

The physiological effect of alcohol on the kidneys is an increase of the watery portion of the urine and a decrease of the urea. Increased amount of water is due to increased blood pressure; the diminution of urea, to lessening of oxidation of the nitrogenous tissues.

Elimination of Alcohol.—Moderate amounts of alcohol are assimilated by the tissues and used up in much the same way as carbohydrate foods, and leave the body as carbonic-acid gas and water. Some may pass off as alcohol by the lungs. The fæces do not contain any of the alcohol taken by the mouth. Dr. Bodlaender, quoted by Binz, found that in healthy persons at most three per cent. of moderate quantities of alcohol could be recovered in the body. When excessive doses have been taken it appears in the urine, just as sugar may under similar conditions. This fact does not prove, says Dr. Rolleston, that alcohol, when taken in proper quantities, is not a food.

Physiological Amount.—1. Taken in small quantities, alcohol acts as a stimulant to the bodily functions generally, and especially to the vascular and nervous systems. Large doses have a directly depressing or narcotic effect. The amount of alcohol which can be taken daily for long periods without producing any pathological results varies, of course, with age, surroundings, conditions, and idiosyncrasies of the individual, but for an average person what may be called the physiological amount is about one ounce of absolute alcohol.

Just here we may endeavor to answer the question as to whether alcohol is in any sense a food, and here we find a difference of opinion among competent observers, some holding that it is a food for the following reasons:

Experimenters all agree that not more than sixteen per cent. of the alcohol taken can be found in the excreta. The greater portion disappears in the system. As to its mode of destruction, nothing is positively known. None of the intermediate products of its oxidation (aldehyde and acetic acid) have been found either in the blood or the excreta. It is destroyed by oxidation, as we have reason to believe; CO_2 and H_2O (both normal constituents of the blood) would be the final products, and could not be identified as derived from alcohol. Through the lungs a small portion escapes. As to excretion through the kidneys, Binz has shown that under the most favorable conditions not more than three per cent. of the alcohol ingested is excreted by them, thus exploding the theory once entertained that alcohol was entirely excreted unchanged in the urine. A small amount of alcohol is excreted through the skin.

2. It prevents retrograde metamorphosis.
3. It stimulates function.
4. It increases the resisting power of nerve tissue.

Rolleston says: "In physiological quantities alcohol may be considered as a food, inasmuch as it is used up in the system, and is productive of energy; but there is no doubt that healthy and young people are better without alcohol. As age advances it becomes useful, and is, of course, of very great value in such morbid states as fever, collapse, etc."

As to its action upon nutrition, Dr. James C. Wilson, in his article on Alcoholism in Pepper's *System of Medicine*, says we recognize two modes of action: of these the first is direct and in part local, and results from the stimulation of the glandular apparatus of the mucous membrane of the mouth and stomach, from increased activity of the circulation, and from direct stimulation of the gastric nerve. Hence increased secretion of the digestive juices, augmented appetite, more active peristalsis, and improved digestion, to which, indeed, the direct action of alcohol upon the cerebrum doubtless contributes. It is to these effects that the favorable influences of this agent in the extremes of life, when it is so well borne and useful, must be largely attributed.

The second mode of action is indirect and general. It has been shown that alcohol diminishes the amount of carbon dioxide expired and of oxygen inspired; that it diminishes the quantity of urea excreted, and that it lowers the temperature of the body. It follows that normal oxidation goes on more slowly—that there is diminished tissue change. Alcohol supports the body, not by nourishing it as a food, but by curtailing waste. It favors nutrition, not by augmenting the receipts, but by cutting down the expenses of the organism. But nutrition and waste are correlated and complementary. They are, in fact, essential and associated processes of life, of which one is not more necessary than the other to the maintenance of health. In various pathological states the arrest of waste is a cardinal indication, and for this purpose alcohol holds the first place. But in health this action is itself pathological and the beginning of evil. The fat accumulation of the drunkard is due in part to the sugar and starchy matter taken in malt liquors, but much more to this control of waste, as is shown by the fact that spirit drinkers who have sufficient food also often become fat. Alcoholic excesses tend not only to fat accumulation, but also to fatty degeneration of the tissues. The opinion that alcohol in any dose or under any circumstances is a food in the ordinary acceptation of the term is no longer tenable, according to Dr. Wilson.

Metabolism.—According to Rolleston, "partly as a result of its action as a functional poison on the tissues of the body, and partly from its influence on hæmoglobin, the metabolism of the tissues is diminished by alcohol. It is generally held that urea, sulphates, and phosphates in the urine are diminished under the influence of alcohol. Parkes, however, found that dietetic doses of alcohol do not alter the excretion of nitrogen, and concluded that in a healthy man on a uniformly good diet alcohol does not interfere with the metabolism of nitrogenous tissues. Chittenden found by experiment that alcohol increased the excretion of uric acid one hundred per cent. The elimination of urea and total nitrogen were, however, diminished.

The output of carbonic-acid gas by the lungs was diminished.

"The increase in fat which follows the constant use of some alcoholic drinks, such as beer and porter, is due partly to the sugar contained in them and partly to general alteration in the metabolism. It can not, according to Rolleston, be explained on the supposition sometimes put forward that the alcohol is burned off at once, and supplies the energy which is normally obtained from the catabolism of the tissues, and that as a result of this protective oxidation the fat accumulates in the body; small quantities increase the output of work for a time, but as the stimulating effect passes away the capacity for work falls considerably. Its action thus consists in bringing out the nerve powers for a short effort and not in restoring or husbanding sources of energy. The experience gained from long marches of troops is that the use of alcohol tends to diminish the total amount of work done. It may enable a man to spurt, but not to stay. It is dissipative, rather than conservative of energy."

In answering the question as to the physiological action of alcohol, I have quoted largely from the report of Chittenden and Mendel; the article on Alcohol by Dr. Lewis L. McArthur, in Wood's *Reference Handbook,* and also from the article on Alcoholism by Humphry Davy Rolleston in vol. iii, *System of Medicine,* edited by Dr. Allbutt.

The nervous disorders due to the action of alcohol as an exciting or predisposing cause are numerous and varied. The effect of alcohol on the nervous system (as Dr. E. D. Fisher says in his article on Alcoholism in the *Text-book on Nervous Diseases by American Authors*) varies with the manner in which it is taken, habitual use being more often followed by pathological changes than periodic excesses. He also remarks that the predilection of certain persons to be affected by alcohol is dependent upon some constitutional condition which it is difficult to explain; that rheumatism, gout, lead, and heredity have an important influence in this respect, and that not sufficient importance is placed on the degenerative influence of alcohol on the children of those addicted to its use. In other words, we must recognize the fact that there is a class of subjects who can not use alcohol habitually without detrimental effect.

The pathological changes of the nervous system produced by the habitual excessive use of alcohol are, according to the same authority, degeneration of the nerve cells of the cortex of the brain, the vaso-motor centres of the bulb and cord, parenchymatous and interstitial inflammation of the nerves, and arterial degeneration, with hyperæmia and chronic inflammatory conditions.

According to Rolleston, "thickenings of the pia mater and arachnoid, increase in size of the Pacchionian bodies, and excess of the subarachnoid fluid, due to atrophy of the brain, are common in alcoholic subjects, but are also normally found in old persons. In some rather exceptional cases pachymeningitis has been found, and not infrequently there are signs of chronic meningitis, such as thickening of the pia mater and adhesion of the underlying cortex. The brain is shrunken and the convolutions are distinctly separated by the sulci. The ependyma of the ventricles has been described as granular or villous, as in general paralysis of the insane.

"Microscopically, the vessels passing in from the pia mater and those in the brain substance are tortuous and show endarteritis and miliary aneurysms. The perivascular lymph spaces are dilated.

"Degenerative changes are met with in the fifth layer of the motor cells of the cortex. The cells become vacuolated, undergo fatty degeneration from the toxic effect of alcohol, and finally disappear. The spider cells are greatly increased in number. These effects are comparable to those occurring in interstitial hepatitis. Chronic myelitis, probably due to meningitis, and not showing any systematic arrangement, is met with.

"Degenerative changes occur irregularly in various groups of the ganglion cells of the cord.

"Systemic scleroses in the cord are occasionally seen, and when in the ascending tracts might be attributed to neuritis or to an extension of the same process. Optic neuritis may be due to chronic meningitis. Dr. Sharkey has recorded a case of alcoholic retinitis. The changes in the nerves begin near their peripheral distribution, especially in the intramuscular branches of the motor nerves. Dr. Sidney Martin has described the following changes: First, at one or more spots on a nerve fibre, the medullary sheath disappears entirely, the remainder of the sheath above and below this interruption still staining with osmic acid. The axis cylinder in the affected part becomes attenuated and finally ruptures. The part of the nerve fibre between the rupture and the muscle now undergoes Wallerian degeneration.

"The process is therefore primarily one of peripheral nerve poisoning and degeneration, and not of neuritis in the ordinary acceptation of the term. Sharkey has, however, figured acute inflammatory changes in the phrenic and vagus in alcoholic neuritis.

"The degenerative effects of alcohol are developed more rapidly in the peripheral than the central nervous system. Recovery may take place in peripheral neuritis, but when definite organic change has taken place in the brain the prognosis is bad."

The action of ethyl alcohol on the cortical nerve cells has been lately investigated by Berkeley, who examined the brains of five rabbits which died, nearly all in convulsions, after being fed for periods varying from six months to over a year upon diluted alcohol. Very slight abnormal alterations were found in the vascular walls. A large number of pyramidal cells had on their protoplasmic extensions tumefactions of various sizes, commencing apparently near the free extremity of the dendron and accompanied by a disappearance of the lateral buds of the dendritic processes. The axis cylinders were found to be perfectly normal. The same alterations, but much more pronounced, were found in the Purkinje cells of the cerebellar cortex. The neuroglia structures were apparently unaffected. From the comparative insignificance of the arterial changes, the writer considers that the destructive lesions observed are to be attributed, not to nutritive changes induced by defective supply of nourishment, but to the direct irritant action of the poison on the protoplasm.

Dr. Gowers very truly says, in the second volume of his work on *Diseases of the Nervous System* that many of the organic and functional diseases already described may be produced or predisposed to by intemperance; but, he adds, some other derangements are due chiefly to this cause, and are seldom or never produced by any other, and these may be classified as follows: Affections of the cerebrum and its meninges; nerves of special sense, as the optic nerve; the spinal cord and its meninges; the peripheral nerves, motor and sensory; and these may be further classified as the functional and organic.

The affections of the cerebrum produced by alcohol as an exciting or predisposing cause have been grouped by Dr. Henry Maudsley under six heads:

1. Delirium tremens, or acute alcoholic insanity.
2. Alcoholic mania, acute, subacute, or chronic.
3. Mania of exaltation.
4. Acute transitory mania, which ends after a few hours in a heavy sleep, and in which there is a strong hereditary predisposition to insanity and a weak and excitable nervous constitution.
5. Alcoholic dementia, the result of organic degeneration of the brain produced by the continued action, but not to be cured by the present disuse, of alcohol.
6. Dipsomania, characterized by a vicious craving and habitual self-indulgence, being a recurrent alcoholic mania, the outbreaks being paroxysmal and periodic. It is neuropathic in its nature and owns a morbid nervous inheritance, such as ancestral insanity, epilepsy, or drunkenness; also a sequel to injury of the head, sunstroke, or an attack of acute insanity.

To these Dr. Gowers adds another class:

7. Acute melancholia; and also remarks that in almost all cases of this kind there is an hereditary tendency to mental derangement, and the alcoholic excess is merely the exciting cause.

Epilepsy is, according to Dr. Gowers, occasionally an effect of alcoholic excess, but the attacks seldom occur periodically; usually, as he says, a series of attacks are excited by a bout of drinking, or even by a single intoxication. The meninges of the brain are affected in chronic alcoholism by chronic meningitis, the chief symptoms of which are headache, which according to Dr. Gowers is moderate in degree and sometimes absent, slight delirium, mental failure, and slight optic neuritis. Dr. Gowers says that opacity and thickening of the arachnoid and dura mater are met with after death in some cases, chiefly marked over the convexity of the brain, and are probably the direct effect of the alcohol.

As to alcoholic amblyopia, due to optic-nerve atrophy, consequent on optic neuritis, there seems to be a difference of opinion. Dr. Gowers says it is an undecided question whether alcohol causes amblyopia and optic-nerve atrophy, such as result from the use of tobacco. In many cases of tobacco amblyopia there is a history of alcoholic excess, but its production by alcohol alone is not well established. He seems to think that in many of these cases there is chronic meningitis. On the other hand, Dr. de Schweinitz says that a true alcohol amblyopia has been demonstrated with sufficient frequency to quell all reasonable doubt. Connor, for example, Dr. de Schweinitz says, who has taken the trouble to collect twenty-seven cases of pure tobacco amblyopia, reports a couple of instances of equally pure alcohol amblyopia.

As regards the effects of alcohol as a predisposing and exciting cause of cerebral hæmorrhage, Dr. C. L. Dana says: "The excessive indulgence in alcohol for a number of years produces arterial disease, thickening of the meninges, and atrophy of the brain, with, in many instances, a terminal condition of cerebral hæmorrhage, and that it is also an exciting cause of cerebral hæmorrhage." He also remarks that "the moderate indulgence in alcohol in persons not especially predisposed to arterial disease has no particular influence in leading to apoplexy."

(To be concluded.)

THE X-RAY "BURN": ITS PRODUCTION AND PREVENTION.

HAS THE X RAY ANY THERAPEUTIC PROPERTIES?

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THE numerous reports from foreign sources which ascribe to the X ray therapeutic properties and detail results produced in cases of cancer and lupus vulgaris, as well as claim for it a retarding action upon the growth of bacteriological cultures, have led the author to study the electrical conditions present, to determine whether the results obtained can not be more reasonably explained by the action of forces which are always present, and the physical and physiological properties of which are perfectly known and understood.

The following cases in which the X raywas employed with the purpose of producing a therapeutic action serve as illustrations and confirm the opinion which the author has frequently expressed,* that the X-ray burn and its so-called therapeutic action are not due to the participation of some unknown quality of this partially known source of energy, but are the result of the destructive action of the electric currents or static charge induced in the tissues of the patient.

The first case was a recurrent carcinoma of the axilla following an incomplete operation. The case was inoperable, and it was decided to test the therapeutic value which has been claimed in various quarters for the Röntgen ray. A Queen self-regulating tube energized by a "fat" eight-inch spark was placed at a distance of about six inches from the field upon which it was desired to act. The surrounding tissues were protected by sheets of lead. A "grounded" sheet of aluminum was placed between the tube and the patient, in order to eliminate from the observation the action of the static charge of electricity produced by the strong induction field which surrounds the tube. The static charge was thus collected in the aluminum shield and conducted by the grounding wire to earth.

The series of exposures, averaging twenty-five minutes each in length, was continued daily for three weeks. The therapeutic action of the X ray in this case was entirely wanting, and no X-ray "burn" was produced either immediately or later.

The second case was one of lupus vulgaris, in which, in contrast to the former case, the supposed burning effect of the X ray was desired for its cauterizing action.

In this instance the "grounded" aluminum sheet was purposely omitted to permit the accumulation of the static charge upon the skin, so that it might produce the desired effect. The parts surrounding the field of operation were protected by sheets of lead, and all the other factors were identical. The exposures were only twenty minutes in length and were employed for ten days only. The only difference, therefore, was the omission of the grounded aluminum protector with shorter exposure.

The result was strikingly different. Although the exposures were not as long, and were continued for less than half the number of days, there was produced a severe "burn," followed by deep ulceration of the area acted upon. This burn was produced by the static charge which had not been eliminated by the use of a shield, and extended not only over the exposed area, but also to a less extent over the parts protected by the sheets of lead.

That the action of the Röntgen ray is not interfered with materially is shown by a third case, where a burn was produced in skiagraphing a patient for a vesical calculus without the employment of the shield. A burn was produced of considerable extent, but not severe in character. After it had healed, a second skiagraph to determine if all the stone had been removed was made under identical conditions, except the interposition of the aluminum shield. There was no burn produced, and the negatives in the two instances, before and after the removal of the calculus, were equally good in detail and definition, showing that the Röntgen rays had acted equally well whether the shield was or was not employed.

The evident deduction from the results produced in these cases is, that the X-ray "burn" and the therapeutic action attributed to the X ray are not produced by the X ray, but are the result of the action of the static charge, which in two of the cases cited was collected in the aluminum shield and conducted to earth by the grounding wire.

The author has never seen a burn produced where the shield has been used.

In a previous paper the author has said:* "It would seem more reasonable to ascribe the changes commonly known as X-ray 'burns' to the action of an agent which we know is always present when they are produced and is capable of producing them, rather than to a hypothetical action of the Röntgen rays of which the physical nature and characteristics are not yet entirely known."

The Röntgen ray itself is dependent upon the high potential current induced in the secondary circuit of the induction coil for its production, and therefore depends upon the physical law of induction. This law makes it certain that the patient's tissues, as conductors of electricity, will have induction currents or static charges induced in them if they enter the high-potential induction field which surrounds the X-ray tube.

It is well known that electricity has at first a stimulating, and finally a destructive, influence upon tissues through which it passes. It is therefore probable that the X-ray burn is the result of an interference with the nutrition of the cells produced by the static electric charges or currents which are induced by the introduction of the patient's tissues into the high-potential induction field surrounding the tube.

All the therapeutic activity which has been ascribed to the X ray is readily explained by these static charges and their action, which is well known to electro-therapeutists.

The action attributed to the X ray in retarding the growth of bacteriological colonies is a well-known property of static electric charges. In this case the gelatin serves as the conducting material in which the electricity is collected, while the glass plate is the nonconductor which prevents its discharge.

The method of protecting patients from the injurious effects produced by these high-potential induction fields has frequently been described by various authors who have successfully employed it, yet a sufficient knowledge does not seem to be widely distributed. It is of vital importance that it should be appreciated and universally employed. The X-ray method of diagnosis has a value which as yet is but poorly appreciated, and anything, such as the fear of burns, which in any way hinders its employment hinders progress.

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* American Medical Association, June, 1897. *Journal of the American Medical Association*, December 4, 1897.

* *Annals of Ophthalmology*, April, 1898.

It should be distinctly understood that the interposition of a "grounded" conductor of electricity that is penetrable by the X ray, as a thin sheet of aluminum, or gold leaf spread upon a large cardboard screen, will absolutely protect the patient from burns.

Conclusions.—The X-ray "burn" is, therefore, not the result of the action of the X ray, nor can it be produced by the X ray; but the dermatitis produced is the result of the static currents or charges induced in the tissues by the high-potential induction field surrounding the X-ray tube.

The therapeutic properties attributed to the X ray do not belong to it, but are due to the static charges and currents induced in the tissues, which have long been known to be capable of producing similar results.

The X ray *per se* is incapable of injuring the tissues of the patient, and the dermatitis, which has been called an X-ray "burn," is the result of an interference with the nutrition of the part by the induced static charges.

The patient may be absolutely protected from the harmful effects of this static charge by the interposition between the tube and the patient of a grounded sheet of conducting material that is readily penetrable by the X ray—a thin sheet of aluminum, or gold leaf spread upon cardboard, making an effectual shield.

1930 CHESTNUT STREET.

Therapeutical Notes.

Acute Diarrhœa.—The following is credited by the *Philadelphia Medical Journal* for June 11th to Dr. Burney Yeo:

℞ Sodium bicarbonate.......	60 grains;
Aromatic spirit of ammonia	3 fluidrachms;
Compound tincture of cardamoms	6 "
Cinnamon water..........	6 fluidounces.

Dose: Two tablespoonfuls every two or three hours.

Facial Erysipelas.—The following is credited by the *Canadian Practitioner* for June to the *Presse médicale:*

℞ Carbolic acid..................	1 ounce;
Tincture of iodine.............	1 "
Alcohol	1 "
Oil of turpentine.............	2 ounces;
Glycerin	3 "

The lesions to be painted with this every two hours and covered with aseptic gauze.

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THE IDAHO SPRINGS OF COLORADO.

IT is not very long ago that the statement was made in a standard work on balneology that there were no medicinal springs in Colorado. Perhaps this grossly erroneous statement was occasioned by the fact that there are no such springs in the place known as Colorado Springs, so called not strictly on the principle of *lucus a non lucendo,* but because that locality seemed at the time to be the nearest one to the Manitou Springs at which it was desirable to build a town. The Manitou water is now getting to be well known and highly esteemed as a table water. It has the advantage of being free from the sugary taste that lurks in some other similar waters that are in extensive use. The waters of the Glenwood Springs have now taken their place among the recognized medicinal springs, and it is to be hoped that the springs in the town of Idaho Springs may soon be adequately treated of from the medical point of view. No little impetus toward the attainment of this desirable result must spring, we are convinced, from the recent visit of several hundred of the members of the American Medical Association to the attractive and progressive little mining town in which the springs are situated. Coupled with tender memories of the graceful and hearty welcome offered to the visiting physicians by the open-hearted citizens of the town, there will always remain the interesting reminiscence of a partial examination of its medicinal waters.

So far as present data go, the waters are used chiefly in the treatment of various forms of rheumatism, mostly in the form of baths. The temperature of the water is not so high as that of the Hot Springs of Arkansas, being about 112° F. At this temperature the water is not at all unpleasant to the taste; indeed, it is rather attractive. When cooled to the ordinary temperature of drinking-water, it must be very palatable, we should say. At the time of the excursion alluded to a large and handsome bath house was on the eve of completion. One of the curiosities of the place, described as "a natural Turkish bath," is a tunnel permeated with the vapor from the hot water. An analysis of the waters of the hot soda springs is said to show the following mineral constituents in each pint:

Sodium carbonate	3.85 parts;
Magnesium carbonate	0.36 part;
Ferrous carbonate	0.52 "
Calcium carbonate	1.19 "
Sodium chloride	0.52 "
Magnesium chloride	a trace;
Calcium chloride	a trace;
Sodium sulphate	3.67 parts;
Magnesium sulphate	2.34 "
Calcium sulphate	0.43 part;
Sodium silicate	0.51 "
Total	13.39 parts.

The situation of the town of Idaho Springs, in Clear Creek Cañon, a few miles below the famous Georgetown "loop" of the railway, is highly picturesque. Its elevation is 7,543 feet above the sea level. Rich as the town is in mining properties, we venture to say that it may before long be richer still as a resort for invalids.

ACTIONS FOR MALPRACTICE.

WHILE there can be no doubt that the individual should be sustained in his right to recover damages from a physician for gross and culpable negligence or incompetence, there are perhaps few injustices to which members of the medical profession are more widely exposed than vexatious actions for malpractice. The best and most careful practitioner is not exempt from the distress, worry, professional damage, and pecuniary loss which such an action, whether well or ill grounded, must inevitably entail.

It has been reiterated times without number that in nothing so much as in medical practice is the seeming result, so far as the client is concerned, by no means indicative of the amount of skill or attention, or the reverse, which has been brought to bear upon the case. There are cases in which excellent results ensue in spite of professional services lamentably deficient in technical skill; while, on the other hand, failures, from the patient's point of view, often follow the best of work. It can not be too strongly, or too often, impressed upon the public that while in most ordinary pursuits of life the successful accomplishment of the desired end implies good, and the non-attainment thereof bad, work, that proposition is far from being generally true in relation to the practice of the healing art. Of course, there may be in a given case specific, gross, and easily recognizable errors which no man fit to practise medicine ought ever to commit; but when such are established the profession itself is surely jealous enough of its own honor to support the popular condemnation. These, however, are the exceptions in such actions, and are a very different thing from a failure to attain the best conceivable result, upon which failure by far the greater number of actions for malpractice are based. There are in every case of illness or injury so many individual and ever-varying factors (and these in no two cases exactly alike) entering into the ultimate composite result that gross errors, such as we have referred to, excepted, it is almost impossible for a physician or a body of physicians, at a late date reviewing merely the results, to say justly whether or no in that particular case a better result could or could not have been attained. And yet suits for malpractice are being ruthlessly and recklessly brought with alarmingly increasing frequency, in spite of the fact that the law has specifically laid down over and over again the principle that a physician is not held to be called upon to attain a given result, but merely to provide the patient with reasonable care and technical skill. In our issue for May 21st we referred to the case of two physicians in this city who were exonerated from a charge of incompetence recklessly brought against them by a brother practitioner, while in the same number we recorded the decision of a French court in favor of a doctor to the effect that since a physician is not infallible, and does not profess to be so, an error on his part as to the dose of a remedy does not necessarily involve responsibility for malpractice. But the mere bringing of such an action, even when the physician succeeds in vindicating himself all along the line, may irretrievably damage, and indeed ere now has irretrievably damaged, a worthy professional career.

But if an ordinary action brought within a reasonable time of the attendance may lead to such disastrous and unmerited results, what are we to say of such a case as that referred to in the *Medical Age* for June 25th, wherein two physicians of Findlay, Ohio, have been made defendants in a suit in that sixteen years ago they set the broken leg of Carey Hendricks, who was then five years old. This person is now twenty-one, and not liking the results of the work done so long ago has entered an action against them for the recovery of a hundred and fifty dollars fees paid and five thousand dollars damages besides.

Such suits can be, and probably very often are, brought out of sheer unadulterated malice, vindictiveness, or greed, and there should surely be some protection for the practitioner against them. It might, perhaps, be feasible to influence legislation toward the formation of courts of first instance composed, let us say, of the officers of the State Medical Society, or of a committee to be appointed therefrom, the function of which courts should be to decide at a preliminary investigation whether there was sufficient *prima facie* ground for submitting a charge to trial for such culpable lack of skill or attention as alone the law contemplates for a ground of action. The opinion of laymen on this point is worth absolutely nothing at all, no matter who they may be, or however many of them there are in agreement. Such a court might effect much, also, to do away with the unseemly spectacle of "expert witnesses" swearing diametrically opposite things in advocacy of opposing sides. Numberless ways will suggest themselves in which its judicial functions might be utilized for the public good. Another possible aid in this direction was suggested, we believe, some time ago by Dr. Lewis A. Sayre, who proposed that it should be required as a preliminary in all cases of action for malpractice, that the complainant should have to give to the court security for costs in the event of his failing to sustain his claim. The principal objection to this suggestion lies in the contention that it might act as a preventive in the case of very poor people whose claim might nevertheless be a perfectly valid one. But in these days of trust and bond corporations such an objection seems to us of but little weight.

But in the meantime there is one means by which the medical profession can do much to help itself—namely, the formation of a medical defense union, the members of which, on being threatened with any cause of action in relation to their profession, shall be entitled to file on affidavit their statement of the case for consideration by the society; and, should it appear to afford any reasonable kind of a defense, the union should engage to fight it and see the case through. While this course would not abolish the worry or the professional injury accruing from vexatious and unwarranted suits, it would at any rate relieve the practitioner of the pecuniary strain they entail, and would, moreover, afford him the moral support of its known existence, which would probably serve to check the nefarious schemings of those pathogenic bacteria of the body politic, the "shyster" lawyers, to whom by far the larger proportion of such suits owe their origin.

MINOR PARAGRAPHS.

CELLULOID BANDAGES.

Dr. Walravens (*Annales de la Société belge de chirurgie,* June 15th) advocates the substitution for plaster, starch, silicate, etc., of bandages stiffened with a solution of celluloid as recommended (*Centralblatt für Chirurgie,* 1896, No. 29) by Landerer and Kirsch, on account of their greater lightness, solidity, elasticity, impermeability, and durability. These bandages are not affected by urine, pus, etc., and can be washed. They can be molded by warmth. As to inflammability, the author says he has many times purposely thrown them on the stove, and has never known them catch fire, but simply melt. Naturally, if they are brought to a flame, they catch fire just as clothes do. As to the impermeability to perspiration, that is easily remedied by a few perforations, which do not interfere with the strength of the splint. The solution of celluloid is made by dissolving one part of celluloid in three parts of acetone. It should be thin enough to trickle from the spatula, and pure acetone is desirable as evaporating more quickly and giving a more homogeneous solution. The application is as follows: The part is firmly bound by layers of gauze bandage, to which the celluloid solution is then applied. A fresh bandage is next applied and in its turn is soaked with the solution, and so on until the desired thickness is attained. The author, however, prefers to soak his bandages first in the acetone and then in the celluloid. He then applies them to the part and paints one or two layers of celluloid solution thereon. The celluloid dissolves also in a mixture of alcohol and ether, but the results are not so satisfactory as those of the solution in acetone. The hands should be smeared with vaseline while handling the acetone.

THE RESPONSIBILITY OF MEDICAL EXPERT WITNESSES.

Some little time ago Dr. Méloche was appointed at Angers, France, as a medical expert to examine a woman accused of having had abortion procured. The doctor having given his opinion in favor of the probability of recent abortion, though with much reserve in consequence of the reticence and contradictory statements of the woman, the latter was three days subsequently delivered of a five months' fœtus; whereupon the court censured the doctor for not having made a chemical examination of the blood, and entered upon scientific disquisitions only serving to make it ridiculous by showing up its natural incompetence for the functions it had usurped, and further condemned him to pay to the woman damages to the extent of 1,000 francs. According to the *Progrès médical* for June 11th, the court of appeal has now reversed this decision on several grounds. In the first place, it held that the physician had acted with all necessary prudence, and had only asserted the serious probability of abortion; and, further, this condemnation, if sustained, would make the task of a medical expert hereafter an utterly impossible one. The medical expert is fallible. When consulted by the court, it is his duty to give his opinion in all sincerity and honesty of purpose, and it is the duty of the magistrate, if the expert's opinion leaves the slightest doubt in his mind, to seek further light by calling on additional witnesses. The expert who, as was the case with Dr. Méloche, affirms the serious probability of a crime or an offense, ought not to be held responsible for the conclusions that a magistrate, himself irresponsible, chooses to draw from the former's dubitative statements. Dr. Méloche found support in this case from the Society of Hygiene and Legal Medicine, and the syndicate of physicians of the Lower Loire; a fact which lends significance to a suggestion made in another column for the establishment of a regularly organized medical defense union that shall be prepared to come to the aid of any of its members when attacked in the courts on professional grounds.

TREATMENT OF GONORRHŒAL EPIDIDYMITIS BY APPLICATIONS OF GUAIACOL.

J. Leng (*Wien. klin. Rundschau*, 1898, Nos. 4–6; *Gazette hebdomadaire de médecine et de chirurgie*, June 12th), as a result of the study of fifty cases, arrives at the following conclusions: 1. Ten-per-cent. applications of guaiacol-vaseline, made twice daily in the neighborhood of the inflamed epididymis, cause subsidence in from three to five days of the swelling, pain, fever, and sleeplessness. 2. The analgetic and antipyretic action of these applications is specially noticeable during the acute stage and in inflammation, whether traumatic or otherwise, of the epididymis. This action is hardly perceptible in the subacute stage, and does not exist in chronic gonorrhœal epididymitis. 3. To induce resorption of the exudate, a belladonna ointment should replace that of guaiacol.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 25, 1898:

DISEASES.	Week ending June 18.		Week ending June 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	25	2	18	11
Scarlet fever	142	17	123	15
Cerebro-spinal meningitis	0	7	0	0
Measles	334	22	269	14
Diphtheria	162	22	208	27
Croup	13	9	11	5
Tuberculosis	217	158	145	135

A Pennsylvania Professor a Fit Subject for Nordau or Lombroso.—The case of Professor George H. Stephens, who is reported as having confessed to burning Pardee Hall, a part of Lafayette College, is one which will no doubt excite much interest among the alienists of Philadelphia and others who are familiar with the works of Cesare Lombroso and of Max Nordau.

As the facts are gradually coming to light, it seems that Stephens was sent away by members of a certain church in the West to Princeton College to be educated for the ministry; but he subsequently changed his mind and obtained a position at Lafayette College, where he was for several years adjunct professor of moral philosophy. From this position it is stated that he was removed for several causes. Then, as is alleged, he began a series of acts of vandalism, which finally culminated in the burning of Pardee Hall, the pride of Lafayette College.

It is further reported in the confession that the motive which inspired these acts was an insane desire for revenge upon the president of that institution.

A Philadelphia Physician delays a Trial.—It will be remembered that several months ago, when the subject of better water for this city was being agitated, an open charge of attempted bribery was made by a member of common council, Walter N. Stevenson, against Peter E. Smith, a member of the select council. The case has been set for trial two or three times, but a continuance has been granted on each occasion.

It was hoped, therefore, that this time the case would go to trial, but, according to the opinion of Dr. William Stiles, the patient would not be able to undergo the strain thus thrown upon him, on account of a complication of gout, heart, and kidney trouble, and the case was again continued.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and plague were received in the office of the supervising surgeon general during the week ending June 25, 1898:

Small-pox—United States.

Hurricane Bayou, Ala	June 15	1 case.
Mobile County, Ala	June 15	7 cases.
Whistler, Ala	June 4–15	"A few cases."
Hattiesburg, Miss	June 15	4 cases.
Laurel, Miss	June 15	3 "
Meridian, Miss		Reported.
Prairie, Miss	June 15	Several cases.
Shubuta and vicinity, Miss.	June 15	100 cases.
West Point, Miss	June 4–15	"A few cases."
Lincoln, New Mexico	June 11	30 cases.
Iredell County, N. C	June 23	18 "
Mooresville, N. C	June 16	1 case.
Rowan County (adjoining Iredell), N. C	June 23	7 cases.
El Paso, Texas	June 11	3 "

Small-pox—Foreign.

Halifax, N. S., Canada	June 11	3 cases on S. S. Pisa in quarantine from Hamburg.	
Newcastle-on-Tyne, England.	May 14–21	3 cases.	
Newcastle-on-Tyne, England.	May 21–28	1 case,	1 death.
Newcastle-on-Tyne, England.	May 28–June 4	1 "	
Moscow, Russia	May 21–28	4 cases,	2 deaths.
Odessa, Russia	May 28–June 4	7 "	2 "
St. Petersburg, Russia	May 15–21	14 "	3 "
St. Petersburg, Russia	May 28–June 4	10 "	1 death.
Warsaw, Russia	May 14–21		8 deaths.
Warsaw, Russia	May 21–28		7 "
Caracas, Venezuela	May 7	Present and spreading.	
Puerto Cabello, Venezuela	May 7	Present and spreading.	
Valencia, Venezuela	May 7	Present and spreading.	

Yellow Fever—United States.

Eucutta, Miss	June 21	1 case.
McHenry, Miss	June 20–23	5 cases.
Perkinston, Miss	June 21	1 case (doubtful).

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	May 6–13	76 cases,	53 deaths.
Panama, Colombia	June 18	1 case.	
Port Limon, Costa Rica	June 15	Reported present.	
San Salvador, Costa Rica	June 15	Reported present.	

Plague—Foreign.

Amoy, China	June 11	Reported present.
Swatow, China	March 25	Reported present.

How the New War Tax on Bequests will Affect the University of Pennsylvania and Large Hospitals.—The new war revenue law which places a tax upon legacies to and inheritances of the larger teaching institutions and charitable hospitals of this city is receiving considerable criticism.

Provost C. C. Harrison, of the University of Pennsylvania, in an interview recently stated that "hereafter we shall have to pay ten per cent. on our larger legacies—*i. e.*, $10,000 on every $100,000 bequest we receive; for the State already taxes us five per cent., and now the Government of the United States demands five per cent. additional. It is a very severe and a very improper thing. For example, a bequest recently made by Mrs. John Field of $50,000 would have been reduced by $5,000 if this new law had been operative when the bequest was received. Such a heavy tax will have the effect of driving away large bequests. It will have a very deterrent influence upon people disposed to leave in their wills large sums for charitable purposes, and it is a most unwise measure." A reference to the reports of two large hospitals will show very clearly how these institutions would have been affected had the law been in operation during the past few years. For instance, taking the University of Pennsylvania Hospital, this institution received no bequest over $10,000 from any one individual during the years 1893, 1895, and 1896, although a total aggregate received amounted to $58,250 during those three years; but as no single bequest of over $10,000 was received, no tax could have been collected. But in 1894 the sum of $65,000 was received, and in 1897, $49,432.67, so that all told this hospital alone would have been forced to pay in the neighborhood of $11,000 for those two years.

The charitable and efficient Pennsylvania Hospital would have been worse affected than the University. In 1894 it received one bequest of $25,000; in 1896, $80,000, which was in amounts larger than the $10,000 necessary for taxation, and this public institution alone would have been forced to pay $10,500 for the privilege of caring for the poor. It is stated that the annual report, which will be issued shortly, will show that bequests during the past year aggregate $200,000, much of which would come under the inheritance tax had that measure been passed a year ago. For the coming year this hospital hopes to receive bequests which will amount to $300,000, so that indeed it seems in the effort to distribute the expenses of this present war, taxes have been placed on institutions which will suffer more than the framers of the law intended.

The Section in Laryngology and Otology of the American Medical Association.—At the meeting of this section, held in Denver, June 7th to 10th, the following were elected officers for the ensuing year: Chairman, Dr. Emil Mayer, of New York; secretary, Dr. C. R. Holmes, of Cincinnati.

The Honorary Degree of LL. D. has been conferred upon Dr. Horace Tracy Hanks, of New York, by the University of Rochester.

Physicians' Summer Addresses.—Dr. Russell Bellamy (New York), to Ocean House, Newport, Rhode Island; Dr. Andrew H. Smith (New York), to Elberon, N. J.

Many Prostrations from the Heat in Philadelphia, June 25th.—Saturday, June 25th, was the hottest day experienced so far this summer, and twelve prostrations have been reported for that day. The noon temperature was 81° F.; the highest point reached being 94° F. at 4 P. M. At 5 A. M. the temperature was 68° F., and at 8 A. M., 75° F., the humidity being 78°. Later both showed an increase, causing the number of prostrations as above stated.

Changes of Address.—Dr. R. S. Baddour, to No. 547 Henry Street, Brooklyn; Dr. A. L. Barrett, to No. 110 West One Hundred and Eighteenth Street, New York; Dr. L. P. Howell, to Washington C. H., Ohio; Dr. William F. Nolting, to No. 385 State Street, Brooklyn; Dr. W. H. Roe, to No. 23 Greene Avenue, Brooklyn; Dr. Andrew H. Smith, to No. 18 East Forty-sixth Street, New York; Dr. E. A. Woldert, to No. 1709 North Sixteenth Street, Philadelphia.

The Buffalo Academy of Medicine.—At the last meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, the 28th inst., Dr. Joseph Price, of Philadelphia, was to read a paper on The Diagnosis of Suppurative Forms of Intrapelvic Disease, and the Surgical Management.

Mortality Statistics of Philadelphia for Week ending June 25th.—During the past week there were 387 deaths, or 112 less than during the week before, and a decrease of 41 over the same period of last year. Of the total number of deaths, 152 were in children under five years of age. The causes of death were: Cholera infantum, 34; consumption, 34; inanition, 17; nephritis, 14; heart disease, 20; convulsions, 11; inflammation of lungs, 18; inflammation of brain, 25; inflammation of stomach and bowels, 20; marasmus, 13; old age, 14. For the same period there were reported 63 cases of diphtheria, 23 of scarlet fever, and 91 of typhoid fever; from which latter causes a total of 20 deaths has occurred.

Death of Mr. Henry Lee, F. R. C. S.—We learn from the *Lancet* for June 18th that the death of this well-known London surgeon, who was senior consulting surgeon to St. George's Hospital, London, took place on June 11th. The deceased was eighty-one years of age.

A Tenderfoot on the Denver Meeting.—The *Atlantic Medical Weekly* for June 25th contains anent the Denver gathering, the breezy "Impressions of a Tenderfoot and Incidentally Some Account of the Meeting, with a Few Facts, Scientific and Otherwise, chiefly Otherwise." Among other good things, the writer quotes from the opening address of the governor in reference to the climatic virtues of Colorado, his advice to ride around Denver and note the magnificence of the homes and blocks that belong to the local physicians, which have been mostly built from fees really due to the climate, but collected by the doctors, who are self-appointed agents to levy a royalty on all climatic cures.

The Diagnostic Value of Hæmoglobin. — Krauss (*Journal of the Mississippi State Medical Association*, June) says that a hæmoglobin estimation is of value in judging of the extent and severity of a malarial attack by the amount of hæmoglobin reduction, and also in judging the effect of our remedial agents by reexamination at weekly intervals. Examinations in suspected anæmia show that the physical appearance of a patient is no index of his hæmoglobin percentage. In syphilis, the method can be made diagnostic, by first making an estimation and then ordering a mercurial inunction or injection; in twenty-four hours the hæmoglobin will have fallen from ten to twenty per cent. This, of course, does not hold good if the patient was already using mercury. The proper dose of mercurials can be estimated by this method, as only that amount is correct which is accompanied by a progressive weekly increase in hæmoglobin. The author then describes his bedside method of examination for hæmoglobin, the apparatus for which will soon be on the market at a cost of about a dollar and a half.

He uses two mixtures of benzol and chloroform respectively, one equivalent to a 1.060 specific gravity at 80° F., and one to 1.000 specific gravity and colored with gentian violet; a pipette is needed, which should be graduated in hæmoglobin percentages from 110 down to 20. The 110 mark is also equivalent to five cubic centimetres, which is the quantity of the 1.060-specific-gravity fluid to be measured off; a short, wide test tube and an ordinary thermometer are also required. The fluids must be at 80° F., which is the usual room temperature; if necessary, a small vessel of water is brought to this degree by adding either ice or tepid water, as the case may be, and the bottles containing the test fluids are immersed therein for several minutes.

The test tube is charged with five cubic centimetres (110-per-cent. mark) of the clear fluid; the tip of the patient's finger is cleansed with alcohol and a cloth and punctured with a new steel pen from which one nib has been broken off; the blood is allowed to exude *without pressure* and with a capillary pipette is drawn up and injected *under the surface* of the solution in test tube. Unless its hæmoglobin percentage is over a hundred and ten, it will float on the solution; next the pipette is filled to the 110 mark with the violet solution and introduced to the bottom of the tube and the solution gradually allowed to flow until the drop of blood begins to recede from the surface; then it is added more cautiously and interruptedly until the blood floats indifferently in the fluid—*i. e.,* neither rises nor falls. The percentage of hæmoglobin can then be read off from the amount of violet solution used. The test is not applicable in hydræmia when the red cells are waterlogged, and its readings are lower than the color-test readings in fevers.

Cobalt Nitrate in Cyanide Poisoning.—The London correspondent of the *American Practitioner and News* for June 1st says that a chemist is stated to have found in cobalt nitrate an effective antidote in both hydrocyanic-acid and cyanide poisoning. Successful in the first trials with animals, its application has been extended to some forty cases of poisoning among human beings, and proved successful.

Army Medical Officers.—There is, according to a speech quoted in the *Canadian Medical Review* for June, at least one general in the British army who does not hold the absurd prejudice against the army medical officers which obtains in some countries and has shown some signs of being copied even here. Field Marshal Lord Roberts is reported to have said at a banquet in London: "The army medical department is well represented by Irishmen. It has a record of its own, and therefore it needs no words of eulogy on my part. Whether in hospital or in field, the skill and bravery and kindness of Irish medical officers are proverbial. I can not here enumerate the Irish medical officers in the army who have been and still are among my friends, but this I will say, that whether as doctors or as agreeable companions, there are no better fellows in the world."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 19 to June 25, 1898:*

Carter, W. Fitzhugh, Major and Surgeon, United States army, is ordered from Nashville, Tennessee, to Tampa, Florida, for duty with the Fourth Army Corps.

Flagg, E. B., Captain and Assistant Surgeon, United States army, is ordered from Columbus Barracks, Ohio, to Fort McPherson, Georgia, for duty in the general hospital.

Hayward, Edwin P., Acting Assistant Surgeon, United States army, is ordered from Kansas City, Missouri, to the Leiter General Hospital, Chickamauga Park, Georgia.

Dewey, C. F., Acting Assistant Surgeon, United States army, is ordered from Louisville, Kentucky, to San Francisco, California, for duty with the Philippine expedition.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending June 27, 1898:*

Johnson, H. A., Assistant Surgeon. Detached from the *Peoria* and ordered to the *Terror.*

Furlong, F. M., Assistant Surgeon. Detached from the *Richmond* and ordered to the *Siren.*

Whitting, J. R., Assistant Surgeon. Ordered to the *Richmond.*

Grow, E. J., Assistant Surgeon. Ordered to the Navy Yard, Boston.

Freeman, G. F., Assistant Surgeon. Detached from the Navy Yard, Boston, and ordered to the *Peoria.*

Wright, B. L., Assistant Surgeon. Detached from the *Richmond* and ordered to the *Supply.*

Sung, G. A., Passed Assistant Surgeon. Detached from the *Supply* and ordered to the *Philadelphia.*

Crawford, G. A., Assistant Surgeon. Ordered to the Navy Yard, Washington.

Parker, Joseph B., Medical Inspector, to be a Medical Director.

Society Meetings for the Coming Week:

Monday, *July 4th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *July 5th:* Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Broome (quarterly); Hudson (Jersey City) and Union (quarterly), N. J., County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Chittenden, Vermont, County Medical Society; Medical Society of the University of Maryland.

Wednesday, *July 6th:* International Association of Railway Surgeons (first day—Toronto); New York Academy of Medicine (Section in Public Health); Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Connecticut, Medical Association.

Thursday, *July 7th:* International Association of Railway Surgeons (second day); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine; Washington, Vermont, County Medical Society.

Friday, *July 8th:* International Association of Railway Surgeons (third day); German Medical Society of

Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *July 9th:* Worcester, Massachusetts, North District Medical Society.

Births, Marriages, and Deaths.

Born.

Pothier.—In New Orleans, on Thursday, June 23d, to Dr. and Mrs. Oliver Louis Pothier, a son.

Married.

Bouvier—McGowan.—In Jeanerette, Louisiana, on Wednesday, June 22d, Dr. Joseph Bouvier and Miss Alice McGowan, daughter of Dr. Charles McGowan.

Denniston—Wight.—In New York, on Thursday, June 23d, Dr. Robert Denniston, of Dobbs Ferry, N. Y., and Miss Sarita Stiles Wight.

Pohlman—Bulloch.—In Brooklyn, on Monday, June 27th, Dr. Julius Pohlman and Miss Lily Bulloch.

Died.

Jackson. — In Somerville, Massachusetts, on Wednesday, June 22d, Dr. Eben Jackson, aged seventy-three years.

Jeffrey.—In New York, on Monday, June 27th, Alexander Spence, infant son of Dr. Alexander Jeffrey.

Tousey.—In New York, on Wednesday, June 22d, Josephine, infant daughter of Dr. Sinclair Tousey.

Tousey.—In New York, on Sunday, June 26th, Julia von Gerding, wife of Dr. Sinclair Tousey, aged twenty-five years.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of April 13, 1898.

The President, Dr. Walter B. Johnson, in the Chair.

A Case of Depressed Fracture of the Skull successfully treated by Trephining.—Dr. Charles J. Proben presented a case of this kind. The patient exhibited was a boy six years of age, who had been well until the accident occurred, January 15, 1898. On that evening at 8 p. m., while sliding down the balusters astride, he lost his hold and fell three flights of stairs, apparently striking his head against the projecting post at the bottom. The concussion must have been intense, the noise of the fall having been heard throughout the house. The injured one was stunned and faint when he was picked up. To the casual observer it was at once evident, from the appearance of the hollow in the head, that he had sustained a fracture of the skull. The patient was carried to his apartments and the nearest physician summoned, who declined to interfere and advised sending the little one to the hospital. Three hours later the speaker found his condition as follows: The boy was conscious; his skin was pallid and cold; the pupils were dilated, reacting to light; the pulse was slow and weak. Slight nausea supervened. No signs of local or general paralysis could be elicited; no paræsthesia or anæsthesia; knee-jerks somewhat exaggerated. The evidence of the injury, however, was predominating; a depression of the scalp in the temporo-occipital region was distinctly visible twenty feet away. It was elliptical in shape, covering an area three inches by an inch and a half, and accompanied by œdema and extravasation. However severe the force might have been, none but a slight abrasion of the skin was produced. The indication for operative interference was practically decided at a glance; but, owing to the absence of any alarming symptoms and the lateness of the hour, it was decided to wait until better means for operation could be obtained. Under the effects of sedatives and local ice applications a fairly restful night was obtained. In the morning the scalp was thoroughly shaved and well scrubbed, chloroform being cautiously administered. Palpation revealed some œdema of the tissues with a depression in the skull plate quite extensive in area. A semicircular incision was made, keeping away from the fracture, so that any subsequent scar would not press upon the replaced bone. This revealed a loosened pericranium, with a fracture underneath, oblong in shape (three inches by an inch and a half), with the bone cracked at the edges and in the centre, producing a wedge-shaped depression estimated at about three quarters of an inch. Trephining was decidedly indicated, and an opening postero-superiorly effected in order to raise the bone. Many fruitless attempts at elevation were made until it was decided to trephine below and work from both openings; even this proved ineffective until the lower opening was enlarged, making a wedge-shaped cut running into the centre fracture. The bone could then be raised and replaced almost level with the skull plate. The brain substance appeared hæmorrhagic from extravasation beneath the dura, which was intact save for scratches occasioned by a few splinters and an accidental incision produced by the trephine. Some of the brain tissue exuded and hæmorrhage occurred, which was only controlled after suturing the edges of the dura together and compressing the brain substance underneath. In order to coapt the retracted dura, the upper opening had to be enlarged by the rongeur. The button of bone was then replaced over this area, and was kept in place by two silkworm-gut sutures applied so as to meet at right angles over the centre of the bone. This was very effective and helped to retain the button after suture of the scalp until it had become united. A large, firm compress was used and a bandage with much padding to envelop the head. This was removed at the end of a week and primary union found to have taken place, except at a small spot used for drainage. Practically no shock or any untoward symptoms developed, save a little irritability of the bladder, which persisted for two weeks—in fact, the patient felt so well that it was difficult to restrain him from getting up after the first week. Four weeks practically completed the cure; the bone button was found to have become tight at about the third week. Now, three months since the operation, no symptoms of brain irritability had developed. He was able to play and run about without harm, and nothing was noticed but a pulsation at the spot where the button was not replaced.

The question had at first suggested itself, What was it best to do—trephine at once, or wait for secondary symptoms to appear? The speaker immediately, not to his sorrow, chose the former, and performed rather a preventive trephining, without waiting for symptoms of depression, inflammation, or epilepsy to develop. The evidence of the injury was so great that really the only practical alternative was to trephine and elevate the bone. That no signs of paralysis could be elicited was apparently due to the remoteness of the depression, encroaching but slightly on the motor area of the brain. The chance of subsequent epilepsy developing was almost a foregone conclusion had not operative procedure relieved the depression.

Dr. W. L. Stowell said he thought that Dr. Proben was very fortunate in this case to have a complete recovery after so extensive a depression. The speaker did not quite see how such an extensive area could have been depressed without giving rise to some more pronounced symptoms.

Fleshy Mole with a Blighted Ovum.—Dr. Proben presented a specimen of a fleshy mole containing a blighted ovum. The tumor was ovoid in shape, resembling a polypus with a pedicle, the lower edge corresponding to that portion originally having its habitat in the cervix. It was of about the size of a large hen's egg, with heavy walls, and coursing over its surface were the impressions of distinct well-organized blood-vessels. The walls were dense and about a sixth of an inch thick; though their hardness might be attributed to the preservation of the specimen in a dilute formalin solution. These walls consisted principally of well-organized fibrin, containing some villi, which were covered on their inner surface by a thick, glistening membrane, the amnion, though not of uniform thickness; that portion corresponding to the insertion near the fundus was more bulky, owing to the formation of placental tissue. From its adjacent surface an apparently small mass was attached to the inner surface of the specimen by means of a pedicle a quarter of an inch long, which was the remnant of the umbilical cord. This mass was ill defined, of about the size of a small hemp seed, hung pendent attached to the inner surface, and was the remains of a small fœtus, which had become degenerated and macerated in the liquor amnii, owing to a retrograde process of decay. The fluid originally contained in the tumor was of a dark-brown color, resembling a thin, grumous liquid. Nothing definite could be seen of the blighted ovum to show any real anatomical structures. How long this process had been going on, and how long it would have taken for the ovum to entirely disappear, were matters of conjecture.

Concerning the history of the case, he was only able to elicit the following: The patient was a woman twenty-eight years of age, with a good family history. Nothing of interest pertained to her menstruation until she became pregnant, five months ago, after having been married three years. It should be said that she had a miscarriage seventeen months ago. Five months ago, her menstrual period ceased, and she went on without anything to annoy her until two months ago. At that time she had a severe uterine hæmorrhage, accompanied with nausea and vomiting, and other signs of a threatened abortion. She was then pregnant three months. Upon resorting to rest in bed and sedatives the hæmorrhage ceased, and she was able to go about and attend to her ordinary household duties in a few days.

For the next two months following the patient imagined her pregnancy to continue normally. There were at times slight hæmorrhages, though no uterine pains, and everything seemed to progress naturally. A low form of anæmia appeared and there was malaise with loss of flesh. Suddenly there occurred a severe flooding and regular labor pains. The pains became rhythmical and more severe, the hæmorrhage increased, and aid was summoned, after almost five hours of uterine contractions. The physician who was called suspected an abortion, examined the cervix, and found it dilated so as to admit a small finger. General symptoms had appeared in the form of a severe anæmia and a temperature of 102° F. The physician inserted a strip of iodoform gauze into the os and tamponed the vagina to stop the hæmorrhage. This it readily did, and so uterine contractions continued for two days, until finally the tumor was expelled *en masse* after some severe pains. The hæmorrhage was very severe, but controlled after delivery. The convalescence was accompanied by a few days' septic temperature, and was then uninterrupted. No untoward symptoms remained, and the speaker had not obtained a more extensive history. Nothing regarding syphilis could be elicited, nor any signs obtained. But, without them, we could probably deduce the following:

1. That the patient had a miscarriage over a year ago, the character of which was unknown.

2. That pregnancy occurred five months ago, uninterrupted for three months, when symptoms of threatened abortion supervened. This process was checked by proper treatment.

3. Repeated hæmorrhages were evident the next two months, when a sudden flow occurred, accompanied with uterine pains, and followed by the expulsion of the fleshy mole with its contents.

We must infer that the first hæmorrhage was sufficient to dissect the membranes from each other and manifest itself externally, thus killing the ovum, or that in all probability there was a primary change in the ovum due to syphilitic infection. As this hæmorrhage came from the decidual or placental vessels, it did not rupture through the amnion, and consequently the products of conception were retained. As there was in all likelihood no infection, this blood collected between the membranes and gradually became organized into lamellæ, which formed the dense walls of the mole. This metamorphosis extended over a long time, otherwise the walls would not appear so dense; being nourished by the uterine serotina, new blood-vessels form from its surface and shoot into the new tissue. This accounted for the visible depression seen on the outer surface of the tumor. The placental tissue, which was well organized at the end of the second month, was well made out, and appeared so microscopically. The changes in the fœtal membranes were, as a rule, secondary to the death of the ovum. This hæmorrhage usually excited uterine contractions which expelled the fœtus; if it was low, near the cervix, it might only separate a portion of the membranes, and pregnancy continue. If there was death of the ovum and the products were retained, a sanguineous mole formed, which in time became carneous. As a rule, we found a discontinuance of the signs of pregnancy, and a low form of sepsis appeared which gave rise to severe anæmia. These moles were frequently retained for a long time. They had been known to be retained *in utero* for nine months, though the average was from two to three months. In the majority of cases syphilis appeared to be the causative factor; there was a history of pregnancy disturbed by a severe hæmorrhage, which ceased, and a period of inactivity gave rise to symptoms of true abortion, with an expulsion of the mole.

It was interesting to note the tolerance of the uterus in harboring at first a physiological body which then became pathological. This, though apparently inert, might at any time explosively give rise to septic symptoms. Aside from this interesting fact, a moral and medico-legal question suggested itself. The uncertainty of diagnosis and, moreover, the difficulty of ascertaining the time of retention *in utero* made it at times a very dubious and puzzling question to solve. In fact, the atrophic condition or entire disappearance of the ovum brought us face to face with the obliteration or disappearance of a macroscopical body which alone the microscope might explain, especially by showing placental tissue and villi.

Dr. Frank Overton asked if the ovum was hard when removed, or if its hardness was due to the solution it had been in.

Dr. Proben stated that it was soft and elastic when voided, but it had been kept in formalin solution for six weeks, which had hardened it.

Retinal Hæmorrhage.—Dr. H. S. Oppenheimer said he presented a case of this kind for two reasons: In the first place, the subject chimed in well with the subject of the paper that Dr. Collins expected to read, and, in the second place, it was rather an unusual case. It was a case of central hæmorrhage into the retina in a *young* man, without any very easily made out cause. There was no general disease of the blood-vessels, such as might be found in older people. There was no cause for local trouble, such as one found in people with myopia or local disease of the eye. There was no reason for embolism or thrombosis, and the urine showed that there was no nephritis. The man was twenty-eight years old, a civil engineer by profession, and, so far as could be ascertained by examination, thoroughly healthy. He came to the speaker about a month ago, and said that about New Year's he found one morning that he could not see well with the right eye—there was a little obscuration; this obscuration grew larger and eventually obliterated nearly everything. There was no direct reason for this except that he had had a cough, but he stated that the cough was not so severe as it had been some time before, when nothing like this occurred. He denied syphilis. The eye looked normal in every way, excepting that in the centre of the retina there was a spot of hæmorrhage, an irregular semicircle with little offshoots. Since then there had appeared some smaller exudations. The speaker examined the urine carefully. At first it was heavy, 1.030, slightly acid, but showed neither albumin nor sugar. Since then the urine had become much less heavy; 1.020 or 1.022 was shown at the last examination, and there was nothing abnormal. He presented the patient because of the difficulty in making out the ætiology of the hæmorrhage, and because of its rarity in young people. He should be glad of any hint from the members.

The President said that it was a very unusual case in one so apparently young and healthy, and from whom no history of organic or other disease could be discovered. It was probable, from the absence of other diagnostic signs, that the condition resulted from a cough. The fact of the cough being less severe at the time of the rupture of the vessel did not signify, because it was well known that persons who had apoplexy might go through a period of excessive coughing and straining without an apoplectic seizure, and while they were sitting quietly in the room the vessel reached the limit of toleration and gave way. The limit of toleration was hard to determine. There were no ophthalmoscopic appearances of diseased vessels, except so far as the presence of hæmorrhage indicated that the blood had been exuded. While it was very uncommon to see retinal hæmorrhages occur, it was not uncommon in young people to see subconjunctival hæmorrhage, probably due to the same cause, occurring in perfectly healthy people, and such a condition might have occurred without specific infection. When on the island, we always gave "mixed treatment" in such cases, giving the patient the benefit of the doubt.

Dr. Oppenheimer said that he looked upon the cough as the exciting cause, but it was the predisposing cause that he wanted to find out. He came to the conclusion that syphilis might be at the bottom of it, although the man denied it. The speaker believed that he, in common with many other patients, might have had syphilis without knowing it. Patients did not necessarily lie about it, but they were often ignorant of having had primary or secondary symptoms. The speaker put the patient on "mixed treatment," with bichloride predominating. His urine at first was very heavy and gradually grew normal. It had been examined carefully three times, and nothing had been found to explain the trouble.

(*To be concluded.*)

Book Notices.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XIII and Volume XIV. Infectious Diseases. New York: William Wood and Company, 1898. Pp. 3 to 621; 3 to 602.

These two volumes of this series are devoted to the consideration of some of the infectious diseases, for the comprehensive plan of the work requires even more than these two ample books to present all the maladies that are included within the class mentioned.

The first paper in the thirteenth volume is on ptomaines, toxines, and leucomaines, and is by Dr. Victor C. Vaughan. This author gives the reasons why the chemical theory explains the influence of bacteria in disease. He discusses some of the possibilities of this theory; he submits the provisional classification of bacterial poisons that gives the title to the chapter and a descriptive list of the ptomaines that have been discovered; he alludes to bacterial proteids and bacterial toxines; and then he describes the various features of the bacterial poisons. He divides the poisons into those of the saprophytic bacteria and those of the specific pathogenic bacteria, and gives a comprehensive summary of our knowledge of these and of the leucomaines.

Dr. Harold C. Ernst is the author of the chapter on infection and immunity, and he reviews the experiments that have led to our present ideas about infection and the methods by which it may occur, and the features of natural and of acquired immunity. This section, which includes a brief review of the serum treatment, is a most useful presentation of the various facts that pertain to these important subjects.

The subject of water-borne diseases is the joint production of the late Mr. Ernest Hart and Dr. Solomon C. Smith, who discuss the topic under the classes of diseases caused by living and by non-living matter. It would seem that much of this chapter should be included under the ætiology of the diseases that are borne by water.

Dr. Dawson Williams is the author of the section on the duration of the periods of incubation and infectiousness in acute specific diseases.

The paper on small-pox is by Dr. John W. Moore, who describes the various features of the disease and its treatment with great thoroughness.

The paper on vaccinia is by Dr. P. Brouardel, who shows that despite the evident relation between variola and vaccinia, in both the human and the bovine or equine races, these two affections are nevertheless perfectly distinct and independent one of the other and can not be transformed into one another.

Dr. Jules Comby is the author of the monograph on mumps, which is the concluding chapter in the thirteenth volume.

Dr. F. Forchheimer is the author of the paper on scarlet fever, the first chapter in the fourteenth volume, in which he reviews the several alleged discoveries of the micro-organism of scarlet fever and concludes that we must draw our conclusions about that disease from the accumulated experience of several generations of physicians, but always keep in mind that until the contagium is actually isolated these conclusions must be tentative.

The sections on measles and glandular fever are by Dr. Dawson Williams, that on German measles is by Dr. F. Forchheimer, that on chicken-pox is by Dr. Dillon Brown, that on whooping-cough is by the late Dr. Joseph O'Dwyer and Dr. Nathaniel R. Norton, that on cholera infantum is by Dr. A. Jacobi, those on cholera nostras and on cholera asiatica are by Theodor Rumpf, than on dengue is by Sir Joseph Fayrer, that on beriberi is by Dr. A. A. de Azevedo Sodre, that on miliary fever is by Dr. A. Netter, and that on Malta fever is by Dr. David Bruce, the discoverer of the specific organism of that disease. The names of the authors are guarantees of the thoroughness with which they have reviewed the medical history of the diseases mentioned, and these volumes have been prepared with the same care that characterized their predecessors.

Dyspepsies nerveuses et neurasthénie. Par le Docteur Paul Glatz, Médecin des établissements hydrothérapiques de Champel (près de Genève) et de Nice (établissement hydrothérapique du Bad Tzarewitch), etc. Bâle et Genève: Georg et Cie., 1898. Pp. viii–340.

This little volume can be warmly commended for its presentation of the rational treatment of functional nervous affections. It goes over the ground of hydrotherapy, rest, diet, suggestion, and drugs, emphasizing throughout the fact, which is too frequently lost sight of, that there is a promiseful treatment for neurasthenia. This treatment does not consist of the rest cure alone, or of hydrotherapy alone, and emphatically not of travel or the use of drugs alone. It is in the appropriate combination of these measures that is to be found the hope of curing the people who, although "having nothing the matter with them," are unable to work and are burdens to themselves and to their families. From its terseness in the exposition of these principles, and of their practical application, Dr. Glatz's book merits a hearty welcome from the medical profession in America.

Clinical Lectures on Diseases of the Heart and Aorta. By George William Balfour, M. D., LL. D., F. R. C. P., F. R. S., Consulting Physician to the Royal Infirmary, Edinburgh, etc. Third Edition. London and New York: The Macmillan Company, 1898. Pp. xxi–479. [Price, $4.]

The value of these lectures has been amply attested by the favorable reception accorded the first two editions. While much revision marks the third edition, the character of the work remains essentially unaltered. To the larger number of our readers this character is no doubt familiar, but for the benefit of those who have not as yet made acquaintance of the work we may say that it presents the subject of cardiac and aortic disease in a manner and with an exhaustiveness which alike are remarkable. The book is one of which the physician who wishes to be well equipped should certainly possess himself.

Die Technik der speciellen Therapie. Für Aerzte und Studirende. Von Dr. F. Gumprecht, Privatdocent in Jena. Mit 181 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. xi–337. [Preis, 7 Marks.]

The author passes in review the various surgical procedures which have gained an assured position in the therapeutic field. He takes up first the upper air tract, then in turn the œsophagus, stomach, and bowels, the breast, the abdomen, the urinary organs, etc. A work of this kind can not, of necessity, contain much that is new, if we except the spice of the writer's personal experience with the various procedures he describes. For students and medical internes, the book is one of great utility for reference. For practitioners, it may serve the purpose of acquainting them with the latest results in various operative fields.

Hyperkeratomycosis of the Pharynx. By Dr. Charles A. Wilson-Prevost, Graduate of the University of Paris, etc. Danbury, Connecticut: The Danbury Medical Printing Company, 1898. Pp. 7 to 61.

This monograph is an essay submitted by the author in 1897 for the doctorate degree to the Faculty of Medicine of Paris. An abstract of it has already been given in this journal. It consists of excerpts of clinical reports of various authors, together with histories of a few cases which have come under the writer's observation. The name he selects for the disease shows that he regards it as due to a parasitic deposit in corneous tissue.

A Manual of Instruction in the Principles of Prompt Aid to the Injured; including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, United States Army. Designed for Military and Civil Use. By Alvah H. Doty, M. D., Health Officer of the Port of New York, etc. Third Edition, revised and enlarged. New York: D. Appleton and Company, 1898. Pp. xvi–302.

To again call attention to this worthy little book may be unnecessary in a way—so well is it known—but the importance of the subject clearly is great, and the manner in which the author presents it is so able as to justify if not to require notice. The popularization of "first aid" may or may not be wise, but nothing but good can result from the serious perusal of a work so clearly and well expressed as this, which deals with a subject in which everybody is so vitally interested.

BOOKS, ETC., RECEIVED.

A Manual of General Pathology for Students and Practitioners. By Walter Sydney Lazarus-Barlow, B. A., B. C., M. R. C. P., Late Demonstrator of Pathology and Examiner in Sanitary Science in the University of Cambridge, etc. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xi–795. [Price, $5.]

Text-book of Diseases of the Kidneys and Genitourinary Organs. By Professor Dr. Paul Fürbringer, Royal Medical Councilor and Member of the Royal Medical Council of the Province of Brandenburg, etc. Translated from the German with Annotations by W. H. Gilbert, M. D., Member of the "Congress für innere Medicin," etc. In Two Volumes. Vol. II. London: H. K. Lewis, 1898. Pp. vi–310. [Price, 10*s.* 6*d.*]

Blood-serum Therapy and Antitoxines. By George E. Grieger, M. D., Surgeon to the Chicago Hospital, etc. With Illustrations. Chicago: Chicago Medical Book Company, 1898. Pp. 7 to 69.

Diseases of the Skin: Their Constitutional Nature and Cure. By J. Compton Burnett, M. D. Third Edition, revised and enlarged. Philadelphia: Boericke & Tafel, 1898. Pp. xii–264.

Le rôle du ferment salivaire dans la digestion. Par le Dr. Godart-Danhieux. Travail fait à l'Institut universitaire de physiologie. Bruxelles: Hayez, Imprimeur de l'Académie royale de Belgique, 1898. Pp. vi–128.

Proceedings of the Dedication of the Hunt Memorial Building by the Hartford Medical Society, February 1, 1898.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume III. January, 1898.

Annual Report of the Board of Health of the City of Winona, Minnesota, for the Year ending March 31, 1898.

Teachers' Sanitary Bulletin. June, 1898. Disinfection of Rooms. July, 1898. The Teaching of Hygiene and Sanitary Science in the Secondary Schools.

Kryofine. Observations made at the Clinic of Professor Eichhorst, in Zurich. By Eugenie Back. [Reprinted from the *New England Medical Monthly.*]

The Pharmacology and Therapeutics of Kryofine. By George F. Butler, M. D., of Chicago. [Reprinted from the *Chicago Clinic.*]

Neurotic Lithæmia. By Charles F. Craig, M. D., of Danbury, Connecticut. [Reprinted from the *Southern Practitioner.*]

Treatment of the Uric-acid Diathesis. By F. E. Hale, M. D., of Providence, Rhode Island. [Reprinted from the *Medical Mirror.*]

Uricacidæmia. By L. H. Watson, M. D., of Chicago. [Reprinted from the *New England Medical Monthly.*]

The Sanitary Redemption of Havana: The Need and the Means. By George Homan, M. D., of St. Louis. [Reprinted from the *Medical Review.*]

Hospitals and Sanatoria for Consumption Abroad. By Edward O. Otis, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

Renal Calculus. By J. H. Musser, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

Epilepsy and Erysipelas. By Robert Hessler, M. D., of Indianapolis. [Reprinted from the *Journal of the American Medical Association.*]

A New Laboratory and its Work. By Robert Hessler, M. D. [Reprinted from the *Proceedings of the Academy of Science.*]

Massage in the Treatment of Fractures. By George Woolsey, M. D. [Reprinted from the *Medical News.*]

Some Considerations on Abdominal Incisions. By George Woolsey, M. D. [Reprinted from the *Annals of Surgery.*]

A Case of Partial Dislocation of the Occipito-Atloidean Articulation. By J. N. Hall, M. D., and H. L. Taylor, M. D., of Denver.

Aortic Stenosis with Mitral Regurgitation. By J. N. Hall, M. D. [Reprinted from the *Colorado Medical Journal.*]

Displacement of the Heart in Lung Disease. By J. N. Hall, M. D. [Reprinted from the *Medical Fortnightly.*]

Zur Behandlung des Pyothorax. Von Professor Dr. Carl Beck, New York. [Sonderabdruck aus der *Berliner klinische Wochenschrift.*]

Miscellany.

The Cæsarean Section versus Fœtal Mortality.—Dr. Edward Reynolds (*American Journal of Obstetrics,* June), in a paper on the foregoing subject read before the section in gynæcology, College of Physicians of Philadelphia, considers that the maternal mortality of the Cæsarean section, when restricted to the favorable cases, which alone he is considering, is as low as, and the fœtal mortality greatly lower than, those of any other method of dealing with more than ordinarily difficult operative deliveries. The practical conclusions which he draws from his experience in the conduct of labor as a whole are:

1. That in women who are the subjects of visceral disease or other previous ill health, and in women who are exhausted by long labor, the maternal mortality of the Cæsarean section is too great to allow of its performance in the interests of the child alone.

2. That in primiparæ with moderate contraction the decision whether or not the Cæsarean section should be performed as an alternative operation at the beginning of labor in preference to an attempt at an intrapelvic delivery, is a decision which is intrinsically so difficult that it should be attempted by none but the most experienced obstetricians.

3. That in most such cases of moderate contraction in primiparæ it is best to wait until the progress of labor teaches us which is to be the safer operation in the given case.

4. That when any healthy woman has lost one child by a difficult operative labor in the hands of an expert she should in the next labor be prepared for Cæsarean section and delivered by it, unless the course of labor shows that from some changed condition—*e. g.,* a small child or a more favorable position—a forceps delivery is likely to be easy.

5. That when any case occurs in the practice of the comparatively few men who are really experienced in both obstetrical and abdominal surgery, in which an

attempted forceps operation proves to be exceptionally difficult and version promises no better results, the forceps operation should be suspended, and, if the fœtal heart is undisturbed, should be abandoned in favor of the Cæsarean delivery.

6. That in very small pelves—*e. g.*, those under three inches and a quarter in the conjugate—the Cæsarean section in favorable circumstances is the operation of preference.

In what has been so far said he has restricted himself to the practice of specially experienced men, but he would recommend to the general practitioner the following rules for his guidance:

1. No man should recommend or undertake the Cæsarean section unless he is able to make preparations adequate for the performance of any abdominal operation and to secure proper assistance.

2. In unfavorable cases the maternal mortality of the section is too high to justify its performance for the sake of the child alone.

3. In the present state of obstetrical knowledge there must be many cases of high delay in primiparous labor in which no difficulty is anticipated until the delays which would be incident to the procuring of a consultation, and the subsequent preparations for the Cæsarean section would necessarily be fatal to the child. In such cases, the maternal mortality being about equal, the child's best chances lie in the application of one of the only operations which can be done immediately—*i. e.*, the forceps operation or version—but in the subsequent pregnancies of the same woman the pelvis should be measured during pregnancy, and, even if no contraction is found, preparations for a Cæsarean section should be made before the woman is allowed to go into labor.

4. When any practitioner is consulted by a patient in whom a previous labor has resulted in the delivery of a stillborn child by high forceps or version performed for simple delay—*i. e.*, in the absence of obstetrical emergencies—the pelvis should be measured and the question of the performance of the Cæsarean section should be settled in advance of labor upon the rules already laid down.

5. The decision as to the choice of operation is the only point in the matter which demands exceptional experience, and, a decision that the Cæsarean section is indicated having once been reached, the operation itself may be performed by any man who has had a fair experience in abdominal surgery.

The Staining of the Gonococcus.—Dr. M. Weinrich (*Annales des maladies des organes génito-urinaires*, May) formulates the following conclusions: 1. Gram's method, employed in the manner described by its author, has an absolute diagnostic value and should be preferred to all proposed modifications, provided that absolute alcohol alone is employed for decoloration, and that the use of water is rigorously abstained from. 2. The degree of concentration and the presence of aniline in Ehrlich's gentian-violet solution have nothing whatever to do with any uncertainty in decoloration; the employment of water for washing or its addition to the Lugol's solution or to the absolute alcohol is the sole cause of failure. 3. The carbolized gentian-violet solution of Fränkel has the same action as Ehrlich's solution, and in addition has greater keeping properties. 4. The second staining, taken by gonorrhœal pus upon slides decolorized by the acetone alcohol solution of Nicolle or by alcohol and hydrochloric or nitric acid, easily gives rise to errors in diagnosis, whence it is better to avoid these energetic methods of decolorization. 5. Bismarck brown of fixed concentration (viz., hot distilled water, seventy cubic centimetres; Bismarck brown, three grammes; alcohol, thirty cubic centimetres), employed cold, is the most satisfactory reagent for the second staining. Very concentrated or warm solutions give rise to an excessive coloration of the microbes remaining violet after the use of Gram's solution, which may easily give rise to errors. Methylene blue and fuchsine do not give a sufficiently clear contrast. 6. The author's method of procedure is as follows: The preparations, dried and fixed, are kept from one to three minutes in the aniline-gentian-violet solution of Ehrlich (saturated alcoholic solution of gentian violet, ten cubic centimetres; aniline water, ninety cubic centimetres), or in that of Fränkel (carbolized gentian violet). They are then transferred directly and *without the application of water* to the iodine solution (iodine, one gramme; potassium iodide, two grammes; distilled water, three hundred grammes), then, still without being washed, they are decolorized in absolute alcohol (verified as absolute by means of the white precipitate of calcined copper sulphate) until the alcohol which drops from the slide is entirely colorless, which, according to the thickness of the preparation and the depth of the staining, takes place in from a minute to a minute and a half. Then, the Gram process being finished, the preparation may be washed in water to remove the absolute alcohol, and for the second staining Bismarck brown is employed in the manner previously described.

Plant Life and Dwelling Houses.—Dr. A. J. Carbajal, sanitary inspector of the city of Mexico (*Boletín del Consejo Superior de Salubridad*, May 31st), points out that plants and flowers should never be left inside the house at night, especially in a bedchamber, for, while during the day they breathe in carbonic acid and exhale oxygen, at night time this function is reversed, not to mention the fact that the odor of plants is apt to cause headaches. Outside the house, gardens with plants growing in the soil instead of in boxes or flowerpots are apt to add to the dampness of the walls, if in close proximity thereto, while large trees growing under similar circumstances have not only that effect, but also impede the circulation of horizontal currents of air and prevent free access of light. For the immediate vicinity of dwelling houses he recommends small shrubs or herbaceous plants, while any larger trees growing within some distance should be kept in check in their growth, so as not to impede free circulation of air and entrance of light.

Children and Sleep.—Dr. H. Gillet (*Annales de la Policlinique de Paris*, June) says on this subject: The need of sleep in infancy varies with the age of the subject. At birth, and during the early months, the nursling sleeps and suckles only. At the end of the first month it begins to remain awake for short periods, gradually increasing in duration. Up to three years or thereabouts the custom of a daily siesta after going out should be maintained. Up to ten or twelve years the hours of sleep exceed the waking hours. The sleeping time necessarily decreases as the age advances, according to Bergeron and d'Heilly, in the following ratio: Up to seven years, from ten to ten and a half hours; ten years, from nine and a half to ten hours; twelve years, nine hours; fourteen years, eight and a half hours.

After that age the division of the day into three eight-hour periods becomes good. The midday siesta, except in southern countries, is no longer to be allowed. Whatever theory of sleep is held, it is none the less incumbent on the hygienist to see that the organism has an imperative physiological need of this repair of forces. Observation shows us the duration, the hygienist prescribes the measures necessary to insure this sleep. The infant, even when very young, should be habituated to sleep at night naturally. To rock and to sing to it are evil measures. Rocking children must be prohibited as conveying to the brain a vibration which is not without danger. Singing is at least inconvenient, if it does not render every one the child's slave. Care must be taken to prevent the contracting of other bad habits also, such as sucking something, etc. To insure sleep to the child the following rules should be observed: 1. The child should always be put to bed at the same hour. 2. Relative quiet and darkness are requisite in the child's room; relative only, since it is necessary that the child should sleep in spite of the presence of other people who are not making much noise. A strong light should not be allowed to fall directly upon the face of the child. 3. The temperature of the room should be moderate, since excess of either heat or cold is hurtful, though less so if the child is well protected. 4. Aeration should not be inconveniently confined—there must be no curtains shutting off the air. 5. Waking should take place at nearly the same hour, or at least the child should not be so aroused as to cause any great variation from its habitual time of repose. The sleep of young children should not be cut short under any pretext whatever, until it has overreached the usual time; but it is often requisite to allow an overplus of sleep demanded in consequence of growth. Sleep and proper nourishment are the best repairers of overfatigue, but this must not be allowed to induce a slothful habit, for excess of sleep retards general nutrition.

One other point in Dr. Gillet's article deserves notice, and that is his commendation of the English custom of setting aside in the house an apartment or "nursery" for the children. It is not good either for grown-up people, or for the children themselves, that the latter should be "all over the house," or that they should spend too much time in association with grown-up folks.

Actinomycosis of the Rectum.—At the *Société des sciences médicales de Lyon,* M. X. Delore (*Gazette hebdomadaire de médecine et de chirurgie,* June 9th) recently showed a man fifty-eight years of age suffering from actinomycosis of the rectum, a very rare site for the disease. About twenty years previously there appeared pain in the region of the anus, making defæcation difficult, and a perianal tumor which, opening at the end of some months, gave exit to some purulent liquid. The other phenomena then disappeared and were not reproduced till ten years later. Vegetations situated around the anus augmented the difficulty of defæcation, and then fistulous tracts opened by which seropurulent discharge escaped into the internatal sulcus. From that time on the affection progressed. In twelve months vesical pains appeared and a calculus became evident. Lithotrity was performed and a large quantity of phosphatic calculus removed. Still, the trouble of defæcation increased. Examination at that time showed voluminous livid vegetations forming prominences of from five to six centimetres on each side of the internatal sulcus. There were numerous fistulous openings at their level. They seemed quite independent of the rectum. The entire ischio-rectal fossa was invaded and indurated, and the rectum was retracted for the extent of about five centimetres from the anus. The bladder and prostate were hardened and of uniform consistence. The other organs seemed healthy. The diagnosis of actinomycosis was founded upon the appearance and remarkably slow course of the lesions, and was confirmed by microscopic examination of the pus, which contained yellow granules with the typical actinomyces.

The Thyreoid Gland in Goître.—Morello (*Revista veneta di scienze mediche,* May 15th; *Gazzetta degli ospedali e delle cliniche,* June 5th) has found the action of thyreoid gland of undoubted value in parenchymatous goître, but useless in the cystic form. When given in a small dose, but still sufficient for the case, it does not produce any general disturbance and is well borne by the patients. The curative influence begins to be manifested soon after taking the first dose. Like all thyreoid preparations, it increases the functional activity of the organs, augmenting the frequency of the pulse and respiration and raising the temperature; the activity of combustion and oxidation is increased, the quantity of fat diminished, and the secretion of urine stimulated. The duration of the effect is in proportion to the length of administration. When the desired effect is attained, it is necessary to resume treatment from time to time to prevent relapses. The author concludes that thyreoidin will supply the needed functions of the thyreoid gland.

A Consultation.—According to the *Indian Lancet* for May 16th the *University College Gazette* is responsible for the following skit:

An absolutely impossible consultation at U. C. H., and *not* reported in the *Clinical Journal.* Submitted with the humblest apologies.

Patient is an elderly man of weather-beaten appearance, who has a large swelling on the left side of the face.

Dr. B–rk–r.—Gentlemen: This is an interesting but somewhat obscure case that has been sent up to me by a distinguished medical friend of mine, staff surgeon upon one of the largest of her most gracious Majesty's battleships. Having made a most careful and minute chemical, bacteriological, and microscopical investigation of the brownish discharge that fills the patient's mouth, I have quite made up my mind that the growth is of a highly malignant character. I bring the case here that you may derive some amusement from the speculations of my colleagues concerning the nature of the malady. I need hardly say that my own opinion will not be the least disturbed by any contrary views they may be pleased to express.

Mr. P–l–rd.—As I do not take the remotest interest in either the case itself or Mr. B.'s diagnosis of it, I shall not say anything more, but go and have a cigarette. (*Exit Mr. P., rolling one.*)

Dr. Br–df–rd.—The moment one enters the room, one sees at once that this is a case of right-sided facial hemiatrophy of the fifth variety. I mean any other view is ridiculous upon the face of it—d'you see? Is that quite clear?

Mr. G–dl–e.—I always call to mind that famous remark of Sir William Jenner's, "that the tragedies of life are caused by following other people's advice, and listening to their opinions instead of——" (*Indulges* *apologetically in humorous reminiscences of an unexciting character.)*

Mr. H–rsl–y.—The case is undoubtedly one of leontiasis ossea, beginning in the hamular process. I should operate at once, making an incision from the external occipital protuberance to the external angular process of the frontal bone, and turning down the flap over the left shoulder. Then, sawing through the skull in the middle line, I should remove the whole of the left half of the cranium. To do anything less than this would be childish. Next new case, please.

Dr. M–rt–n.—If Mr. H. would kindly cut off the patient's head altogether I think I might deliver an interesting pathological discourse upon it. (*Mr. H. politely acquiesces, and they retire and discuss the matter together in an amicable manner.*)

Mr. J–hns–n.—There can be absolutely no question that this is a case of chronic periosteo-myelitic necrotic caries of the lower jaw. (*Recites four chapters of Erichsen in support of this view.*)

Mr. C. H–th.—I think every one here, except myself, is an egregious ass. (*To patient.*) What are you?

Patient.—Sailor, sir.

Mr. H.—Thought so. Bring a brown pan, Sister. Now, take that beastly thing out. (*Patient removes an enormous quid of tobacco, weighing a quarter of a pound. After this the tumor quite disappears.*) There! Disgusting!! This is what all you smokers of filthy tobacco come to; you end by trying to live on it! (*Cheers and curtain.*)

Is Plague Contagious?—According to the *Indian Lancet* for May 16th, there is a good deal of controversy as to the extent to which plague is contagious. In the 1835 epidemic in Egypt, one physician only contracted the disease. In Hongkong, out of fifteen doctors and many Chinese medical students, not one contracted it; but that, of course, only proves that with care and cleanliness the sick may be attended without danger of infection. In 1835 a French doctor, Dr. Bulard, who did not believe the plague contagious, wore a shirt taken from the body of a dead man for two days without harm. That, however, did not prove his case; for there was no evidence that there were bacilli on the shirt, or, if there were, that they were introduced into his body.

A Simple Method of Resecting the Sæptum Nasi without Perforating the Partition.—M. Escat (*Gazette hebdomadaire de médecine et de chirurgie,* May 26th) described to the *Société française d'otologie, rhinologie et laryngologie* a procedure very easy of execution, not painful, and exceedingly rapid. He places in each nostril a tampon of absorbent cotton saturated in ten-per-cent. cocaine solution, one on the concavity and one on the convexity of the sæptum. When anæsthesia is attained, he removes the two tampons simultaneously, injects with a hypodermic syringe holding about forty-five minims that amount of boiled water, or as much as is requisite, under the mucous membrane on the concave side, thus stripping the mucous membrane from the cartilage. Then, through the other nostril he resects the cartilaginous arch with a bistoury in a vertical direction, and tampons the resected side. The result is excellent. After cicatrization the closure is insured by the approximation of uninjured mucous membrane of one side with the cicatrized mucous membrane of the other.

The Treatment of the Umbilical Cord.—Paul Bar (*Journal des praticiens,* June 4th) asks these questions: 1. Should the cord be tied? 2. When should it be tied? 3. How should it be tied? and answers them as follows: 1. The cord should be tied because, although the probabilities of umbilical hæmorrhage are very small, a certain proportion of mischances exist, and these should be guarded against. 2. In some cases not a moment's delay is admissible, as, for instance, when the head is born and the shoulders are engaging the perinæum, while one or more turns of the cord are round the neck. The cord should then be clamped by two forceps and divided between them. It can be cut and tied in the proper place at leisure. Or, a child is born apparently dead. The cord should then be divided immediately so as to afford opportunity for paying the necessary attention to attempts at restoration. But if everything has been normal a delay of five or six minutes is recommended. If the cord is immediately cut, there will be seen oozing from the placental extremity a certain quantity of blood, which would have passed into the child. If this blood be allowed to drip upon the pan of a balance, the pan will be found to sink for five minutes or so from the weight of this lost blood of which the child has been robbed, and this amount averages from about nine hundred to thirteen hundred and fifty grains. 3. The author's method of compressing the cord is by means of forcipressure forceps, sterilized by heat. The forceps is then surrounded by a pad of absorbent cotton and left for from thirty-six to forty-eight hours underneath the binder.

Charred Straw as a Dressing.—Dr. Z. Kikuzi (*Beiträge für klinische Chirurgie; Georgia Journal of Medicine and Surgery,* June) thus describes the preparation of charred straw used so effectively by the Japanese in their excellent military medical work. The so-called "straw" ashes are really a mixture of charcoal and straw ashes, and they are therefore called *charred straw.* In order to obtain this material—charcoal—in representative quantities the burning has to be done with a small supply of air. The best method is to take a large iron kettle, fill it with straw, ignite it, and, after the straw has ceased to blaze, cover it over closely for a short while. Afterward the cooled charred straw is removed. A suitable kettle may be obtained almost everywhere. If it is necessary, however, to make it in large quantities, this can be done on the thrashing floor of a barn, or in a stable, or on the floor of a room with the doors closed so that almost no air is admitted. In these cases one must not forget to stir well the remains of the straw immediately after it has ceased to blaze, in order that there may be no unburned ends to give trouble subsequently in the dressings.

As it rapidly absorbs moisture from the air, it is better not to prepare it until shortly before it will be required for use.

It is used either by laying a layer or two of disinfected gauze over the wound and pouring thereon a sufficient quantity of charred straw, folding the edges and corners of the gauze over the ashes so as to form a cushion on the wound, or by keeping instead a number of bags of disinfected gauze and filling them as required. Dr. Kikuzi uses three sizes—namely, large, about seven inches and a half by five inches; medium, about five by four inches; and small, about four by two inches. They are all about an inch thick when filled.

Dr. Kikuzi points out that in operations away from hospital it is only necessary to carry the ready-made bags, as the straw can be prepared on the spot. He concludes by comparing the properties of charred straw with those of gauze: 1. The absorbent capacity of charred straw has been proved to be much greater than that of gauze. 2. Charred straw is ready for use everywhere, not alone in the Orient, and it is easily prepared in large quantities, which is not the case with gauze. 3. With regard to cost, charred straw has the advantage over gauze. An average dressing of the last-named material costs about 1.6 francs (about thirty-one cents), while a dressing of the same size of charred straw costs only about 0.1 centime (less than 0.02 of a cent). 4. Charred straw is ready for use immediately after having been burned—that is, it is easily disinfected, while the preparation of gauze and its disinfection is a complicated process. 5. There is no need of transporting charred straw, as it can be obtained everywhere. 6. In regard to its softness, elasticity, and general usefulness, it differs very little from gauze. From a military point of view, it is of importance that the large storage room required ordinarily for surgical dressings may be dispensed with, since, in time of war, the preparation of this material will be carried on wherever it may be required. This obviation of the necessity of storage in time of peace, of transportation in time of war, and its cheapness, are three very important points in which charred straw is superior to gauze. As a dressing for poor patients it can be fully commended for its cheapness.

The Uses and Dose of Apomorphine.—Dr. Robert H. Babcock (*American Medico-Surgical Bulletin*, June 10th) corrects from his own intimate personal knowledge of this drug many erroneous impressions current concerning it. Patients, he says, can tolerate very much larger doses than is commonly supposed, and by the mouth as much as two grains at a single dose may be given without nauseating. It is more apt to cause emesis when taken in the morning before breakfast.

The combination of a small dose of apomorphine, however, with other nauseating expectorants increases their efficacy. Dr. Babcock says that its effects are so satisfactory and it is so easily administered in pill or capsule, when for any reason it is not desirable to prescribe a syrup, that it has become his favorite remedy and main reliance in the treatment of both acute and chronic bronchitis. Combined with codeine or morphine, troublesome cough can be allayed without at the same time arresting bronchial secretion; indeed, the sputum will be increased, while at the same time the cough is moderated in violence and frequency.

The author's usual dose, administered by the mouth, appears to be about a fifth or a quarter of a grain, up to one half, and sometimes to one grain, every three or four hours. In the case of a nursing baby a sixtieth of a grain every four hours in syrup of wild cherry bark was given with great effect in constant dry cough. The author calls special attention to the necessity of obtaining pure apomorphine (and recommends Merck's), as he has seen the soporific and other effects of morphine induced by impure specimens. It must not be prescribed in mixture with potassium iodide.

Three Cases of Orbital Tumor in Infants.—M. Valude (*Gazette hebdomadaire de médecine et de chirurgie*, June 2d) reported to the *Société française d'ophthalmologie* three cases of orbital tumor in infants less than one year old seen by him within the preceding year. The first was a mixed endothelioma, the second a pure sarcoma of the optic nerve with large fusiform cells, and the third a bulky tumor of the orbit inclosing the nerve. Examination showed it to consist of a compact mass of fat, with a cartilaginous nucleus having inside a cystic cavity lined with cylindrical ciliated epithelium.

Lupus of the Lacrymal Ducts.—M. Morax (*Gazette hebdomadaire de médecine et de chirurgie*, June 2d) reported to the *Société française d'ophthalmologie* a case of lupus of the lacrymal ducts. M. Morax says it is necessary always to remember the possibility of tuberculous affection of the lacrymal ducts in young subjects with lacrymal affections which are not attributable to either syphilis or traumatism.

The Effects of Tuberculin R. in Ocular Tuberculosis.—M. Zimmermann (*Gazette hebdomadaire de médecine et de chirurgie*, June 2d) reported to the *Société française d'ophthalmologie* the case of a man who five years after enucleation of the left eye for tuberculosis developed the disease in the right eye. The microscopic examination of the first eye allowed no doubt as to the nature of the disease in the second, which was already gravely involved. Tuberculin R. was administered, commencing with one five-hundredth of a milligramme and increasing in progression, as directed. He said that the patient, who was under the care of M. Hoedrath at Saarbrück, might be considered cured. To ascertain if this result was due to the tuberculin, M. Zimmermann made a series of experiments on rabbits inoculated in the eyes with a virulent culture and then treated with the new tuberculin. Although the experiments were not yet completed, the author had no doubt from his results so far obtained that the tuberculin had a real specific antituberculous action.

Another Tuberculin.—M. F. Ramond and M. P. Ravaut (*Presse médicale*, June 1st) communicated to the *Société de biologie* their experiments with a new tuberculin obtained from the *Bacillus tuberculosis* of fishes.

The Twelfth Congress of the Association Française de Chirurgie.—We are requested to state that the twelfth congress of the *Association française de chirurgie* will be opened at Paris at the Faculty of Medicine on Monday, October 17, 1898, under the presidency of Professor Le Dentu, member of the Academy of Medicine, and Surgeon to the Hospital Necker. The inauguration session will take place at 2 P. M.. The following subjects have been placed on the orders of the day for the consideration of the congress: 1. Nephrotomy, M. Guyon and M. Albarran. 2. The treatment of goître (cancer of the thyreoid and exophthalmic goître excepted), M. J. Reverdin, of Geneva. Members of the association are requested to send, not later than August 15th, the title and conclusions of their communications to M. Lucien Picqué, secretary general, 8 rue de l'Isly, Paris, to whom all inquiries concerning the congress should also be addressed.

The Late Dr. John Blair Gibbs and the Medical Staff of the Demilt Dispensary.—At a meeting of the medical staff at the Demilt Dispensary, held June 17, 1898, the following resolutions were unanimously adopted:

Whereas, Our late associate, Dr. John Blair Gibbs, while acting assistant surgeon in the United States navy, died on the field of battle during an attack by the enemy at Guantanamo, Cuba, on the 12th day of June, 1898; and,

Whereas, As associates, we had reason to respect his professional fervor and attainments; and, *Whereas,* He voluntarily left a lucrative practice and a life of comparative ease in response to his country's call to arms, and was among the first to fall in the defense of his country; therefore, be it

Resolved, That, by the death of Dr. Gibbs, the medical profession has lost an active, conscientious member.

Resolved, That we deem it a privilege to have been associated with Dr. Gibbs, whose self-abnegation and devotion to his country merit the praise of the nation.

Resolved, That copies of these resolutions be forwarded to the medical press and to the family of the deceased.

[Signed.] Charles H. Bushong, M. D.,
J. Dougal Bissell, M. D.,
N. G. McMaster, M. D.,
Frank N. Patterson, M. D.,
Committee.

The Fortune of Great Physicians.—According to the *Nord médical* for June 1st, the widow of the late Sir Morell Mackenzie, who is earning a livelihood as a *modiste,* is about to sell her husband's library. On this the *Nord médical* remarks that even such things as this do not prevent a crowd of fathers of families from hypothecating the little all whereby they live honorably in order to procure for their sons the monopoly of living miserably in a frock coat and a silk hat which Providence sells them therefor.

The Late Dr. John Parker Maynard, of Dedham, Massachusetts.—The *Boston Herald* calls attention to the recent death of Dr. Maynard at the ripe age of eighty-one years. Dr. Maynard was the first to use collodion in surgery, and, if we are not mistaken, it was he who first prepared it.

A Successful Case of Removal of the Entire Stomach, we are informed, has lately occurred in the practice of Dr. Maurice H. Richardson, of Boston. At the time of our receiving the information several weeks had elapsed since the operation, and the patient was in good condition.

Sir James Paget, Veterinarian!—According to a contemporary, "Sir James Paget, the veterinary surgeon, is very ill." Is this an airy joke on the veteran surgeon?

Amylolytic Ferments.—In an article on this subject by Wyatt Wingrave, M. R. C. S. Eng., assistant surgeon to the Central London Throat and Ear Hospital (*Lancet,* May 7th), we are informed of a personal necessity that arose in the writer's experience for a reliable starch digester. A crucial comparative examination was therefore made of many malt extracts and of taka-diastase, the tests being conducted both chemically and clinically. He summarizes briefly: 1. That taka-diastase is the most powerful of the starch or diastatic ferments and the most reliable, since it is more rapid in its action—*i. e.,* it will convert a larger amount of starch in a given time than any other amylolytic ferment. 2. That taka-diastase seems to be less retarded in its digestive action by the presence of the organic acids (butyric, lactic, acetic), and also by tea, coffee, and alcohol, than saliva and the malt extracts. This is an important point in pyrosis. 3. That all mineral acids, hydrochloric, etc., quickly stop and permanently destroy all diastatic action if allowed sufficient time and if present in sufficient quantities. 4. That taka-diastase and malt diastase have, like ptyalin, no action upon cellulose (uncooked starch). All starch food should therefore be cooked to permit of the starch ferment assisting Nature in this function.

A Practical Ice Dish.—Dr. Lester Keller (*Medical Council,* June) thus describes a practical dish for keeping crushed ice:

Take an ordinary unglazed, porous flower-pot that will hold two quarts or more, a quarter of a square yard of white flannel, a strong string, and a flat-bottomed dish, and you are ready.

Spread the flannel out over the top of the pot, then push the flannel down in the centre so as to make it funnel-shaped, but do not let the flannel go clear to the bottom of the pot. Tie your string around the flannel and pot near the top, set your pot in the dish, and there you are.

Put your ice between two layers of stout cloth, lay it on a solid surface, and pound it with the side of your hatchet until it is well crushed. Put your crushed ice in the funnel of flannel and you will be delighted to find that you can dip up a spoonful of ice without water. You will be surprised to find that in the hottest weather your supply of ice has lasted all night. The ice dish makes a very convenient place to put a glass of milk to keep it cool, if need be.

Secondary Effects of Modern Small-arms Projectiles.—Dr. G. Frank Lydston (*Chicago Medical Recorder,* June) points out, in a lecture delivered at the School of Instruction for Military Surgeons, Camp Tanner, that while the smoothness and relative cleanness of the modern projectile, in conjunction with its small calibre, will greatly lessen the liability to the entrance of septic material into the wound, it remains to be seen whether, when stopped in the tissues, the missile will become encysted and harmless, as is frequently the case with the leaden ball. He thinks, however, that it is probable that the steel jacketed and nickeled bullets will be so corroded by the tissue juices that the properties of irritation thereby developed will prevent their encystment.

The Diagnosis of Extra-uterine Pregnancy.—Dr. W. O. Henry (*Western Medical Review,* June 15th) suggests that in the diagnosis of extra-uterine pregnancy (1) a history of female trouble and sterility, followed by (2) a suspicion or marked symptoms of pregnancy, preceding (3) sudden colic or cramps in lower abdomen, accompanied with collapse, sweating, and frequent pulse, while vaginal examination reveals (4) a tumor at one side of the uterus, pulsating and tender, with the soft, boggy, or fluctuating mass in Douglas's *cul-de-sac,* will generally prove to be an extra-uterine pregnancy.

Recurrent Cancer of the Breast Treated by Oophorectomy and Thyreoid Extract.—Dr. G. Ernest Herman (*Lancet,* June 11th) records the case of a patient with recurrent cancer in the axilla after removal, by Mr. Treves, F. R. C. S., of the left breast for cancer. Exploratory incision proving the recurrent growth to be so extensive that nothing short of amputation of the extremity would have removed it, and even then a supraclavicular nodule would have remained, the incisions were closed without any attempt to remove the recurrent growths. There being no other prospects of recovery, following Dr. Beatson's precedent the author removed both ovaries, and the patient was put upon from ten to fifteen grains daily of thyreoid extract. About seven months later, the patient was seen by the author and Mr. Treves, who found that the supraclavicular nodule was no longer to be perceived, while the axillary artery could be felt pulsating, and apparently quite free from growth around it. The patient had gained weight somewhat. Fourteen months after the oophorectomy, the patient's physician reported that the operation scars (in the axilla) were pale, almost the color of the neighboring skin, soft, not adherent, and without deposit of any kind in the surrounding tissues. The author's explanation of the success of Dr. Beatson's case and his own is based on the protozoon theory of cancer, and is to the effect that the withdrawal of the ovarian secretion, coupled with the presence of an excess of the thyreoid secretion, makes the tissues of some persons a less fit food for the cancer protozoon. The author has since treated cases of uterine and vaginal cancer by the same method, and his results will be published in due course.

Radial Paralysis from Violent Contraction of the Triceps.—M. Gerulanos (*Deutsche Zeitschrift für Chirurgie,* 1897, vol. xlvii, No. 1; *Presse médicale,* May 25th) gives the following conclusions of his researches into radial paralyses: 1. In a certain number of cases of radial paralysis appearing without any traumatic origin, we may point to a violent and abrupt contraction of the triceps as the cause. 2. At the level of the middle third of the humerus, the radial nerve is in close apposition to the periosteum in a fibrous groove which allows of its movement to the extent of a centimetre. It is this faculty of displacement which saves the nerve from compression at every ordinary contraction of the triceps. 3. In certain conditions, such as immobilization of the nerve by the muscles of the forearm, abrupt contraction of the triceps, etc., the radial nerve has no play, and is thus forcibly compressed between the humerus and the contracted triceps. 4. This anatomical disposition explains also the tendency of paralyses which supervene in infectious and chronic toxic diseases to localize themselves in the radial nerve. 5. Radial paralyses of rheumatic or of exhaustive origin may, in a great number of cases, be attributed to this anatomical disposition of the nerve.

A New Operation for Fistula in Ano.—Dr. A. Dietrich (*Medical Sentinel,* June) thus describes an operation performed on an anal fistula communicating with an ischio-rectal abscess cavity: He first thoroughly cleansed the canal by washing with hydrogen peroxide of full strength, then passed two stitches diagonally opposite each other through the mucous membrane around the opening in the bowel, freshened the canal by means of a small sharp curette, and again irrigated, using Thiersch's solution and H_2O_2. This done, he elevated the membrane by making traction on the stitches, and below them applied a ligature, thus securing a good stump. The external part was then well dried and dressed. After five days the stump passed away. Eleven days after the operation, examination revealed a complete healing by granulation.

Two Cases of Successful Replacement of the Completely Severed Ear.—Dr. F. A. Purcell (*Lancet,* June 11th) supplements a similar case reported by Dr. William J. Brown in the *Lancet* for June 4th with reports of two cases in which the completely severed ear was successfully replaced.

The same method of replacing the ears was adopted in both cases. The ear was placed in warm water at nearly blood heat, washed and cleaned; then the patient was washed and prepared. The ear was applied and all landmarks noted to make sure of its accurate adaptation. Interrupted horsehair sutures were passed all round, without tying them until the last was passed; by this means the needle was able to be inserted through both edges at corresponding spots. When the sutures were tied taut the ear fell into its exact position. The ear was then covered with gauze and wool and bandaged. A small flannel bag loosely filled with table salt was heated in a saucepan over the fire and renewed when cool. This bag was then laid over the ear outside the dressings and bandage to keep the ear warm and restore the circulation. In both cases the ear became united.

A Case of Exalgine Poisoning.—Dr. E. A. Lermitte (*British Medical Journal,* June 11th) records a case in which eight grains of exalgine were accidentally given at a single dose. The doctor on arrival found the patient sensible, although somewhat dazed. The pulse was 84, full, strong, and regular. The breathing was regular, and there was no dyspnœa. No symptoms of collapse were present. The patient stated that shortly after taking the dose of medicine she noticed pain in the stomach and felt very faint, but not giddy. She also noticed that the pain in her head left her quite suddenly. She then lost her sight and felt paralyzed, although still quite conscious and able to hear and understand all that was said in the room. These symptoms disappeared gradually in about twenty minutes. With the exception of slight faintness about 9.45 A. M., the patient had no other unpleasant symptom. The administration of ten grains of exalgine has been known to be followed by a succession of severe convulsions with cyanosis similar to puerperal eclampsia. Artificial respiration was used. The patient recovered.

The Salicylates in Gout.—Dr. Arthur P. Luff (*Lancet,* June 11th), in a paper on The Value of Certain Drugs in the Treatment of Gout, thus sums up the results of his observations on the use of the salicylates:

The supposed solvent effect of sodium salicylate for gouty deposits does not therefore exist. What I believe to be the correct explanation of the increased elimination of uric acid in the urine during the administration of sodium salicylate is that salicylic acid unites readily with glycocine and so conveys an increased amount of that body to the kidneys, where by its combination with urea an increased amount of uric acid is necessarily formed. This increased formation of uric acid is directly detrimental to gouty subjects, and on that account I consider that salicylates are contraindicated in gout.

His conclusions are as follows:

1. The ordinary alkalies, the lithium salts, piperazine, and lysidine, do not exercise any special solvent effect on sodium biurate, and their administration to gouty subjects with the object of removing uratic deposits in the joints and tissues appears to be useless.

2. Sodium salicylate does not exercise any special solvent effect on sodium biurate. Its administration with the object of removing uratic deposits in the joints and tissues appears to be useless, and, moreover, it is apparently contraindicated in gout on account of its leading to an increased formation of uric acid in the kidneys.

THE NEW YORK MEDICAL JOURNAL, JULY 9, 1898.

Original Communications.

ON THE CARE OF
CRIPPLED AND DEFORMED CHILDREN.*

By NEWTON M. SHAFFER, M. D.,
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CORNELL UNIVERSITY COLLEGE OF MEDICINE.

So far as I can learn, the first effort to afford organized relief to the deformed and crippled among the poor of New York city was made in May, 1863, by the New York Society for the Relief of the Ruptured and Crippled. Under the leadership of its founder, Dr. James Knight, who gathered about him such men as James Lenox, Robert B. Minturn, Robert M. Hartley, John C. Green, Stewart Brown, A. R. Wetmore, Jonathan Sturges, James W. Beekman, John David Wolfe, Henry S. Terbell, and George W. Abbe, the work very rapidly took a prominent place among the great charities of our city. As I had the honor to be connected with the institution when it opened its doors for the reception of patients, in the very minor capacity of a medical student, and as I graduated in medicine under its auspices and filled the position of its first assistant surgeon, I can recall very distinctly the different stages of the development of this great work, and have watched, with much gratification, its progress and success.

Dr. Knight was a true philanthropist, a genuine friend of the crippled child, of more than ordinary versatility in adapting mechanical means to pathological ends in the treatment of the deforming diseases of childhood, and an almost unrecognized and neglected pioneer in the early work of what is now known as modern orthopædic surgery. In many respects he was a great man, and his self-sacrificing devotion to the work he founded has never met the recognition it deserves. I desire to place on record my humble appreciation of his unselfish efforts to relieve human suffering, and to emphasize the fact that it was owing to his energy and devotion that New York city first recognized the necessity of extending the hand of relief to the poor cripple.

Early in his work, and before the institution moved into its present ample hospital building, Dr. Knight recognized the importance of both mental and physical training as an important adjunct to the medical part of the work. He instituted a class in light gymnastics and calisthenics, and instruction, both religious and secular, was made part of the daily life of the patient. This work has been maintained since Dr. Knight's death.

The next important movement in the direction of the care of crippled and deformed children occurred in 1866, under the auspices of the New York Orthopædic Dispensary and Hospital. Its founders were Theodore Roosevelt and Howard Potter, who, with the assistance of Dr. John T. Metcalfe and Dr. Cornelius R. Agnew, secured the coöperation of Dr. Charles Fayette Taylor in forming this organization. Commencing simply as a dispensary, and with a board of trustees which comprised, among others, and including the founders, James Brown, William E. Dodge, James Boorman Johnston, Robert Lenox Kennedy, John L. Aspinwall, David Dows, Allen Campbell, Roswell D. Hitchcock, Robert Winthrop, and Charles Fayette Taylor, it soon became a factor in the charitable world, and rapidly assumed an enviable position both as regards its methods and its work.

The genius of Dr. Taylor in designing apparatus for the relief and cure of deformity made him a benefactor of his race, and his early retirement from active practice, through ill health, was a loss to the medical profession.

Mental training has always been a feature of the work in the wards of the Orthopædic Hospital. At present two teachers are employed: one in kindergarten work for the younger patients, the other in giving regular lessons to the older children.

As the writer stepped, so to speak, from a position in the Ruptured and Crippled Hospital to an almost similar one in the Orthopædic Hospital, and as his connection with the latter covers more than a quarter of a century, it is with peculiar satisfaction that he has watched the great growth of both of these institutions, which have done more than any other institutions in the country to afford relief to the crippled poor.

The next important step in this work of caring for deformed children occurred in 1872, when St. Luke's Hospital, attracted by the work of the Orthopædic Hospital, invited one of the surgeons of the latter institution to become an active member of its medical staff, creating for him the office of "orthopædic surgeon." The orthopædic service of St. Luke's Hospital has since been one of its distinctive features, and it was the first large general hospital to recognize orthopædic surgery as a specialty.

Soon after this event there was a pretty general recognition of the necessities of the crippled and deformed on the part of many medical institutions. The New York Hospital, the Roosevelt Hospital, the Vanderbilt Clinic, the Postgraduate Hospital, the Polyclinic Hospital, St. Mary's Hospital, and other institutions opened their doors to crippled children, and organized either an outdoor or an indoor service, or both, for the treatment of the deformed.

In other large cities, and in some smaller ones, the growth of the movement to afford relief to the crippled and deformed has been very gratifying. In Boston, Dr. Buckminster Brown was placed in charge of a ward in the Samaritan Hospital, exclusively devoted to the relief of cripples, in 1861. This was two years before New York recognized Dr. Knight's effort, and the Children's Hospital of Boston is now a model in its orthopædic work. In Philadelphia the University of Pennsylvania has an elaborate and well-equipped orthopædic dispensary and hospital, founded largely by Dr. A. Sydney Roberts, and it also has other well-known institutions where the crippled and deformed are cared for. In Chicago, Baltimore, Rochester, Buffalo, St. Paul, Minneapolis, and elsewhere, the crippled and deformed are provided for, and all, or nearly all, this advance in the use of modern methods of caring for the deformed poor may be traced to New York, and to the personal influence of four great men—viz., Dr. James Knight, the philanthropist and organizer; Dr. Charles Fayette Taylor, the mechanical genius and enthusiastic leader; Dr. Lewis A. Sayre, the impressive teacher and eminent author, and Dr. Henry G. Davis, who revolutionized the treatment of joint and spinal diseases, and whose originality and genius made him the father of American orthopædic surgery.

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* Read before the National Conference of Charities and Correction, New York, May 23, 1898.

It may, I think, be taken for granted, from a medical and surgical aspect, that the importance of caring for the crippled and deformed has been very generally recognized during the past quarter of a century the world over; though, strange as it may seem, the medical profession is still in many important medical centres, and especially abroad, unwilling to grant to orthopædic surgery the status it deserves. There still clings to the mechanical treatment of deformities in some minds the feeling that it is *infra dignitatem;* that to manipulate apparatus or to undertake to perform the necessary mechanical operations for treating deformity is, in some obscure way, outside of, strictly speaking, surgical lines. And, while this foolish prejudice is becoming modified, and especially so in New York, there are to-day in some sections of the country prominent surgeons who habitually refer patients with deformity to some commercial instrument maker, whose knowledge is limited to the shop in which he works, and whose education is far from equipping him to give the patient the relief which he has a right to demand. The day is coming when the instrument maker will occupy the same relation to the surgeon that the pharmacist does to the physician, when a "brace" for deformity will be a written "prescription" of the surgeon, and when the surgeon will know in detail what is needed for the relief or cure of deformity, and when he will rely upon his own experience and knowledge rather than upon the ignorant assistance and cooperation of a purely mercantile class.

Hence, in speaking of the care of crippled children, I desire to emphasize the statement that we need better educational facilities in our colleges for teaching orthopædic surgery—just as good, indeed, as are now given for other departments. Every medical college should have an orthopædic laboratory, just as there are laboratories for other necessary medical and surgical instruction. The student, under the direction of his teacher, should be taught, not that Smith's brace for clubfoot or Jones's splint for hip disease is used in the treatment of these conditions, with perhaps a perfunctory demonstration of their application, but he should be educated in the principles underlying their utility, and should also be made proficient in their practical application. We all know how extensive and prolonged is the technical education demanded of those who, for example, are educated in the construction of a railroad bridge. The mechanical principles involved in the construction of a brace for spinal disease or clubfoot are certainly not less important, and yet there is no, strictly speaking, technical education upon these points in any of our medical schools. The next progressive step in the surgical care of deformities will be to establish a mechanical laboratory where the practical use of apparatus in the treatment of deformities may be intelligently taught in all our medical colleges.

It is my intention, with the approval of the proper authorities, to establish such a laboratory in connection with the Cornell University Medical College.

Still, we all recognize how much has been accomplished since the pioneer institutions, especially the New York Orthopædic Dispensary and Hospital, have pointed out the way. The condition of the crippled and deformed has advanced in many important respects during the past thirty-five years. It rests with an organized body like that which I now have the honor to address, to study the problems and advance the interests of those who, if unrelieved, must become a burden upon the state, or, at least, be hopelessly relegated to the nonproducing class.

We must all recognize the fact that the average cripple needs much time for treatment, and that the period at which the most good can be done is at an early age, certainly before adolescence. There are some conditions, like knock-knee, bowleg, and clubfoot, which may sometimes demand the direct (operative) surgical method, and which may not therefore require a long detention in a hospital; but many of the deforming diseases of childhood—for instance, Pott's disease of the spine (hunchback), hip disease, infantile paralysis, etc.—those which are the most disabling and the most chronic, are dependent upon causes which the knife can not always reach. They demand, many times—especially those dependent upon tuberculosis—years of active mechanical treatment, not, however, in bed, but in portative apparatus, which permits of gentle outdoor exercise. The question of education, or indeed of suitable mental occupation, during this period of enforced mechanical treatment and prolonged convalescence is a most important one. Some orthopædic hospitals have made systematic education a feature of their work, but much more remains to be done.

The medical and surgical treatment of the physical ills of the body should always be supplemented by a similar effort to educate the mind of the cripple, so that when he is cured he may meet his more fortunate fellows on an equal educational ground. But there are some deformities which are practically incurable, just as there are congenital deficiencies of the human frame which art may minimize, but science can never restore. This class has not received the attention it deserves in this country. As Dr. Augustus Thorndike, of Boston, in a most excellent essay on The Compensatory Education of Cripples, read before the New England Branch of the American Association for the Advancement of Physical Culture, and about to be published in *The Quarterly Journal of Physical Culture,* says:

> "There should be three sides to all education—mental, physical, and industrial—yet many of the homes and schools for cripples to-day confine their attention to only one side. There is no class of children more likely to be benefited by careful physical training than children left with a weak or shriveled leg or arm as the result of infantile paralysis or chronic joint disease."

In Boston, under the auspices of a board of trustees comprising Augustus Hemenway, Arthur A. Carey, E. Pierson Beebe, Miss Judith D. Beal, Joseph S. Bigelow, F. J. Cotting, E. H. Clement, Dr. Edward H. Bradford, Dr. Augustus Thorndike, and others, an Industrial School for Crippled and Deformed Children has been organized and has been in successful operation for three or more years. Dr. Bradford, in his report for the trustees, says:

> "It should be the work of an industrial institution for cripples to train the pupils for an occupation suitable to each individual case, and to furnish aid in finding work for those who may be capable of doing excellent work, but who, by their infirmity, are unable to solicit work."

It is not within the limits of this short sketch to detail all the admirable work done in this institution, whose patients, many of them, are still under careful orthopædic supervision, while being taught on the plan as outlined above. In many instances a congenital defect makes ordinary treatment useless. Among the inmates of this excellent institution is one, for example, who, having no arms, has learned to do typewriting with his toes.

I visited this school a few days ago with Dr. Thorndike, and found there much of interest and value. Forty children with various deformities were under careful mental and industrial training.

In Copenhagen there is a "Society for Cripples and Invalids" which has both hospital and dispensary departments. During 1895 there were treated by this society, paralytics, 177; those lacking one hand or a portion thereof, 117; other cripples, 119—total, 373. The following trades are taught: For men and boys, cabinet making, basket making, wood carving, turning in wood, shoemaking, and brush making; for women and girls, hand weaving, plain needlework, and dressmaking.

In Sweden and Norway there are four schools. Very much the same work is done in these schools as in the Copenhagen school. Special mechanical devices are used to enable paralytics to hold and work with various tools, and some pupils are even taught to work with their teeth, etc.

In various parts of Europe institutions of this kind exist, and their usefulness, especially in Italy, where deforming and disabling diseases are frequent, must be apparent; and among the many I might cite as having come under my own observation in this country, and as reported in Dr. Thorndike's exhaustive paper, is the Daisy Field Hospital and Home, located in Englewood, N. J., where children are taught to wash and iron their doll's clothes, to sew, to embroider, to make candy, canned fruit, etc., as well as to read and write; while at Philadelphia, at the Home of St. Giles the Cripple, basket making and carpentering are regularly taught.

This necessarily hasty and imperfect review shows America to be much behind Europe in the matter of industrial schools for cripples. It should not be so. In connection with every home and hospital where cripples are treated, the physical, mental, and industrial training should accompany the medical and surgical treatment whenever the combination is practicable; just as the moral and an adjusted religious training should enter into the school life of such societies.

Early in the history of the New York Orthopædic Dispensary and Hospital, in 1871, a system of outdoor visitation was inaugurated, it being recognized that much could be done if the interest of the patients was kept alive by periodical and friendly visits. This work was at first undertaken by a corps of lady visitors. Many patients not eligible for hospital care, and yet demanding minor but essential attention at home, rather than the skilled professional attendance provided at a hospital, were reached in this way, and much good was accomplished.

This system of visitation became such an important feature of the outdoor work that, when it outgrew the ability of the ladies to meet the demand, one and later on two surgeons have been employed to do this service, which supplements greatly that of the hospital; and some patients who might otherwise have relapsed after their discharge have been kept on the way to ultimate recovery.

Mr. C. Loring Brace, the secretary of the Children's Aid Society, writes me as follows regarding the Henrietta Industrial School at No. 224 West Sixty-third Street, under the direction of the Children's Aid Society:

> "Our attention was called to the number of crippled children living in tenement houses who, because of the poverty and shiftlessness of their parents, were growing up almost entirely neglected. We determined to establish a class of these children in one of our schools as an experiment, and I think when you see it that you will agree that it is very successful. We purchased a wagonette and the children are brought to school in the morning and taken home in the afternoon by our

teacher, receiving a lunch at the school. As we expected, we found children of all ages absolutely ignorant, and we have undertaken to teach them according to their needs, and it is possible that later on we may also teach them trades, so that they may be self-supporting. Different heights of tables, chairs, and all descriptions of reclining chairs, etc., are necessary in such a class. It is the duty of the teacher also to wash the children and rearrange their braces, etc., and advise with the parents regarding the children, and to be helpful in whatever way is possible. Especially it is the duty of the teacher to induce the parents to take the children to clinics and dispensaries for medical help.

"Our industrial schools are partly supported by public funds through the board of education and partly by contributions of charitable people, and the schools are under our oversight, but subject to the supervision of the superintendent of the board of education. This arrangement allows of much more individual care and much better acquaintance with the needs of the neglected little ones than if such a school were entirely under the charge of public authorities. The effort has been so successful that we propose to establish other classes like this one in other tenement districts as means permit."

I visited this school with Mr. Brace and found twenty-eight children with various deformities, under the treatment of various medical institutions, all of whom were receiving instruction, and all were happy in their work.

They belong to a class which can not, at present, be reached except by some organized body like the Children's Aid Society. Neglected at home, rejected by the public schools, incapacitated by physical deformity, and unable to care for themselves, this work, like the Boston home, supplies a very urgent need in the intelligent care of the crippled and deformed, and it must commend itself to all who are interested in this class of relief. As an aid to the outdoor departments of the various medical institutions designed to relieve the poor cripple, it is a necessity. I trust this school may be duplicated many times in different parts of the city and in different sections of the country at large.

Turning from this interesting and instructive side of the dispensary work, we may now consider a most important phase of hospital labor.

In a hospital devoted to the care of chronic deformities in childhood, the wards, after a time, become almost hopelessly encumbered with convalescent patients, who need only a minimum amount of attention, but who exclude the more acutely suffering from receiving the benefit of skilled professional care. In my own work I have often been confronted with a problem like this: A child with, say, hip disease or spinal disease is nearly well; perhaps the patient has been an inmate of the hospital for three or four years. He has no suitable home to go to, or perhaps, in effect, no home at all. If the patient is discharged, he is certain to lack even the slight attention which is necessary to keep the apparatus applied, and which is demanded in order to secure the best attainable result. If the patient be retained, a bed is occupied which is urgently demanded by an acutely suffering child with perhaps the same disease. What shall we do? On the one hand, we can not make a "home" of the hospital, and, on the other hand, if the patient is discharged, he is almost certain to relapse. Too frequently the patient is discharged to make room for another with the hope that a relapse, after all, may not occur. But this is all wrong.

The solution of this problem, it seems to me, is to have a country home, not too far removed from the city dispensary and hospital, under the care of a resident surgeon, where, with stated professional visits from the attending surgeon, and with specially trained nurses, the necessary medical supervision can be maintained, the mental, physical, and industrial training can be pursued, and the climatic treatment can be made to supplement the efforts of the surgeon.

I know that the question of such a country home has been seriously considered by both the Orthopædic and the Ruptured and Crippled Hospitals, and it is certain that if such an adjunct could be added to these institutions much permanent good could be acomplished.

And why should not the State aid in such an effort? A strictly dependent and even to-day a much-neglected class is being only half cared for by the excellent medical institutions established for its relief. The educational and charitable systems of the State should be adapted to meet the demands of this class of crippled and deformed as fully as are those for the deaf, the dumb, the blind, or the insane. And this is true from a medical standpoint also. A child with a curable deformity demanding prolonged treatment should be treated as well as taught until he is fully recovered, and not, when convalescence is fairly established and he is sure with proper care to recover, be sent out of the hospital to relapse, after a few weeks or months, and to become ultimately a more than useless member of society, perhaps a permanent burden upon the State.

The problems involving the care of crippled and deformed children can only be touched upon in a paper of this brief character. It is a subject well worthy the attention of this conference, and I regret that the time at our disposal is so brief that it can not receive more consideration at your hands.

28 East Thirty-eighth Street.

THE
EARLY RECOGNITION OF GENERAL PARESIS
(PROGRESSIVE DEMENTIA).

By B. SACHS, M. D.,

PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE NEW YORK POLYCLINIC;
PRESIDENT OF THE NEW YORK NEUROLOGICAL SOCIETY, ETC.

(*Concluded from page 11.*)

In this connection I wish to speak of another patient who is still under observation, who has been seen by two other neurologists of this city, and in whose case the physicians in attendance were called upon to decide whether the man should be allowed to marry. The obligations which a correct diagnosis of the disease in question entails upon the physician have been brought home very forcibly to me and others in connection with this special patient.

H. V., a merchant, aged twenty-nine years, of robust build, and a man of high temper. Had always enjoyed very good health. He had been exhibiting marked changes in his behavior for four or six weeks before the time of my first examination, in November, 1896. He had been smoking on an average fifteen cigars a day, and stated that during the past few months he had been drinking considerably, but denied having any special craving for it, having indulged in spirituous liquors merely in order to stimulate himself for an excessive amount of work on his hands. His memory seemed to be impaired, though he had been filling a responsible position in a fairly satisfactory fashion. The most characteristic symptom was a peculiar, rapid, syllabic, stammering speech, which reminded one of the speech of a paretic, but was claimed to be a mere accentuation of a stammering habit which had been evident in former days during periods of excitement. During the examination he showed considerable impatience, was very certain that there was not much the matter with him, did not know why he should be subjected to so many examinations, and felt that, if he could leave his work for a time and marry, he would soon improve. His mental condition was somewhat suspicious, but the pupils reacted well; the knee-jerks were a little subnormal, speech was characteristic, and there was a marked facial tremor. After careful consideration of the mental and physical symptoms, the condition was diagnosticated by me as a neurasthenia; the remark was noted in my history that there was no positive evidence of "general paresis." Other physicians concurring in this opinion, the patient married and went abroad. On the trip across the ocean he became exceedingly irritable, and after spending a few days on the Continent, where he developed a fit of most violent temper and extreme irritability, he became thoroughly confused and was removed, at the suggestion of a well-known alienist, to a private institution. He was isolated for a number of months, during which time his reason was supposed to have been entirely gone, and presented symptoms which by some were believed to be typical of progressive dementia, while others claimed that the symptoms were not characteristic and that recovery was possible. About ten months after his marriage he had so far recovered that he was allowed to return to this country and was urged to go back to business. He has been under my observation again since November, 1897. His mental condition is even at the present time far from normal. He is, on the whole, in an exalted frame of mind, for, although dependent upon his work for his livelihood, he is not in the least worried about it, and expresses in a rather perfunctory way his anxiety to return to work. He has had several attacks of violent temper, but for each one there has been some distinct, though not always sufficient, cause. During the past month he has attempted to make some business connections, but every one whom he meets appears to be repelled and to have his doubts aroused by the patient's peculiar stammering speech. He is thoroughly informed on the subjects of the day, reads the papers, and can converse intelligently about everything that is going on. His speech has, however, undergone of late some improvement, and it is rather of the stammering than of the syllabic order. A few weeks ago his pupils were noted to contract well under strong light, but were quickly dilated. The contour of the left pupil was irregular, that of the right entirely normal. Both pupils reacted well during accommodation. His knee-jerks were normal. He still presents distinct tremor of the facial muscles and of the tongue. Up to the present time no further changes have occurred, except that the pupils react well and that the facial tremor and the tremor of the tongue have become less than they were. About four weeks ago he had a spell during which he was not able to speak.

Under the circumstances there is good reason to hesitate in making the diagnosis of a progressive dementia, although the mental symptoms argue in favor of it. It is well to note that in this case, in which excessive alcoholism, previous syphilitic infection, and possibly excessive smoking have been of some ætiological importance, the ordinary physical symptoms of paretic dementia are not fully developed, the tremor and the speech disturbance being such as we could explain on the supposition of an alcoholic affection. I refer to the patient in this instance in order to prove that even after the lapse of a year and a quarter there may still be reasonable doubt as to the diagnosis of paretic dementia, and I think it well not to give up all hope of the patient's ultimate recovery until further and indubitable signs shall have been developed.*

The differential diagnosis between progressive dementia and syphilitic brain disease resembling it calls for careful discussion. It would be desirable if we could omit the consideration of brain syphilis, which to many seems to be more or less of a bugbear, but we might as well attempt to discuss multiple neuritis without referring to alcoholism as to discuss the ætiology of tabes dorsalis or of general paresis without referring to the syphilitic contagion. Whether the circumstance be a fortunate or an unfortunate one, the fact remains that the close relationship between specific infection and general paresis can no longer be doubted. It has been proved in so many different ways that it would seem almost superfluous to insist on this point again and again, if it were not for the constant reiteration of the doubts of some who seem to be much troubled by this relationship. Rieger has compiled the results of eleven independent statistical records showing that in one thousand nonparetics only forty presented the history of a preceding syphilitic infection, whereas of a thousand patients suffering from paretic dementia four hundred had been previously infected with syphilis, and practically all other recent writers have come to similar conclusions. Mendel states that there is a history of a preceding syphilis in seventy-five per cent. of paretics from the higher walks of life and in only 18.6 per cent. of patients suffering from other forms of mental derangement. In the syphilitic wards of Professor Lang, in Vienna, sixty-three cases exhibiting late manifestations of syphilis were examined with reference to the history of a specific infection, and of these positive statements as to the initial lesion were obtained in fifty-four per cent., probable statements in 9.5 per cent., and in 36.5 per cent. there was no satisfactory history of specific infection, although distinct signs of late syphilis were in evidence. A comparison of these figures would show that the previous infection has been proved more satisfactorily in the statistics of mental cases than in statistics collected of distinctly syphilitic patients. The causal relation between syphilis and general paresis has been established by an experiment which is convincing enough, but which I believe will not be imitated so readily in this country. Recognizing the immunity which syphilitic patients enjoy, a physician in Vienna has attempted to reinoculate with the syphilitic virus nine patients suffering from paretic dementia. The experiments were conducted in a thoroughly scientific fashion and the patients were observed, with one exception, for a period of one hundred and eighty days after inoculation. Not a single one of these paretics exhibited any reaction upon this attempt at reinoculation. It is evident that this immunity was due to the fact that the patients so inoculated had been previously affected with constitutional syphilis. It would appear that similar experiments, made as long ago as 1854 with other insane patients who had not been previously infected, yielded similar results.*

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* Since this was written a decided change in the mental symptoms has occurred, leaving little doubt as to the grave character of the disease.

Although duly impressed with the importance of such experimental data, I would not claim syphilis as the sole cause of paretic dementia. It is in all probability the most important predisposing condition, but need not be sufficient to produce the disease unless some other exciting cause, such as overwork, sexual excesses, and above all intense worriment and excitement cooperate with it.

If we indorse the preceding statements the question may well be raised whether it is necessary to attempt a differentiation between syphilitic dementia and the typical progressive dementia. But there is need of such a differentiation; while the large majority of cases of this affection may be remotely due to syphilitic disease, there are evidently some which are directly due to the specific process, and which are developed, as a rule, within a reasonably short period of time after the initial infection. The conditions are similar to those which obtain in tabes dorsalis. A very large percentage of tabetic patients have had syphilis in earlier years, yet it may well be doubted whether the posterior spinal sclerosis is primarily specific in origin, although such may by further researches be proved to be the case. Yet there are some cases of syphilitic spinal disease which so closely simulate tabes that they are generally included under this clinical designation, and these are due, as has been shown by several autopsies, to a specific meningo-myelitis very different from the ordinary posterior sclerosis.

It is probable that certain changes occurring in the brain, particularly in the cortex, in the early stages of a syphilitic infection give rise to a series of symptoms which resemble the classical type of paretic dementia so closely that it is difficult to differentiate between them. For years I have attempted to get at the signs which would help us to recognize the truly specific forms of dementia, and for this purpose have always regarded those symptoms which point to the existence of a general cerebro-spinal syphilis (such as pupillary immobility, ocular palsies, preceding and transitory apoplexies) as most valuable signs.

With regard to the prognosis and the treatment this differentiation would be one of the greatest significance. My own experience has shown that the distinctly syphilitic cases at times yield a more favorable prognosis than the others, but do they always recover under antisyphilitic treatment? Let me refer in this connection to a single case which is anomalous enough in many respects to suggest that the morbid process underlying the condition is different from that in the classical type.

In July, 1888, I had the first opportunity of examining a young chemist, aged twenty-five years, who had been at work for several years, and had managed a chemical factory with considerable skill. Nothing out of the ordinary was observed until some months before the examination, when his relatives noticed that he laughed a great deal and seemed silly and irritable. The separation from a partner seemed to have been the special cause of bringing matters to a focus. There was a distinct change in his manners and in his habits; he would often do the very reverse of things he had been accustomed to do, and showed a general defect of judgment and some lapse from a former high state of morals. To some old friends he wrote long letters about the silliest books, took baths at open windows, and to a governess in his home began to speak in rather shameless fashion about the syphilitic disease which he had acquired while a student abroad. He was fond of presenting flowers to ladies of his acquaintance, but they very often reached the wrong person; he sent them again and again to elderly ladies, when he had intended them for their daughters. At the time of his examination it was found that he was well nourished, but had a peculiar vacant stare and presented a marked disturbance of speech, halfway between a lisp and the ordinary paretic utterance. He stated that his nerves were shattered and that he would have them repaired; also that he had been reading a great deal. When asked what, he stated Stevenson's *Arabian Tour* and could not be made to give the correct title. He claimed that he could speak five languages, and each so perfectly that a native could not detect the difference between his pronunciation and that of a native born. He knew the common chemical formulæ, but had evidently forgotten a few of the more complicated ones which I could ask him to write. He did not seem to find it strange that I should be questioning him. He knew that I was a physician, but could not recollect my name, although it was mentioned to him a number of times. He evinced some interest in public questions, and when pressed for a statement as to any particular one, rattled off a trite phrase regarding free trade. The physical examination showed a very marked tremor of the facial muscles. The pupils were dilated, unequal, and did not react well either to light or during accommodation. There was distinct tremor of the hands. Both knee-jerks were exaggerated, and ankle-clonus was present on both sides. This patient was under my observation for several years, during which time he became absolutely demented. He had several apoplectic seizures, after which he was so much weakened that recovery was not looked for. Yet he rallied from these and has lived on and on, although he is practically for the past eight years but a simple vegetating organism without the slightest trace of any mental action. I saw him, quite casually, about a year ago; he was in good physical condition, could not utter a single word, made a lalling sound, but could not appreciate anything that was said to him, nor did he evince as much intellect as a child of six months would.

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* For a full statement of these facts see *Arbeiten aus dem Gesammtgebiet der Psychiatrie und Neuropathologie*, von R. von Krafft-Ebing, 2tes Heft, Leipzig, 1897.

The diagnosis of paretic dementia was concurred in by Spitzka, who saw the patient many years ago, and, although that diagnosis was fully warranted, it is fair to say that the condition is due to a distinctly syphilitic process, possibly a meningo-encephalitis, which has led to a complete atrophy of the greater part of the cortex. From a clinical point of view, it is important to note that it is ten years since my first examination, and at least eleven years since the disease began.

I have the records of another distinctly specific case, which has now lasted over five years. I will not weary you with the details, but suffice it to say that the patient was brought to me some years ago with distinct symptoms of paretic dementia, exhibiting marked delusions of grandeur, characteristic paretic speech, immobile pupils, exaggeration of the reflexes, and all the typical physical signs. The patient has been confined in several institutions during periods of excitement, in which he was so unmanageable that he could not be retained at home. He has had several apoplectic seizures, in one of which all hope of his recovery was abandoned. I gave the most unfavorable prognosis, and the patient was taken home to the South to end his days there, but, as I understand, has recovered so fully that he is once more able to attend to business and is apparently well.

Such histories could be multiplied still further from my own records, but there would be very little gain in so doing. There are several patients under my observation at the present time whose future is very problematical, including a physician whom I shall not so readily forget, because he came to me for examination of his own symptoms shortly after a consultation with him over another patient. This physician developed all the signs of paretic dementia within a relatively short period after his specific infection, which he had acquired during obstetrical manipulations. For over a year and a half I have been watching his condition, hoping almost against hope that the poor fellow would after all not succumb to the disease, and that in view of the distinct specific history, and of the fact that all his symptoms had developed within a few years after a specific infection, a long period of remission and usefulness would possibly ensue, or that he would recover wholly from the disease. At the present time his memory is remarkably defective; his knowledge of medicine has dwindled down to such an extent that he can not remember the names of the most ordinary diseases; he has forgotten the dosage of the simplest drugs, and he pleases himself by reading over and over again the notes which he took some fifteen years ago when a student of medicine. He has the typical speech, and pupils that do not react either to light or during accommodation. His knee-jerks are exaggerated and there is slight indication of ankle-clonus. He reads the papers, but does not know what they contain, and is depressed over the fact that he can not return to work. He is conscious of his illness, but thinks it is nothing more than ordinary nervousness.

It is such cases as this last one that lead one to doubt whether a distinctly specific form of general paresis is more favorable than those in which the disease has been developed years after the infection. On the other hand, there are some patients who surprise one by the unusual remission, whose recovery is so perfect that one feels inclined to doubt the correctness of the original diagnosis, and in whom it is fair to say the preceding specific infection has been in one sense a boon. Allow me to refer to another patient, whose career has been most instructive to me. He was a man of great wealth, carrying unusual responsibilities; it was necessary, therefore, at the onset of the disease to take steps to protect his own large interests and his family's welfare. In this instance I felt called upon, after the diagnosis had been made, to ask his lawyer to take full charge of his affairs and to prevent the patient from participating in the management of them. To my great surprise, this patient has recovered so fully that he seems for the time being to have belied the diagnosis, and has pointed the lesson that it is well to take a more hopeful view of certain forms of paretic dementia than we have been in the habit of doing.

This patient was seen by me first in the summer of 1895. He was then forty-three years of age; he had made an unusual success in business, and had practically been well with the exception of a specific infection years ago. At the suggestion of his family physician he had gone to Europe to take a course of waters at Kissingen and Carlsbad. During a stay in Berlin he became so excited that his behavior attracted general notice, and he was about to be sent to an institution, when his wife decided that she would take all risks and bring him home. In former years he had been extremely careful in all his investments, but during the summer of 1895 had invested extravagantly and began to talk of his great wealth, a fact which he was in former days most anxious to keep from every one. He took special delight in having the most elegant surroundings wherever he was, and always insisted on having every room in which he was brilliantly lighted, whether it was day or night, for he thought this was befitting his station. He was constantly making memoranda, and as soon as made would tear them up; kept every letter that he received, and a dozen times a day assorted them. He became careless in the use of money and could not finally state whether bills that were presented to him were correct. He showed a great inclination to drive in most extravagant fashion, and could never find horses that appeared to be spirited enough. At the time of the examination it was noted in addition to the mental symptoms that his knee-jerks were absent, and he presented distinct Argyll-Robertson pupils. There was slight tremor of facial muscles, but no marked tremor of speech. He was isolated in a quiet country place, put under the care of a competent nurse, was separated from all friends, and above all was prevented from going to the city to carry out the huge speculations which were on his mind and were entirely contrary to his former custom. When asked to give me a simple statement of his case in order to test his writing, he wrote a letter in which he said nothing about himself, but went into the most absurd statements as to the great pleasure he experienced in being under my care, etc. At the present time he seems to me to take a much more sober view of this privilege. His condition had so far improved that I felt warranted in sending him to California in the winter of 1895 in order that he might be separated from his family and from all former associations. There he did well for several months, but shortly before his return home, in the spring of 1896, he passed through another period of excitement followed by a condition of distinct depression, in which he imagined himself persecuted by others; thought that he had lost his entire fortune, that his house was not his own, and that every one had forsaken him; but from this depression he soon recovered, and since that time has been practically well. I compelled him to abstain from business until the fall of 1896, but thenceforward for a period of a year and a half he has been attending to business actively, and with the exception of the fact that he does not show so much anxiety in the management of his business as he formerly did (which may in part be due to the various injunctions given him) he is entirely well. He reports to me every few weeks, but presents only a few physical symptoms. The pupillary reactions have been somewhat altered as compared with the test of the first examination. The left pupil does not react to light nor during accommodation; on the right side there is distinct Argyll-Robertson pupil. The right knee-jerk can now be obtained by reenforcement; the left knee-jerk is still absent.* Such changes in the condition of the pupillary reflexes and in the knee-jerks I have observed only in specific cases.

The improvement in this patient may or may not have been due to the repeated treatment by inunctions and by the iodides, but we may suspect the specific character of the entire morbid process, which in this case may end in complete recovery. I should be willing to concede the possibility of a prolonged period of remission in the course of a paretic dementia, but in this patient all the mental symptoms have disappeared to a wonderful degree, and the pupillary symptoms as well as the knee-jerks have undergone changes which to my knowledge have not been observed in the classic form of general paresis. Paretic dementia may be mistaken for multiple sclerosis, and *vice versa*, but this subject I will leave for another occasion.

Before concluding, it may be well to refer to another class of patients in whom the suspicion of general paresis is justly aroused, and yet the cases go on to full recovery.

In 1890 I saw in conjunction with Dr. Stephen Smith a young man of twenty-one years who had just finished his college career with highest honors. He had always been a hard student. Shortly after his graduation he went to the South and was pushed into work which was not altogether congenial to him. He came North to escape the intense heat, when he was taken down with what Dr. Smith pronounced "a typhoidal condition." On the fourth day he became excited and developed magnificent schemes. Ten days after the onset of these symptoms I found him without fever but in an extremely restless condition, speaking of colonizing schemes in Africa. He was about to go to Madison Square Garden to start a great project involving hundreds of millions, but he was willing to let only a few friends into the scheme. His pet idea was to give large sums to every fraternity in every college, for which he knew the fraternities would be duly grateful. His pupils were sluggish, his hands tremulous, his speech was excited, and test sentences could be repeated with difficulty. Reading was accomplished with less trouble. His knee-jerks were lively. He seemed entirely unconscious at the time of the examination, boasted of his unusual vigor, of his great mental superiority, having a feeling of pity for all others, and could not understand why physicians had been called in to examine a man who could give others a lesson in good health. The physical symptoms, taken in conjunction with the maniacal state, would have led to the diagnosis of paretic dementia if it had not been for his extreme youth and for the entire absence of any history of preceding or hereditary syphilis. After two weeks in an asylum his mind seemed to clear up, but he still developed extravagant schemes, boasted of his great historical attainments, and for a long time was certain that a history which he contemplated writing would startle the students of history here and abroad. In the course of another few weeks he became much more sober in thought, his pupils began to react promptly, but a slight tremor of the hands and of the tongue continued for some months. In November, 1890, he had recovered to such an extent that he was allowed to begin to study law, in which career he has made a considerable success. I heard nothing more of him until he became prominent in the recent reform movement in this city and was nominated for an important office. I venture to believe that his enthusiasm for this cause can not be interpreted as a sign of failing intellect.

I have had two other similar experiences, and, while paretic dementia does occur, though rarely, in younger individuals, I referred to this special history in order to call attention to the fact that delusions of grandeur associated with the usual physical symptoms, if occurring in younger persons, need not portend the development of this dreaded disease.

The preceding remarks should be interpreted as a brief statement of opinions that have been formed and based upon a very considerable number of cases of paretic dementia seen in private practice. My hospital and dispensary histories I have not had time to analyze. The conclusions presented for your consideration are:

General paresis or, better still, paretic dementia is a convenient designation for the clinical manifestations of a number of different morbid processes affecting the brain, and leading ultimately to an atrophy and destruction of cerebral (chiefly cortical) elements. The classical type of paretic dementia represents the severest of these diseases, and is fatal in fully ninety-five per cent. of the cases; but it is well to bear in mind that there are other forms of disease closely resembling the main type, which can scarcely be differentiated from it, and yet seem at times to yield a more favorable prognosis.

It is for this reason and from the result of actual observation that I would urge a careful consideration of the earlier stages of every form of paretic dementia, and would insist that the possibility of prolonged remissions or of a complete recovery be kept in mind.

It may be conceded that the disease has undergone some changes, but in all probability some of these are due to the fact that other forms of disease are becoming more frequent or that we recognize them more readily than we once did.

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* The left knee-jerk can now be obtained by reenforcement.

The greater duration of life after the disease has been recognized may be due to the better care which the patient receives, but possibly also to the earlier recognition of the first symptoms. Among these symptoms the evidences of mental derangement are of first importance, for on the strength of the physical symptoms alone a diagnosis is not warranted. But with the appearance of any evidence of the characteristic mental derangement the importance of the physical symptoms can not be overestimated, and among these early signs the facial tremor, the stammering, tremulous speech, and the abnormities in pupillary reaction are the most characteristic. The pupillary reflexes should be studied carefully with reference to the evidence that they supply of a distinct and active alcoholic or specific poison.

Finally, I would venture the statement that the symptoms commonly interpreted as those of a progressive dementia do not necessarily indicate the presence of a fatal disease, whence it follows that in every instance the patient should be given the benefit of proper treatment. Absolute mental rest, total abstinence, separation from an irritating environment, mild sedatives, and, in some instances, a rigorous antisyphilitic regimen will be of distinct value.

RHINOLITH OR NASAL CALCULUS.

REPORT OF A CASE AND EXHIBITION OF PATHOLOGICAL SPECIMEN.*

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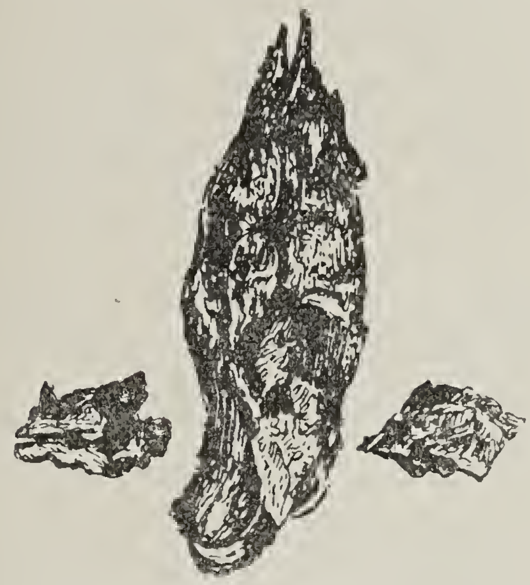
MEMBER OF THE AMERICAN MEDICAL ASSOCIATION,
WAYNE COUNTY MEDICAL SOCIETY, ETC.

Mr. President and Members of the Wayne County Medical Society: The pathological specimen I have the pleasure of exhibiting to you this evening is one of unusual interest, even to those of us who limit our practice to diseases of the eye, ear, nose, and throat, from the infrequency with which we meet these cases, and also from the circumstances which led up to its discovery, owing to the fact that it was situated somewhat differently from most cases of this kind.

Miss L. K., aged twenty-four years, from whose nose this was taken, consulted me January 1, 1898, regarding her nasal catarrh, with which she stated she had been afflicted ever since her childhood. Ten years ago she had been treated for about a year by one of the leading rhinologists of this city, receiving considerable benefit, but for the last two or three years she has had a rather profuse nasal discharge, thickened, and increasingly offensive in character, with obstruction to nasal respiration, loss of smell, nasal voice, and the other usual symptoms which we find in an aggravated case of chronic rhinitis. Lately she had suffered from headache, which was increasing in severity, and was also troubled with weeping of the left eye. She had been using an atomizer for some years without getting any other relief than the keeping of the nose approximately clean.

On making anterior and posterior rhinoscopic examination I found considerable hypertrophy of the turbinates of the left side, especially of the inferior turbinal.

I suggested an operation for the removal of the hypertrophied tissue of the lower turbinal, which was impinging on the floor of the nose. This was agreed upon, and on Saturday, January 15th, I operated at 3 P. M. in the usual way, cocainizing the parts thoroughly and making a practically painless operation.



This cut is an illustration of the rhinolith, natural size.

Hæmorrhage was not very profuse and was readily controlled at this time. The patient returned home, and soon after suffered from an attack of nervous sick headache, to which she was subject upon occasions of nervous strain.

As usual, the headache ended with an attack of retching, after which straining the hæmorrhage started in afresh and rather profusely. I tried again to control it with styptics and plugging the naris with absorbent cotton, but did not succeed in thoroughly arresting the flow of blood, and, as the patient was getting very weak, with the kind assistance of Dr. Suttie, I tamponed through the posterior naris with a sponge tent, which instantly stopped the hæmorrhage. I then ordered her to be liberally supplied with beef extract, for the double purpose of nourishment and to increase the arterial tension.

Sunday, the next day, she was doing nicely, but was very weak; there was no recurrence of the hæmorrhage, but I did not think it advisable to remove the tampon as she was too weak to bear it.

Monday, January 17th, the patient was a little stronger, but owing to debility I could only remove a part of the tampon from the anterior naris.

The next two days I removed still more of the sponge anteriorly, in all about two thirds of it being removed up to this time, the patient still being too weak to bear much manipulation.

On Thursday morning, January 20th, I attempted to remove the remainder posteriorly, but found it so firmly fixed that it could not be dislodged except with extreme force under anæsthesia. I called in Dr. Chittick and anæsthetized the patient, when, with considerable difficulty, we removed the remainder of the sponge.

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* Read before the Wayne County Medical Society, February 17, 1898.

After the patient recovered from the anæsthetic I cleansed the nasal cavity thoroughly with hydrozone, one part to twelve parts of lukewarm water, and she returned home rejoicing, the turbinal wound being in good condition, healing nicely.

Next morning she came to my office for treatment and stated she had enjoyed perfect freedom in breathing through that nostril until about four o'clock in the morning, when, changing her position in bed, that side became suddenly obstructed. After cleansing the nostril, which was seemingly full of an offensive discharge, I discovered this body, which was attached at the posterior end on the outer side of the inferior meatus, lying, as it were, in a groove or pocket.

The anterior or loose end of it was sharp like a spiculum of bone, and black in color; it was freely movable about its long axis, so that you could pass a cotton holder around it and lift it from its bed. After cocainizing, I grasped it with a dressing forceps and, giving it a twist, removed it. I then thoroughly cleansed and disinfected the cavity with the hydrozone solution, which removed the odor and rendered the cavity wholesome.

The next day the two smaller pieces were removed while cleansing and treating the nose. They were loose and seemed as though they had just sealed off from the bed where the larger piece had lain.

The spraying of the nasal cavity with hydrozone, followed by the use of glycozone, constituted the treatment for the next four days, by which time the offensive odor had entirely disappeared, and the parts had assumed a healthy condition.

This concretion formed on the outer side of the inferior meatus, and as it grew larger it obstructed the flow of tears through the nasolacrymal canal, as evidenced by the overflow of tears from the left eye, which condition ceased immediately after removal of the rhinolith.

The secondary hæmorrhage was evidently due to a relaxation of the pressure on the vessels of the turbinate, owing to the calculus being disturbed in its position when the patient was retching.

As to the exciting cause of the formation in the case of this young lady, I could get only a negative history, there being no recollection of any foreign object having been put up the nose in her childhood. Being desirous of ascertaining, if possible, what served as a nucleus, and at the same time of finding out the composition of the formation, I cut it in two.

Microscopical examination reveals that it is composed of amorphous phosphates, undoubtedly the phosphates of calcium and sodium, which came from the tears.

There has been a marked improvement in the young lady's condition since the removal of the rhinolith; overflowing of the tears in the left eye has ceased, nasal respiration has become perfect, her voice has lost the nasal twang, and her general health has improved rapidly, as indicated by the fact that she has gained four pounds in weight since the operation (four weeks ago), and is still improving.

270 WOODWARD AVENUE.

X-Ray Diagnosis of Cerebral Tumors.—According to the *X-Ray Journal* for June, a sarcoma of the dura mater has been successfully located by means of the X rays.

A STUDY OF
ALCOHOL, TOBACCO, COFFEE, AND TEA
AS CAUSATIVE FACTORS IN THE PRODUCTION OF NERVOUS DISORDERS.

By CHARLES E. LOCKWOOD, M. D.,
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(*Concluded from page 18.*)

THE affections of the spinal cord and its meninges, due to the excessive use of alcohol, are few, as, according to Dr. Gowers, an isolated affection of the cord, due to alcohol, is rare; still, he admits a chronic meningitis due to alcoholism, which may give rise to general inflammation involving the pia, arachnoid, and the superficial layers of the cord in different degrees.

He also gives chronic alcoholism as the cause most influential and important in the production of chronic myelitis, which he says is usually associated with chronic meningitis; he says this cause in these cases is of special importance because its effects are met with in many cases of chronic myelitis that are excited by injury, the result of which would have been trifling and transient but for the tendency induced by the profound effect of chronic alcoholism on the tissues.

Functional hemianæsthesia, similar to the unilateral which is met with in hysteria, is said to occur frequently in France in alcoholics.

Neuralgia, in the form of pains in the limbs, is met with, due, according to Gowers, to the result of an influence of alcohol on the nerves such as in greater degree causes actual neuritis; but he also remarks that some of these nerve pains are produced through the agency of a gouty diathesis, to which alcoholic excess unquestionably contributes.

Muscular tremor, due to alcoholic excess, is the most common symptom seen, chiefly in the hand, lips, and tongue. It may be noticed in the legs if looked for. It is, according to Gowers, a fine, irregular tremor, and occurs only when the muscles are put in action by the will, probably due to derangement of the motor nerve cells. Insomnia is frequently complained of. And visual hallucinations, according to Gowers, may distress the patient between waking and sleeping and may prevent sound sleep. We may add irritability, restlessness, and failure of memory.

Multiple neuritis, of which alcoholism is by far the most common cause, according to Gowers, is one of the results of chronic alcoholism. The symptoms may present either of the three leading forms: paralytic atrophy, sensory loss, or ataxy. A combination of the motor and sensory, or of the latter with incoördination, is, according to Gowers, most common.

In general paralysis of the insane it is conceded that intemperance may aid other influences in producing it.

In studying the physiological effects of tobacco, we may first note that such effects vary with the quality and quantity used, and according to habit, temperament, age, sex, and general constitutional conditions.

As Rolleston very truly remarks: "It is true of tobacco, as of other agents affecting the nervous system, that the personal equation is to be regarded. The quantity consumed with impunity by one man is poisonous to another. Each smoker must estimate his own resistance and regulate his dose accordingly. Many persons of unstable nervous system may be less able to withstand such influences."

The general physiological effects of tobacco, its alkaloid nicotine, and the alkaloids produced by its combustion, such as pyridine, collidine, picoline, and other bases, are such as to indicate that it acts especially on the spinal and sympathetic systems of nerves and, in lesser degree, upon the cerebrum, cerebellum, and nerves of special sense, medulla oblongata, and vasomotor system, producing stimulation and sedation in small doses, and relaxing, depressing, and paralyzing effects in larger doses. In large doses it is a virulent poison, acting principally on the heart, causing a sense of fluttering and excessive faintness, copious perspiration, sense of alarm, sickness and vomiting, coldness of the skin, feebleness of the pulse, convulsions, and death. Other symptoms especially prominent in certain cases of tobacco poisoning, either caused by a single excessive dose or by inordinate indulgence in smoking or chewing, are a rapid followed by a very slow pulse, hiccough, due probably to irritation of the phrenic nerve, cold perspiration, dilated pupils, profuse diuresis, convulsions without loss of consciousness, sometimes cataleptic, sometimes hysterical, and great numbness as well as impaired motor power of the limbs and tongue. These symptoms seem to point in the same direction as the results of experimental doses of nicotine—namely, that they seem to be produced by the effects of tobacco primarily on the sympathetic and spinal nervous systems. As in the case of other medicines directly affecting the nervous system, the habitual use of tobacco deprives it of many of its graver effects, especially if the general health is not reduced below its normal standard. At the same time, as Dr. MacKenzie said in 1832, we are familiar with the consequences of minute portions of other poisons which are permitted to operate for a length of time on the constitution, such as alcohol, lead, mercury, and so forth, and we can scarcely doubt that a poison so deleterious as *tobacco* must also produce its own peculiar effects.

Dr. William A. Hammond made some very interesting experiments to determine the physiological effects of tobacco, from which the following conclusions are deducible:

"1. That tobacco does not materially affect the excretion of carbonic acid through the lungs.

"2. That it lessens the amount of aqueous vapor given off in respiration.

"3. That it diminishes the amount of the fæces.

"4. That it lessens the quantity of urine and the amount of its urea and chlorine.

"5. That it increases the amount of free acid, uric acid, and phosphoric and sulphuric acid eliminated through the lungs; that the consumption of fat is not lessened; that it keeps up the weight and stops retrograde metamorphosis.

"Increased elimination of phosphorus, etc., would seem to indicate nerve waste."

As to the pathological effects of tobacco, it is difficult to speak positively in the present state of our knowledge; the only anatomical lesion claimed to be due to the effect of tobacco is that incidental to a chronic form of retrobulbar neuritis of the optic nerve which generally affects both nerves and is caused by certain poisons, chief among which nicotine has been claimed to be an efficient factor.

Dr. G. E. de Schweinitz, of Philadelphia, who has written a most exhaustive treatise on the Toxic Amblyopias, places this substance as an ætiological factor in the class with alcohol, the characteristic effects of which he describes as follows:

"Drugs chemically diverse, and when given in physiological doses producing greatly different effects, but when acting as chronic and sometimes acute poisons capable of originating definite tissue changes and degenerations, including alterations in the blood." He says: "Alcohol was given first place at one time in the ætiological relationship to central amblyopia, but at the present time in Germany tobacco is regarded as the more potent agent."

Dr. de Schweinitz says that Connor has taken the trouble to collect twenty-seven cases of pure tobacco amblyopia, to which list as many others might be added.

Ramsay doubts "whether typical cases of tobacco amblyopia, which often improve after a single night's rest, and which, on the other hand, grow worse after fatigue, are consistent with the theory that the papillomacular bundle is inflamed; they point rather to the existence of some lesion of a vascular kind—functional derangement of macular fibres—and that in severe cases, especially associated with alcoholism, anatomical changes are superadded, and a true retrobulbar neuritis results.

"We are not certain as to the exact pathological conditions in tobacco amblyopia. Clinically, it seems to point to disease of the light-conducting fibres of the optic nerve; anatomically, more microscopical examinations are necessary to settle it."

After death from tobacco poisoning, according to Dr. Thomas Stevenson, in Quain's *Medical Dictionary*, "The organs and tissues have a tobaccolike odor, and the odor of nicotine becomes more pronounced on treating them with liquor potassæ. Turgescence of the brain has been described, but beyond the odor there is nothing diagnostic in appearance."

Dr. Kerr, in the article on Tobaccoism in the *Twentieth Century Practice of Medicine,* says tobacco exerts a powerfully depressant and disturbing influence on the nervous system, and grounds his indictment against tobacco mainly on the functional disorders which it has a tendency to induce. He says he has frequently seen failure of vision rapidly increasing, with great nervous depression, harassing dyspepsia, cardiac disturbance, and weakness, with palpitation and panting, rapidly disappear when the sufferer has abandoned the use of tobacco. As he says, it is largely through its influence on the nervous system that tobacco is used continuously and in excess, and in many cases moderately. The nervous disorders due to tobacco are, according to Huchard:

1. Those due to disturbance of the function of the cells and the vascular supply of the cerebrum, cerebellum, and nerves of special sense, such as headache, lipothymia, faintness, cerebral confusion, restlessness and insomnia, vertigo and ringing in the ears, muscular incoordination and disturbances of vision, tobacco amblyopia.

2. Those due to disturbance of the nerve centres in the medulla oblongata, especially the vagus, including dysphagia, a sense of suffocation and dyspnœa (nicotine asthma), nausea and vomiting; disturbance in the heart's action, as slowing, with enfeeblement of the heart's beat, tachycardia or bradycardia, intermissions, arrhythmia, palpitation, tendency toward faintness and syncope, attacks of palpitation with extreme irregularity of the heart.

3. Those due to derangement of the function of the spinal cord and spinal nervous system, such as irritation of the phrenic nerve producing hiccough, and disturbance of the centres of motion and sensation producing relaxation, tremor, and weakness of the muscular system, and hyperæsthesia, paræsthesia, anæsthesia, and neuralgia.

4. Derangement of the functions of the sympathetic and vaso-motor systems of nerves producing extreme pallor. Coldness of the extremities, cold sweats, and tobacco angina, characterized by severe pain in some cases, and in others, according to Osler and Huchard, by dyspnœa and slight præcordial anxiety, or simply by a little uneasiness behind the sternum, with the sensation of stopping of the heart and the fear of impending death.

The result, then, of our study of tobacco as a factor in the production of nervous disorders is that tobacco in toxic quantity (which varies according to many circumstances hitherto mentioned) acts as an irritant, depressor, and paralyzer of the functions of the nerve cells of the cerebrum, cerebellum, and nerves of special sense, medulla oblongata, spinal cord and sympathetic and vaso-motor systems, producing various functional nervous disorders such as have been enumerated, and that the only anatomical lesion of nerve tissue which is now maintained to exist by many good observers as the result of tobacco poisoning is retrobulbar neuritis of the optic nerve.

Coffee is the seed of the coffee plant (*Coffœa arabica*), a good-sized shrub or small tree, and is contained in the fruit of the plant, which is an oblong, rounded, scarlet or purple, slightly juicy berry, with a thin, fleshy mesocarp and a papery endocarp inclosing the two seeds. The seeds are the coffee of commerce. This shrub is a native of tropical Africa, where it grows very extensively on both coasts and far into the interior. It is also cultivated in most warm parts of the earth, especially in Java and Brazil.

The earliest knowledge of coffee came from Arabia, where it was introduced from Abyssinia at least four hundred years ago. The employment of coffee as a beverage was introduced from Arabia in the sixteenth century into Egypt and Constantinople. Leonhard Ranwolf, a German physician, was probably the first to make coffee known in Europe by the account of travels printed in 1573. The first coffee house was established in London in 1652, and in Paris in 1672. When we consider that 643,234,766 pounds of coffee, valued at $94,599,880, were imported into this country in 1895, and a consumption per capita of 9.22 pounds, we realize the universality of its use and the importance of a clear understanding of the article and its physiological action.

The average composition of unroasted coffee is:

Caffeine	0.8
Legumin	13.0
Gum and sugar	15.5
Caffeotannic and caffeic acids	5.0
Fat and volatile oil	13.0
Woody fibre	34.0
Ash	6.7
Water	12.0

The chemical composition varies somewhat after roasting; unroasted coffee contains caffeine and a kind of tannin called caffeotannic acid. During roasting a part of the caffeine is volatilized and an empyreumatic substance called *caffeon* is developed.

According to the article in the *International Cyclopædia,* vol. iv, coffee owes its exhilarating and refreshing properties to the presence of three substances in the roasted bean:

1. Caffeine, which occurs in the roasted bean to the extent of from three quarters to one per cent.

2. A volatile oil, which is not present in the raw bean, but which is developed during the process of roasting to the extent of only one part to fifty thousand of the roasted coffee.

3. Astringent acids resembling tannic acid, called caffeotannic and caffeic acids.

According to T. Lauder Brunton, the action of coffee is somewhat like that of caffeine, but differs from it in some respects inasmuch as the caffeon increases the peristaltic movements of the intestine and causes, indeed, tetanic contraction of it. While caffeine does not alter peristaltic movements, *caffeon* quickens the pulse, dilates the vessels and lowers the blood pressure, and produces a sensation of warmth on the surface. In some persons coffee produces a feeling of weight in the abdomen and a tendency to hæmorrhoids. As tea has not this action, or has it only to a comparatively slight extent, it is probably due to the combined action of the caffeine and caffeon.

As to the physiological effects of caffeine, Dr. G. E. de Schweinitz classifies theine and caffeine as drugs which are nervous stimulants in physiological and nervous depressants in toxic dose. Dr. T. Lauder Brunton gives the following as the physiological effects of caffeine:

1. Its effects on oxidation are to hasten it.

2. Action on the muscles: In small doses it increases muscular work, and causes the muscle to recover rapidly after exhaustion.

3. On the spinal cord it has the effect of lessening the conducting power of the sensory columns of the cord. This was proved by Bennet, who found that while irritation of the posterior roots of the cord caused violent struggles and loud cries before the injection of caffeine into the circulation, similar irritation after injection caused only a slight quiver, and this effect was not due to motor paralysis, as shown by the fact that irritation of the anterior columns caused violent muscular contractions after the injection as well as before it.

I have given this demonstration in full, as I notice in the article on Caffeine in Foster's *Encyclopædic Medical Dictionary* it is stated that caffeine heightens the reflex activity of the spinal cord.

4. On the brain: It is probable that tea and coffee cause local dilatation of the arteries supplying the brain, and possibly caffeine may increase the mental powers by a direct action on the brain tissue itself.

5. On the accelerating centre the stimulating effect of caffeine is evidenced by the injection of the drug after previous section of the vagi, rendering the pulse still more rapid than before.

6. On the vaso-motor centre stimulation is evidenced by a rise of blood pressure, which disappears on section of the spinal cord below the medulla, and does not occur if the cord has been divided before injecting the drug.

7. On the cardiac muscle caffeine acts as a stimulant, as is shown by increased energy of contraction, the rate of pulsation remaining the same or becoming slower.

8. As a diuretic caffeine acts on the secreting nerves or secreting cells of the kidney itself, causing an increase of water excreted.

9. Its action on the respiratory centre is to increase the respiration.

10. The salivary secretion appears sometimes to be increased.

11. On the peristaltic action of the intestine it has little action, but it causes the intestinal veins to become much dilated and appears to cause hæmorrhoids.

12. The temperature is not altered by small doses of caffeine, but is increased by large doses.

As regards heat production and tissue metamorphosis, the investigations of Dr. Edward T. Reichert on the action of caffeine on tissue metamorphosis and heat phenomena are of great interest. His conclusions are that caffeine increases heat production, and as a corollary increases destructive tissue metamorphosis, and therefore concludes that the virtues of coffee in the wear and tear of active life are entirely subjective and depend upon a general excitation of the higher tissues, and chiefly upon its powerful exhilarant action on the mental processes. He also says that the assumed ability of coffee to replace food or to increase the power for work without corresponding tissue destruction is consequently entirely deceptive, and the conditions produced by it are comparable to those observed at times in the insane, in hysteria, or in fright, when the individual may be capable of performing prodigious feats of strength and endurance, but nevertheless at the direct expense of his tissues.

The toxic action of coffee and caffeine on persons easily susceptible to their influence, or in toxic amounts, is confined exclusively, so far as we know, to overstimulation or functional depression of the various nerve centres and some local irritation of the stomach and bowels.

Caffeine, according to Dr. Brunton, causes at first stimulation and subsequently paralysis of nerve centres in cerebrum, cord, and medulla.

As to its action on the muscles, voluntary and involuntary, caffeine in small doses has a restorative action, while in large doses it is a powerful poison.

From its stimulant action on the brain, caffeine in doses of two to eight grains sometimes causes heaviness of the head, flashes of light before the eyes, ringing in the ears, loss of sleep, great restlessness, and delirium.

Large doses depress the respiration and pulse and lower the blood pressure.

In man, the pulse, after somewhat large doses, becomes very frequent, irregular, and intermittent. This effect, Dr. Brunton says, occurs in some persons after a single cup of coffee, but is prevented in such cases by adding a little brandy to the coffee.

As a causative factor in nervous disorders we can say that its rôle is that of a stimulant or depressant, varying with the amount, strength, and time at which it is taken, and the condition and susceptibility of the subject. Such disorders of the nervous system are insomnia and restlessness, fullness and heaviness of the head. Disorders of special sense, as flashes of light before the eyes and ringing in the ears, frequency, irregularity, and intermittence of the heart's action, and muscular tremor.

The physiological effects of tea have been given much study, and it is very difficult to formulate them in such a way as to make them applicable to all cases, as these effects differ greatly in different individuals in accordance with different circumstances, such as age, temperament, climate, and conditions of health.

Dr. Rolleston, I think, puts it well when he says: "Tea and coffee are nervine stimulants without narcotism. It would seem that in their case the work of the nervous matter is increased directly, not let loose by narcotism of controlling centres. This stimulation, as is usual in such cases, is followed by exhaustion according to degree of previous stimulation."

It seems probable that the aromatic oils, which are obviously very different in tea and coffee, are concerned in the disturbance.

In my examination of the literature of the subject, the observations of Dr. William J. Morton, of New York, and Dr. Edward Smith, of London, seem to me to throw considerable light upon the matter of our inquiry, and I shall therefore quote largely from the deductions drawn from their experiments.

1. With tea, as with any potent drug, there is a proper and improper dose.

2. In moderation, tea is a mental and bodily stimulant of a most agreeable nature, followed by no habitual reaction. It produces contentment of mind, allays hunger and bodily weariness, and increases the incentive and the capacity for bodily work.

3. Taken immoderately, it leads to a very serious group of symptoms, such as headache, vertigo, heat and flushings of the body, ringing in the ears, mental dullness and confusion, tremulousness, "nervousness," sleeplessness, apprehension of evil, exhaustion of mind and body, with disinclination to mental and physical exertion, increased and irregular action of the heart, and increased respiration. In short, as Dr. Morton says, "in immoderate doses tea has a most injurious effect upon the nervous system."

We will now endeavor to classify the physiological effects of tea as to its action upon the different organs and functions of the human body.

On the Mind.—Tea quickens the intellect both in thought and imagination, and takes away the tendency to sleep. Tea taken twice through the night, according to the experiments of Dr. Edward Smith, prevented any desire for sleep.

On Muscular Activity.—Its effects are an increase and a greater readiness for and ease on making exertion, and a greater sense of exhaustion following.

On Respiration.—It has the effect of a respiratory stimulant; the depth of inspiration was greater, an increased volume of air was inspired at each inspiration, varying from three to 10.6 cubic inches, and it caused an evolution of carbon greater than that which it supplied, from which it follows that it must powerfully promote those vital changes of food which ultimately produce the carbonic acid evolved.

The rate of pulsation followed that of respiration, but in less degree, being either not increased or slightly decreased.

On the Digestion.—There is no ground for believing that it promotes digestion.

On Salivary Digestion.—Tea, according to Roberts, has an intensely inhibitory effect, due to the large quantity of tannin contained in the tea leaf. Coffee and cocoa have only a slight effect on salivary digestion. He says the only way to mitigate the effect of tea on salivary digestion is not to sip the beverage with the meal, but to eat first and drink afterward.

In some instances, especially when used immoderately and for a considerable time, it produces delay of *gastric* digestion, which has been ascribed to the effect of tannin by some authorities, while others are not certain as to what constituent of tea and coffee is the active agent in producing dyspepsia.

On the Skin.—Tea tends to induce perspiration and thereby to cool the body.

On Mucous Membranes.—Tea has the effect of increasing secretion, so that there is no dry skin or mouth after tea.

On the kidneys tea acts sometimes as a diuretic, due partly to its stimulant action on the heart and the rise of blood pressure, and partly to its stimulant action on the cells of the urinary tubules. Bartels, in his article on Parenchymatous Nephritis, in vol. xv, Ziemssen's *Cyclopædia*, says in his remarks on *treatment:* "I forbid the use of tea and coffee, which are supposed, and certainly not without reason, to exert an irritating action on the kidneys. As to its effects upon the urinary excretion, the following facts are given by Dr. W. J. Morton as to the results of experiments made on himself covering seven days:

1. A decided increase in the sulphuric and phosphoric acids and a moderate increase in the uric acid, while the chloride of sodium remained about stationary.

2. A steady daily decline in the amount of urine excreted; this amounted to an average daily decline of about two fluid ounces, or to a total decline for the week of thirteen fluid ounces.

3. A large daily decline in the amount of urea excreted; this amounted to an average daily decline of twenty-four grains, or to a total decline of one hundred and sixty-eight grains. The most marked decline was that on the first day of ninety-five grains, when he suffered for twelve hours from the extreme toxic effects of tea.

These results would seem to point to nerve depression and a decrease of normal metabolism.

As a Cardiac Stimulant.—Schroetter, in vol. vi, Ziemssen's *Cyclopædia*, says: "For the acute dilatation of the heart which occurs in the course of inflammatory diseases, our object will be simply to maintain the energy of the heart's contraction only through a short period of time, and for this purpose stimulants will be of great assistance, and among these I consider tea of special value."

The perceptible effects of full doses of tea are, according to Dr. Edward Smith:

1. A sense of wakefulness.
2. Clearness of mind and activity of thought and imagination.
3. Increased disposition to muscular exertion.
4. Reaction with sense of exhaustion following preceding efforts and in proportion to them.

To sum up, then, tea in moderate doses is a stimulant to the nervous system, and in excess a depressant to the functional action of the nerve cells of the cerebrum, medulla, spinal and vaso-motor systems; and the nervous disorders produced by its use, differing in different cases and under different circumstances, such as age, climate, susceptibility, temperament, and general constitutional conditions, are such as are due to over-stimulation and depression, the result of the reaction following over-stimulation of the various nerve centres, and may be grouped as follows:

Insomnia and restlessness, partly through its stimulating action on the brain cells and partly through stimulation of the pulse and respiration, as a subsidence of respiration is necessary to sleep.

Headache, vertigo, ringing in the ears, flashes of light, mental dullness and confusion, apprehension of evil, with exhaustion of mind and disinclination to mental exertion.

Increased and irregular action of the heart, increased respiration, muscular tremor, "nervousness," disinclination to physical exertion, hyperæsthesia, paræsthesia, heat and flushings of the body.

HISTORY OF A CASE OF HYDROPHOBIA.*

By JAMES DOUGLAS, M. D.,

MORRISTOWN, N. J.

On the second or third day of November, 1897, Mr. J. C. was bitten on the thumb by his own dog. I saw him on the 6th, when he came to town. I met him on the street; he told me he had been bitten on the thumb and seemed to be worried about it. I asked him if the dog was mad; he said No. I then told him that being the case he need not worry about it, as no harm could possibly happen if the dog was not mad. I then took him into a drug store and thoroughly cauterized and dressed the thumb for him; it healed up without much trouble. He was punishing the dog at the time he was bitten for killing a chicken. The dog was chewing on an ear of corn; the chicken came to pick up the kernels, and he pounced upon it and killed it. Mr. C. then took hold of the dog and was punishing it when it turned on him and bit him on the thumb, as before stated. Mr. C. then told one of his sons to go and get the gun and shoot the dog. In a little while he asked his son if he had shot the dog; he said No. His father then told him he must do it. The son did not like to shoot it, as it was quite a favorite with the family, but he then got the gun and shot the dog as his father directed. I asked Mr. C. why he had the dog shot if he was not mad. He said it made him angry, so he had it killed, and had not regretted doing so. I was told by a neighbor the night my patient died that a mad dog passed through that place last spring and had bitten several dogs, Mr. C.'s dog being one of them; but the family all say the dog had not been bitten and had shown no signs of being mad. The supposed mad dog was shot a mile or more farther down the road. I have been informed by a number of people that knew Mr. C.'s dog that he was vicious and had an ugly disposition and was getting worse all the time.

Early on the morning of Wednesday, January 26, 1898, I was called to see John C. I found him sitting up in bed with a number of pillows behind his back, but he was not resting on them at the time I went in. He had rather an anxious expression on his face. He was very nervous and restless; he complained that it was such hard work to breathe—that he could not get his breath; his breathing was of a sighing or catching character; his pulse was rapid, strong, and full, 120; temperature, 101.2°. After telling me all about his symptoms, he asked his wife to bring him a cup of coffee. I noticed as she came into the room he became very much excited and was trembling all over; he took the cup into his hand, made several attempts to carry it to his mouth, and at last, by a strong effort, he succeeded in getting a part of the coffee into his mouth, some spilling on his face. The expression on his face, then, was very painful; he had a severe paroxysm of the muscles of respiration and deglutition, his expression and breathing being very much like those of a timid person who, having a bucket of water thrown over him, is gasping for breath, and he seemed frightened at the same time. His speech was slow and labored. I saw then what was on his mind, and did all I could to disabuse him of the idea, but without success. I told him he had nothing to fear, because from his own statement the dog was not mad, and that being the case, could not do him any harm. He said: "If you say so, doctor, I will believe you." He was unable to sleep and was very thirsty. Water did not seem to trouble him except when he attempted to swallow it. He had no frothing at the mouth, but was troubled with a good deal of saliva, which he was continually hawking and spitting out; and at times, when lying on his side, it would run out on the bed, and was of a deep brown color, thick and tenacious toward the last of his illness. Considering the history of his case, I made up my mind that he had lyssophobia. The next morning, however, when I saw him again, he had all the symptoms of the previous day in a much aggravated form. I could plainly see that it was not a case of fear or a form of extreme nervousness, but I was convinced that it was a genuine case of hydrophobia. He shook his finger in my face and said: "Doctor, you know what is the trouble with me." I could very plainly see that he was still thinking of that dog's bite. That day, Thursday, his pulse was 120; temperature, 101.6°. I had to draw his water, as he was unable to pass it. I saw him again in the afternoon, and found him in pretty much the same condition as in the morning. On Friday I was sent for at four o'clock in the morning. He was sitting up in bed in great mental distress, with an expression of intense anxiety. He begged me to save him. I believe he realized his terrible condition, for in the intervals of his severe paroxysms he was engaged in prayer. His paroxysms were very severe, and would touch the stoutest heart to witness them. He had not slept any. He complained of great weakness, and also of great thirst, and was continually hawking the thick mucus from his throat. He could not swallow any medicine, so I gave it per rectum, and he would testify to the relief the liquid gave him. He seemed to be in great terror, and I believe from my observations that there was a feeling of great impending danger and dread of death. I remained two hours with him, and left him in a more quiet condition. I saw him again in the forenoon, with little or no change, except a mild delirium, in which he would talk to himself. On the afternoon of that day, Friday, Dr. Thomas P. Prout, pathologist at the State Hospital, Morris Plains, N. J., saw the case with me. When we went into the room we found the patient lying on his right side, body bent forward; he was talking to himself. He turned his face toward us when I spoke to him, and when I introduced Dr. Prout to him he did not speak, but simply bowed his head. Later he answered Dr. Prout's questions quite rationally, and when he did not speak would reply by nodding his head. He was much quieter, but had a good deal of delirium. I went down late in the evening and stayed all night with him. I was unable to take the temperature again. Steadily all day, every two hours, he was given, as on the day before, bromide of potassium and chloral per rectum. Nourishment was given the same way. He was very wild at night and would scream and shout so that he could be heard all over the house. He begged so hard for sleep I gave him morphine with atropine sulphate hypodermically; in about twenty minutes he was asleep, and slept for nearly four hours. When he woke up, he felt that the sleep had done him good. He was awake for some time talking to himself, and then began to shout again and became very restless. I asked him why he called out so. He did not know; he said he had no pain. From my observation I think it was a part of his disease—terror. I gave him another hypodermic injection, and, after a little while, he grew quiet and fell asleep; he slept for a few hours. I noticed in the latter part of the evening a mild delirium as before. He sat up in bed all the time, except when under the influence of the medicine I gave him, and then he would lie upon his right side, doubled up. When lying in that position, the dark-brown saliva, previously mentioned, would flow from his mouth. When delirious, he would talk a good deal to himself and would say to me, "I will strike you," and at other times, "I'll kill you," and other sentences of that character. He would often rouse up and would apologize for what he had said, evidently realizing that he had said something he ought not to. I was obliged to leave very early Saturday morning to attend other patients. When I saw him during the day he was sitting up in bed, much weaker and very restless. Toward the last of his illness he was continually trying to get up secretions from his throat. His condition became rapidly worse with an increase of delirium. He said he was drying up. He also complained of great weakness. He never barked, at least not in my presence, nor did any one hear him; he never complained of pain; he never attempted to bite any one. When I took a wet piece of cloth to wash the saliva from his lips he asked me not to put any of the water in his mouth. I told him I would not do so, and he then let me wipe his lips, teeth, and chin; he made no attempt to bite or snap at me, but I could perceive a slight muscular tremor. On the morning of Sunday I found a weakening of his heart, hitherto not seriously affected, which increased so rapidly that I felt convinced he would not last all night, although I succeeded in making him drink from a tumbler and swallow considerable milk, which seemed to afford him great relief. The end came suddenly on Sunday evening, at half-past seven, from failure of the heart. I saw him about two hours before he died. He was in a slight stupor, but knew me when I spoke to him; and I saw him again one hour after he died, when the expression on his face still showed intense suffering. I am satisfied he had paraplegia two days before he died. I feel thoroughly convinced that from the time he was bitten until he was taken ill he had been worrying about that bite, and his wife is of that opinion also, although he never said anything about it. I have known him for a long time; he was rather quiet and reserved, always attending to his own business, and was highly respected by all his neighbors.

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* Read before the Morris District Medical Society, Morristown, N. J., March 15, 1898.

About one month after the death of Mr. C. I saw a young man who told me he was driving to Morristown one day last spring when he met a mad dog, a brown St. Bernard; the dog was frothing at the mouth, eyes glassy, tail hanging down and between his legs. Two men were following the dog, and they told him the dog had come from Morristown, and they were going to kill him if possible, so he also turned and went after the dog. They found him near C.'s lying in a small stream, and he saw him drink the water. He went home to get his gun and came across the dog at Whitnack's, where he was shot. The two men told him the dog ran into C.'s place and they saw him bite C.'s dog and run away. C.'s dog was in front of the house at the time he was bitten. The young man told me he then went to Mr. C. and told him that his dog had been bitten by a mad dog, and asked Mr. C.'s permission to shoot the dog, but was refused. He told Mr. C. that he had better do so, for if he did not he might regret it. The young man also told me that C.'s dog was a nasty, vicious one, and a great many people were anxious to have him shot, as they were afraid of him. He was a large brown mongrel.

The following pathological report is by Dr. Thomas P. Prout, pathologist at the State Hospital, Morris Plains, N. J.:

Pathological Report (*Mr. C.'s Case, Rabies*).—The only gross lesion described as occurring in this disease with any degree of regularity is a condition of congestion of the central nervous system, especially marked in the pons, medulla, and spinal cord, but by no means confined to these organs. One who has actually seen a case of rabies in practice naturally expects to find some evident inflammatory process at the autopsy, and, although microscopical, it does nevertheless exist. In this instance an opportunity was also afforded me to make a partial blood examination before the patient's death, which served to emphasize the presence of an active inflammatory process. The blood specimen was taken late in the afternoon, the patient not having taken food for about four hours previous. The differential count gave evidence of a decided leucocytosis, and was as follows:

Lymphocytes, 7.4 per cent.; large lymphocytes, 6.4 per cent.; multinuclear leucocytes, 86.2 per cent.; eosinophiles, none.

The details of the post-mortem were as follows: Autopsy, twenty hours after death. Body in excellent condition, having lain in a room at a temperature of about 45° F. The body is that of a well-developed, well-formed muscular man about five feet nine inches in height and weighing about a hundred and fifty-five pounds. Rigor mortis well marked. Body well nourished. Head: Scalp separates readily from skull, and the skull is of normal appearance. The pia strips readily and shows slight but general congestion. The brain substance is of normal consistence, but shows quite marked congestion throughout. Pons and medulla also much congested, and the floor of the fourth ventricle markedly so. The congestion also involves the spinal cord and meninges.

Lungs: Both show some hypostatic congestion posteriorly with some bronchial congestion. Crepitation diminished in both, but especially on the right side.

Spleen of normal size and appearance.

Kidneys present a normal appearance.

Heart: Muscle very flabby. All valves normal. There is an ante-mortem clot in the right auricle extending down into the right ventricle and up through the pulmonary orifice. It will be noticed that the only apparent gross lesion of the central nervous system was a condition of congestion.

Microscopical examination of the kidneys showed some swelling of the epithelium in the convoluted tubules, and the cells in some portions were granular and necrotic. The vessels were somewhat engorged.

In order to confirm positively the diagnosis of rabies a portion of the medulla was taken to the laboratory of the health department of New York city, where Dr. Wilson and Dr. Cabot inoculated some rabbits and guinea-pigs with material from the floor of the fourth ventricle. The guinea-pigs readily responded, and a second group were inoculated with material from one of these guinea-pigs which had died in a condition of furious rabies. The inoculation was made a few minutes after the death of the animal, and the second group of guinea-pigs all died in due time of typical rabies.

Dr. Wilson's report follows:

Report on C. Virus (*Hydrophobia*).—Medulla in glycerin arrived at the laboratory in good condition February 2, 1898. The material for the emulsion included a part of the floor of the fourth ventricle. Four animals were inoculated immediately—two guinea-pigs and two rabbits. Pig No. 1 showed beginning symptoms of the disease at 10 A. M., February 9th, and died of typical rabies at 2 P. M., February 10th. An autopsy was made, and two pigs were inoculated with an emulsion made from the medulla of pig No. 1. One of these died on February 17th, having exhibited the symptoms of typical rabies; the other two died on February 18th, having exhibited the symptoms of typical rabies. Pig No. 2 died on February 12th, having exhibited the symptoms of typical rabies. Four pigs were inoculated from pig No. 2. Two of these died on February 19th and two died on February 22d, all of typical rabies.

Rabbit No. 1 showed marked paralysis of the posterior extremities on February 18th and died on February 19th. Rabbit No. 2 showed marked paralysis of the posterior extremities February 19th, and February 20th was down. At this date, February 22, 1898, this animal is lying in its cage, the typical picture of the last stage of dumb rabies. The virus will be passed through several more series of animals.

Table of Animals inoculated with "C." Virus.

DATE OF INOCULATION.	Serial No.	Animals.	Period of incubation.	Time elapsing between inoculation and death.
February 2d. . .	1	Pig No. 1.	7 days.	8 days.
February 2d. . .	1	Pig No. 2.	11 days.	12 days.
February 2d. . .	1	Rabbit No. 1.	16 days.	17 days.
February 2d. . .	1	Rabbit No. 2.	17 days.	. . . .
February 10th.	2	Pig No. 1.	6 days.	7 days.
February 10th.	2	Pig No. 2.	7 days.	8 days.
February 12th.	2	Pig No. 1^2.	6 days.	7 days.
February 12th.	2	Pig No. 2^2.	6 days.	7 days.
February 12th.	2	Pig No. 3^2.	8 days.	10 days.
February 12th.	2	Pig No. 4^2.	8 days.	10 days.

Second series of pigs marked 2 are from pig No. 2.

First Series.—Through the courtesy of Dr. Wilson I was given some specimens of the central nervous system from one of the guinea-pigs. The specimens were removed a very few minutes after the death of the animal and immediately placed in ten-per-cent. formalin and absolute alcohol. Sections were made and stained after Nissl. The microscopical examination showed the following facts: Examination of the sections from the brain with a low-power objective showed a few cells scattered quite evenly over the section which had stained unusually deeply. The high power showed these cells as deep, diffusely stained masses in which the nucleus had stained very deeply, and the protoplasm of the cell contained numerous vacuoles. The outline of the nucleus was usually irregular and the chromatin granules were very poorly defined. Far more numerous than these were many highly stained cells which were honeycombed with vacuoles, and in which the outline of the body of the cell was ill defined and often ragged, and in which there was no evidence of the existence of chromatin granules. Another class of cells very much like these were some in which the vacuoles seemed to have attacked that portion of the cell body surrounding the nucleus, producing about it an irregular, ragged, vacant space. Cells were also present in which no trace of the nucleus could be found. The condition of the large ganglion cells of the spinal cord was of considerable interest. In many instances the outline of the cell body was irregular and ragged, while the cell body itself presented a very finely granular appearance with very small vacuoles scattered through it. The nucleus was usually very small and irregular in outline, and often quite deeply stained. The nucleolus was also often unusually irregular in outline. A goodly number of cells were also present in the spinal cord, in which the nucleus was entirely absent, the centre of the mass being occupied by a poorly formed granular substance with small vacuoles scattered through it. The cortical cells in the brain in the case of rabies showed many lesions quite analogous to those already described. The extensive vacuolation, absence of chromatin in many instances, and the loss of the nucleus, together with an extremely granular condition of many cells and an irregularly outlined nucleus, combined to make a picture very similar to those described above.

PRECISION OF TERMS IN DISEASES OF THE STOMACH.*

By CHARLES D. AARON, M. D.,
DETROIT,
INSTRUCTOR IN MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

One of the striking things in the present status of medical studies is the fact that terms which stood for much for the profession are giving place to more exact and more restricted designations. It is a characteristic of the whole history of medicine that its terminology, excluding such as has reference to the elementary facts of physiology and anatomy, is in constant flux. Scientific study demands that the terms in use shall have definite meaning and that they shall stand for something clear and recognizable. One of the most frequent terms in the practice and in the clinical experience of the average physician is that of dyspepsia. It stands for, if it does not atone for, a multitude of diagnostic sins, simply because it is applicable to many various forms of the disease and for divergent conditions which pass under its name. The designation of dyspepsia is often made for want of recognizing the special features involved, but in all scientific fairness these should be considered. It is a convenient general designation, behind which hides often not only an easy-going professional conscience, but also a lack of scientific precision; either of these, to be sure, is a sin on the part of the practitioner and a source of injury to the patient. I am free to confess, it may be difficult for many a general practitioner to differentiate the manifold things that lurk behind disturbance of the digestive processes such as we roughly denominate dyspepsia. It may often challenge him to unravel the complex of phenomena which constitutes the pathological condition he finds; but, however difficult it may be for him, we can be sure he has no immunity from the labor which a circumspect examination entails, and which a scrupulous physician is always ready to address himself to patiently and studiously.

There can be no functional disturbance of the stomach without presupposing that there is present some correlative pathological condition of one kind or another. It may lie in the motor activity of the gastric walls, or in the anatomic condition of the mucous membrane of the stomach, or in anomalies of gastric secretion and in a number of other possibilities. All of these an accurate diagnosis will have to reckon with if the therapeutics decided on shall be of any curative avail, or shall be defensible in the presence of our professional conscience. There is another aspect of the matter which, it seems to me, makes a more discriminating attention upon these affections peremptory. For I think it is borne out by statistics and by the logic of physiology that gastric disturbances are the most frequent difficulties for which physicians are consulted, and that the cases of this kind increase in number, intensity, and variety along with the advance of civilization, refinement, diversity of diet, and the strain and stress of our organism. I cite the instance of atony or, as Boas calls it, myasthenia ventriculi—the forced enlargement, namely, of gastric capacity through the habit of excessive eating or the massing of non-nutritious foods or drink. This, it is quite reasonable, affects the mechanical sufficiency of the motor walls of the stomach. In a similar way food insufficient in quality and quantity may cause a depreciation of the stomach muscles as to motor power. Rosenbach goes so far as to substitute in certain cases for so clear a term as dilatation the term "mechanical insufficiency," simply because he believes the latter to be more relevant and the former to have too large a compass for working utility. I need not add, of course, that the relation of the size of the stomach and the elasticity of its walls is frequently disproportionate, and that this disproportionateness constitutes an important phase in the digestive process. Merely for the sake of emphasizing the point, I recall a number of divergent conditions which are equally, though not generically, covered by the broad and popular term of chronic dyspepsia.

Besides such gastric disturbances as are secondary and appear in constitutional diseases, as in kidney and liver and heart disorders, there are primary disturbances of the digestive functions of the stomach, with respect to its secretions, its resorptive qualities, its motility and peristaltic action, and its sensory responsiveness.

Acute catarrh of the stomach and mucoid degeneration of the cells in the vestibule of the gastric glands is commonly misnamed dyspepsia. With reference to chronic catarrh of the stomach, surcharge of mucus, and reduction of acids, Leube cautions that a careful distinction be made between it and "dyspepsia in general."

So, also, ulcer and erosion of the stomach precipitate conditions which are commonly called dyspeptic. The characteristics of these ailments—local pain and excessive acidity—however, may be referable to gastric as much as to ulcerous and eroded conditions.

The symptoms of dilatation and atony often lead the practitioner to identify them for dyspepsia, but in the one case we have an obstruction at the pylorus, in the other case a non-resistance of the stomach muscles.

Gastroptosis and enteroptosis are induced by local and reflex causes which must be recognized if the general term of dyspepsia, which is usually applied to the distress they produce, shall have any meaning. It will be readily admitted that they produce symptoms that refer to the stomach as much as to the intestines.

Hyperchlorhydria, hypochlorhydria, and anchlorhydria of the stomach are indicants of conditions which the common term of dyspepsia can not adequately con-note. It does not require profound acquaintance with the ætiology of gastric disorders to entitle us to the declaration that an abnormal chemical reaction is a respectable datum which a diagnostician can not afford to ignore. We must make sure that the condition we find is either primary or secondary, just as we must determine that it is either gastric or intestinal.

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* Read at the annual meeting of The American Gastro-enterological Association, held in Washington, D. C., May 3, 1898.

It requires no more than a word to plead a similar caution for the achylia gastrica of Einhorn, the atrophy of the gastric glands, which gives symptoms which must be differentiated from those of vulgar dyspepsia, while this in turn should be distinguished from similar conditions due to neurotic causes.

The opposite of the latter, "gastrosuccorrhœa," is certainly a dyspeptic condition of a most special character.

Cancer of the stomach is another of those instances of proverbial dyspepsia which requires expert discrimination in order to be recognized.

These varied ailments manifest themselves similarly. They often have a depressing effect upon the temperament, more or less intense in degree and usually peculiar in its kind. The mental state ranges from a very moderate grade of depression almost up to hypochondria. This is marked in chronic stomach disease, in which a mentally abnormal, and I might almost say morally abnormal, condition ensues which often becomes a burden to the patient and to the household that has the care of him. The phenomena of overfeeding through whimsical one-sidedness in the choice of foods, and of underfeeding through a preference for foods within self-chosen limits, are characteristics incident to persistent gastric trouble. But, whatever the specific gastric difficulties may be, it appears to be the fate of the stomach to suffer, in addition to its organic troubles, more or less frequently and more or less directly through mental depreciation. Our present terminology, however, does not make a distinction between such disorders of the stomach as are free from depressed spirit and such as are not. Still, popular usage of the term dyspepsia makes much of this matter, and popular usage, we must admit, is not entirely without some respectable sense, even if it is not erudite. It has associated with the term dyspepsia the idea of moroseness, whimsicality, and misanthropy. We must not blame the laity for confusing things which are not held apart to a nice degree even inside the profession. So also with regard to gastric distress under pressure of food, eructations, and many similar symptoms which the practitioner must single out.

Then, again, it is essential that the relation be made clear which subsists between stomach and intestinal difficulties. It goes without saying that it would be quite unmedical to fail in this fundamental discrimination. Barring some diseases in which the difficulty is dominant in one or the other, stomach disease is usually accompanied by intestinal disturbance, and diseases which are original with the intestines are easily recognizable as such. The presence of fluids and gases dependent upon the motility of the stomach, frequent evacuations or persistent constipation dependent upon the peristalsis of the intestine, designate a group of difficulties which demand distinct recognition by as much as they are distinct in condition.

It can never be repeated too often that if we have nothing else to go by in our diagnosis than the subjective symptoms, we shall not have more than a diagnosis of probabilities, mere surmises which, of course, are unsafe and force us to a combat by medicaments of an empirical kind. It stands to reason that the therapeutic effects in such cases can hardly be as successful as those we attain after an exact diagnosis based on scientific examination. If we have diagnosticated that there is a pathological change of the stomach, we are not yet entitled on that account alone to give our treatment a decided direction, for pathological changes as such do not in themselves determine everything. The removal of functional disturbances which are incident to the pathological condition brings about influences that are favorable to the rehabilitation of the diseased organ. When we address ourselves to the disturbance of function, we make a bid for such favorable influences so as to reduce distress and economize energy. We may make some of the disturbances nugatory by compensation through appropriate diet. But, after all, an exact examination is eventually inevasible. It is for this reason that the stomach tube is not only an effective means, but also one without which I can not see how we could have well done before. Its introduction into the practice of medicine has been unretarded ever since it was presented by Kussmaul. It has helped materially in advancing the study of stomach diseases and in assisting their diagnostics and therapy. But, whatever conveniences it has brought (and there are many), it may be hailed as epoch-making because of the great aid it gives to exact methods of scientific analysis.

32 Adams Avenue West.

Therapeutical Notes.

Blennorrhagia. — Vatter (*Cronica médica*, April 15th) prescribes the following:

℞	Hydrastine bichloride	3¾ grains;
	Antipyrine	375 "
	Distilled water	6¼ ounces.
M.		

Four injections daily, to be retained as long as possible. The antipyrine serves to stay the smarting.

Treatment of Tænia.—According to the *Progrès médical* for June 11th, Ozegousski (*Vratch; Belgique médicale*) treats tænia as follows: The patient takes no dinner in the evening and at night there is administered an ounce of castor oil. Next morning, at 7 a. m., half an ounce of castor oil. Then at 8 A. M., 10 A. M., and 11 A. M., fifteen grains of salicylic acid in four cachets. If, after taking the fourth cachet, the tapeworm is not expelled, another half ounce of castor oil is given. The author reports favorable results in nineteen out of twenty cases.

Physostigmine in Chorea.—Dr. Saccà (*Gazzetta medica Lombarda,* June 6th) recommends the following for hypodermic injection in chorea:

℞	Sulphate of physostigmine (C. P.)	$\frac{1}{11}$ grain;
	Distilled water	150 minims.

The commencing dose is a quarter of a Pravaz syringeful, gradually increasing to one syringeful daily, each syringeful containing about a sixtieth of a grain of the drug. The solution should be used fresh.

Diaphoretic Powder.—According to the *American Medico-surgical Bulletin* for June 25th, von Graefe recommends the following powder to be taken in a cup of tea on going to bed as an excellent diaphoretic:

℞	Camphor	$\frac{1}{3}$ to $1\frac{1}{2}$ grain;
	Opium	$\frac{1}{3}$ to $\frac{1}{2}$ "
	Potassium nitrate	3 to 5 grains;
	Sugar	2 drachms.

Peppermint Tea in Summer Diarrhœa of Children.—The *Pennsylvania Medical Journal* for June says that peppermint tea will be found an excellent medicine in the gastric and intestinal disturbances of infants, especially those fed artificially. It is made by steeping in boiling water a small pinch of the leaves, of which the imported German ones, uncompressed, are best. This tea, sweetened to taste, may be given *ad libitum*. The tea may be given in a nursing bottle, either warm or cold, though most children prefer it warm.

Ointment for Acne.—According to the *Centralblatt für die gesammt. Therapie*, 1897, fasc. 5 (*Journal de médecine de Paris*, June 19th), von Hebra and Ullman recommend the following:

℞	Subnitrate of bismuth, White precipitate, Ichthyol,	of each 30 grains;
	Purified vaseline	200 "
M.	To be applied externally.	

Condurango in Gastralgia.—According to Dr. Jouvenel (*Nord médical; Journal de médecine de Paris*, June 19th), condurango has a marked action on gastric pain and vomiting. Aided by rest and a milk diet, it has checked hæmatemesis. Powdered condurango in cachets is recommended to the extent of from thirty to sixty grains in divided doses daily. Tinctures of a strength of one in five are also recommended, from a hundred and fifty to three hundred minims being administered daily. Watery preparations are not advised. Professor Lemoine prescribes pills containing a grain and a half each of powdered condurango, from five to eight being taken daily.

Urticaria.—The *Journal de médecine de Paris* for June 19th quotes the following from the *Gazette hebdomadaire de médecine et de chirurgie* for November 24, 1897:

℞	Distilled water	$14\frac{1}{2}$ ounces;
	Cherry-laurel water	$12\frac{1}{2}$ drachms;
	Chloral	75 grains;
	Cocaine hydrochloride	135 "

For local application.

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UNHEALTHY RIVALRY AND THE EVOLUTION OF THE MEDICAL SCHOOL.

A regrettable incident, arising apparently out of the rivalry of two candidates for the presidency of a Western State medical society, is reported to have marred what was, in all other respects, an excellent annual meeting. It would appear, so far as we are able to read between the lines, that in the leading city of the State in question considerable animus exists between the faculties of certain medical colleges, two of which bodies were running their own candidates for the office of president. It is, of course, impossible for us at this distance to express any just opinion of the merits of the case; but we do see emphasized by such proceedings the evil of the system of the indiscriminate founding of innumerable and opposing medical faculties in one city, mainly for the purpose of giving opportunities to certain men to pose as leading lights of the profession. Schools of medicine, as such, ought not at this late day and in well-populated States to be originated by members of the medical profession at all. Hospitals and other medical charities should be established primarily for attendance on the sick and injured in such localities as the needs of the community require. In proportion to the amount and variety of clinical material forthcoming, so will the staff appointments be sought by, and under a proper system of election conferred on, the best men, and so will the institution be raised to the dignity of a reputable school, which the State should then, and then only, charter for the teaching of the science and practice of medicine. So long as clinical material and, consequently, competent professors are forthcoming there is no reason why the number of these schools should be limited. But at the teaching point, in our judgment, their power should stop. They should not be empowered to grant qualifications to practise. That power should be vested in a corporate examining body composed of a stated number of examiners, who might well be appointed from each of these legalized schools, each school being allotted a definite number of representatives on the examining board.

There is much to be said in favor of a candidate being examined by his own teachers, who are familiar with his progress, his diligence, and his personal peculiarities, such as nervousness, etc.; there is also much to be said, on the other hand, in favor of examinations being conducted by an alien and impartial board. The advantages of both methods would be gained by the plan we advocate; for, while the teacher's personal knowledge of the candidate would lessen the possibility of injustice being done to him by the uncertainty to which all examinations are subject, the preponderance of alien members would maintain their impartial character; and at the same time the number of rival institutions would be reduced more nearly to the actual requirements of the profession, their standard would be raised, and a decided benefit, we believe, would accrue to the public, to the profession, and to medicine at large. On some such lines as these may we hope for the evolution of the ideal medical school.

INTRACEREBRAL INJECTIONS OF ANTITOXINE IN THE TREATMENT OF TRAUMATIC TETANUS.

Trustworthy as the antitoxine treatment has shown itself to be as a preventive of tetanus, it is comparatively of little avail once the disease has become established. Pondering on this state of things, some months ago E. Roux and A. Borrel came to the conclusion that the frequent failure of the antitoxine in cases of developed tetanus was due to its failure to catch up with the toxine, so to speak. In other words, they said to themselves, while the antitoxine was floundering about in the blood the toxine was doing its deadly work on the nervous centres; the two, although so close, did not really come in contact.

To remedy this defect of the treatment, they reasoned, it would be necessary to inject the antitoxine into the central nervous system itself. But the soundness of this view had first to be tested experimentally. Accordingly, forty-five tetanized guinea-pigs were treated with intracerebral injections of antitoxine, and thirty-five of them recovered. Seventeen others were treated with the antitoxine injected simply under the skin, but in far greater amounts, and only two of them survived. Seventeen check guinea-pigs, not treated with the serum, all died. Roux and Borrel reported on this matter at the recent Madrid International Congress of Hygiene. Their theory has now been successfully put into practice on the human subject, a patient of A. Chauffard's, who, in conjunction with Quénu, reports the case in the *Presse médicale* for June 18th.

A healthy lad sixteen years old, a gardener, was injured by a greenhouse sash falling on his hand and crushing the tips of the index and ring fingers. This was on the 8th of April. Four days later the lad presented himself at the Cochin Hospital, where he was treated daily as an out-patient until April 22d, when he complained of trouble with his jaw and also of a tooth. The dentist found no trouble with the boy's mouth, but suspected tetanus. Nevertheless, he prescribed only a carbolized gargle. On the following day the symptoms had become more pronounced, and the patient was advised to enter the hospital. This he did not do at once, in fact, not until the 25th. He then had decided trismus, with the sardonic grin, but the muscles of deglutition and those of respiration were not yet affected, his intelligence was undisturbed, and there were no paroxysms. In the course of the day he received twenty cubic centimetres of antitetanic serum under the skin. On the following day, the 26th, there was well-marked tetanus of the trunk, but the limbs were still free from contracture.

M. Quénu was now called upon to do the operative procedures required for carrying out the Roux-Borrel treatment. The patient's entire head was shaved, asepticized, and protected with a dressing. Anæsthesia was induced with chloroform, and M. Quénu made a small curvilinear incision down to the bone on the right side, the middle of the incision falling in a line drawn vertically from the external orbital process and being eight centimetres distant from that process. The concavity of the incision was directed forward and downward. The little flap was dissected up, and a button of bone eight millimetres in diameter was removed. The dura mater was incised, and the hypodermic needle was passed into the brain to the depth of five or six centimetres. M. Roux himself pressed the piston slowly, injecting between a cubic centimetre and a half and two cubic centimetres of serum concentrated one half (ten parts dried and then redissolved in five parts), which he and M. Borrel had prepared on the spot. The process of injection, drop by drop, occupied about six minutes. No noteworthy phenomenon accompanied it. The cutaneous wound was closed with three sutures, and the same procedure was executed on the left side of the head. Occasion was taken of the anæsthesia to treat the injured fingers radically. The entire operation lasted about three quarters of an hour.

On the lad's emerging from the anæsthesia, some improvement was noted at once, but, as is always observed in severe cases of tetanus that end in recovery, whether spontaneously or as the result of treatment, he still had to go through with a long persistence of the manifestations established prior to the favorable turn. On the 29th he received twenty cubic centimetres of antitetanic serum, but this time subcutaneously, and the same amount again on the 1st of May, also ten cubic centimetres on May 2d and twenty on the 3d. It was not until the 8th that he showed decided improvement, and he sat up for the first time on the 18th. During all this time the antitoxine treatment was judiciously supplemented with nutrient enemata, injections of artificial serum, and the administration of sedatives.

The authors explain that the operation was practised at the level of the base of the second frontal convolution, in order to avoid injury to the psychomotor centres, and yet admit of the serum being deposited near enough to them to find its way to the affected parts by diffusion. They do not seek to attach undue weight to this single case, but they properly insist on the severity of the disease and on the positive character of the evidence afforded in this instance. It seems to us that Roux and Borrel have now made a substantial advance in the serum treatment of tetanus.

MINOR PARAGRAPHS.

CREOSOTE IN CHRONIC CONSTIPATION.

Vladimiro de Holstsin (*Cronica médica,* May 15th) finds in creosote an excellent means of combating chronic constipation without exercising any purgative action properly so called. The creosote should not be prescribed in pills, capsules, or alcoholic solutions, but pure and in drops. The effective dose is about seven or eight drops taken twice daily, immediately after breakfast and after dinner, in a glass of milk, beer, wine and water, or pure water. To begin with, one drop of creosote is administered, and that amount increased by one drop daily until the desired effect is obtained. In this way the necessary dose is determined for each case individually. This treatment has to be continued for some time, some months in fact, and not only overcomes the chronic constipation, but at the same time restores the appetite and braces up the system. Under its influence the stools become regular, bland, and copious, and free from pain or any sign of intestinal irritation.

THE PROHIBITION OF THE CORSET IN RUSSIA.

We learn from the *Gazzetta degli ospedali e delle cliniche* for June 16th that the Russian minister of public instruction has issued, on the grounds of public health, a decree prohibiting the use of the corset by women. This is governmental interference with a vengeance. Such matters are not at all fit subjects for such interference, but only for the education of the people. Even if the entire profession were agreed that the corset was an unmitigated evil to the individual who wore it in all cases and under any circumstances, such a meddlesome decree would be a tyranny like prohibition laws, anticigarette laws, and so forth. Such measures are not on a par with the suppression of public nuisances, such as the control of noxious trades, because those ordinances are for the protection of the many against the few, whereas such decrees are an attempt to forcibly protect a man against himself in opposition to his own free will, and in regard to matters which other people choose to consider bad for him. This reasoning would justify anything—and is, in fact, the very reasoning which was adduced to justify the tortures of the inquisition.

THE PECULIAR SUSCEPTIBILITY OF WOMEN TO THE TOXIC ACTION OF SULPHONAL.

Pollitz (*Vierteljahrsschrift für gerichtliche Medicin,* xv, 2; *Wiener klinische Wochenschrift,* June 9, 1898) relates the case of a woman who was treated very successfully for a puerperal mental affection with sulphonal given to the amount of twenty-two and afterward fifteen grains daily for more than a year, with frequent interruptions of the treatment for weeks at a time. Finally symptoms of sulphonal poisoning appeared—deep-red coloration of the urine and diminution in the amount of that secretion, obstinate constipation, and loss of appetite. The case ended fatally, but it is remarkable that periods of notable improvement in the woman's condition preceded her death. At the postmortem examination there was found extensive disease of the secernent epithelia of the urinary tubules. Pollitz calls attention to the fact that the recorded cases of sulphonal poisoning have been in women for the most part. Among twenty-one cases, Schulz found that twenty were in women, and all observers have found that the victims of sulphonal poisoning were anæmic to a certain degree. The inference seems reasonable, Pollitz thinks, that certain conditions of the blood, such as chlorosis, have a direct connection with the supervention of toxic phenomena under the use of sulphonal.

AN EXTRAORDINARY CASE OF HORSE-BITE.

In the *Lancet* for June 4th Mr. William J. Brown, B. A., M. B. Dub., L. R. C. S. Irel., gives a brief account of the case of a boy, fourteen years old, whose ear had been bitten off by a vicious horse, leaving only the tragus and a quarter of an inch each of the helix and lobule. After about ten minutes' search the ear was found near the horse in the stable yard. It was of a dirty drab color and the posterior flap was curled up in a roll. As there was no time to obtain proper appliances, the ear was simply washed in warm water and sewed in place with common needles and thread. After that, however, antiseptic dressings were diligently employed, and the result was the restoration of the ear with hardly an appreciable deformity. Mr. Brown considers that the case shows what valuable results may be brought about by antiseptic treatment and "making prompt use of whatever comes handy when the proper instruments, etc., are not available."

THE COMPRESSION TREATMENT OF CONSUMPTION, AND "YELLOW" JOURNALISM.

The *World* lately treated its readers to a particularly gaudy account of the Murphy treatment of tuberculous pulmonary disease—an account that, we should say, must prove nauseating to Dr. Murphy himself, however satisfactory it may be to the other medical men mentioned in it. It is illustrated with barbarous cuts.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 2, 1898:

DISEASES.	Week ending June 25.		Week ending July 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	18	11	16	8
Scarlet fever	123	15	146	16
Cerebro-spinal meningitis	0	0	0	7
Measles	269	14	243	15
Diphtheria	208	27	160	25
Croup	11	5	6	4
Tuberculosis	145	135	185	138

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending July 2, 1898:

Small-pox—United States.

Bartow, Florida	June 25	1 case.	
Fredonia, N. Y	June 23	16 cases.	
Reidsville, N. C.	June 28	3 "	
Johnsonburg, Pa	April 28–June 23	1 case.	
Tioga, Pa	April 28–June 23	1 "	

Small-pox—Foreign.

Antwerp, Belgium	May 28–June 4		2 deaths.
Newcastle-on-Tyne, England.	June 4–11	1 case.	
Bombay, India	May 15–24		1 death.
Calcutta, India	May 7–14		4 deaths.
Aichi Ken, Japan	May 19–June 5	1 "	
Akita Ken, Japan	May 19–June 5	1 "	
Awomori Ken, Japan	May 19–June 5	26 cases,	4 "
Fukuoka Ken, Japan	May 19–June 5	2 "	
Fukushima Ken, Japan	May 19–June 5	6 "	2 "
Hiogo Ken, Japan	May 19–June 5	2 "	
Swate Ken, Japan	May 19–June 5	5 "	1 death.
Miyagi Ken, Japan	May 19–June 5	2 "	
Shiga Ken, Japan	May 19–June 5	1 case.	
Tokushima Ken, Japan	May 19–June 5	1 "	
Yamagata Ken, Japan	May 19–June 5	7 cases.	
The Hokkaido Ken, Japan.	May 19–June 5	32 "	9 "

Cholera—Foreign.

Bombay, India	May 14–23		10 deaths.
Calcutta, India	May 7–14		24 "
Hiogo, Japan	May 19–June 5	1 case,	1 death.
Tokyo, Japan	May 19–June 5	2 cases,	1 "

Yellow Fever—United States.

McHenry, Miss	June 25	1 case.	
Country four miles from McHenry, Miss	June 25	1 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	May 6–13	76 cases,	53 deaths.

Plague—Foreign.

Hiogo, Japan	May 19–June 5	1 case,	1 death.
Taiwan (Formosa), Japan	May 19–June 5	144 cases,	84 deaths.

Another Philadelphia Physician Receives an Army Appointment.—Dr. Robert Boyd, of Philadelphia, was recently appointed an acting assistant surgeon in the army and will report for duty at Tampa, Florida. Dr. Boyd has had extensive experience in the treatment of diseases in Cuba, and was for four years assistant surgeon in the navy.

The Philadelphia Health Officer's Power of Appointing Clerks.—Dr. Benjamin Lee, the health officer of Philadelphia, recently sent a communication to the city solicitor in regard to whether or not his appointments had to be confirmed by council. In the reply it was stated that, the board of health being made a municipal bureau and attached to the department of public safety, the appointments connected with the board were subject to the provisions of the act made applicable to the various departments, and therefore must be confirmed by the select branch of the city council.

Sunstroke in Philadelphia.—It will be remembered that on June 25th twelve cases of sunstroke were reported in Philadelphia. There was a rapid rise of temperature during the morning hours, and it reached 94° at 4 P. M., while the humidity had increased to 78°. June 29th was another hot day, ending in the afternoon in a thunder shower. While the temperature was only 88°, the humidity had risen to 90°, causing nine prostrations. On Friday, July 1st, the temperature rose to 97° and the humidity was 70°. There were sixteen prostrations. Sunday, July 3d, according to the weather report, was the hottest day for this period in twenty-eight years, the thermometer registering 100° on the top of the post-office building; the humidity was 70°. For the day seventeen prostrations were reported, ending in four deaths. During these days there was only little wind.

Alleged Illicit Practice in Philadelphia.—According to the Philadelphia papers, a Miss Ella Moore had for some time treated another woman for what she designated a tumor. The patient died and the case was investigated by the deputy coroner. Miss Moore, when placed upon the stand, testified that she was in the employ of a firm on Walnut Street who manufactured a salve supposed to be a specific for tumors. The post-mortem demonstrated that the woman had died of cancer. It was further learned that the professional card of the woman arrested read: "Doctor Ella Moore, specialist, No. 1228 Brown Street. Hours, 8 to 10 A. M. and 1 to 3 P. M." The deputy coroner referred the case to the Philadelphia County Medical Society, which will examine into the credentials of the accused.

The University of Pennsylvania.—A department which some day may take rank with those now considered of most importance is that of physiological chemistry. Proper rooms are being prepared for work which will be devoted to the study of experimental physiology, and the whole floor once occupied by the dental department as an operative room will be given up to this subject, with a separate room for experimental therapeutics. The laboratory for experimental therapeutics will be used by Dr. H. C. Wood, who has for years used a smaller apartment. The laboratory for experimental physiology will be under the charge of Dr. John P. Arnold, of the class of 1893. Dr. Arnold succeeded Dr. W. S. Carter, who was elected professor of physiology in the University of Texas.

Epidemic of Small-pox at Fredonia, N. Y.—We learn from the health officer, Dr. V. M. Griswold, that there has been a great small-pox scare at Fredonia, the worst of which is now, however, over. The cases are all of a comparatively mild type, and number between twenty and thirty in eleven families, six families in the village and five just outside the corporation. These families have been rigidly quarantined and guarded. Quarantine was established on June 23d, and no cases have since been reported outside of these eleven houses. The disease is supposed to have been introduced by means of a theatrical company. It is expected to be stamped out within six weeks.

Bellevue Hospital.—We learn that Dr. Frederick Holme Wiggin has been appointed a visiting surgeon to the hospital.

The University of Cincinnati.—Dr. S. C. Ayres has been elected professor of ophthalmology in the medical department (the Medical College of Ohio).

Change of Address.—Dr. F. B. Clock, to No. 7524 Bond Avenue, Chicago.

Syphilis and Pregnancy.—In an article in the *Medical Review*, vol. xxxvi, No. 15, p. 267, on Syphilis as a Cause of Abortion, J. A. Ouimet (*American Medico-surgical Bulletin*, June 25th) draws the following conclusions concerning the effect of parental syphilis on pregnancy:

1. Syphilis is a powerful cause of abortion, the abortion being due to lesion of the fœtus itself or of its appendages.
2. It occurs mainly about the seventh month. The father alone, being syphilitic, can transmit the syphilis to the product of conception. The latter is more liable to occur the nearer the moment of conception is to the beginning of syphilis.
3. The mother may give birth to a syphilitic child while remaining free from syphilis.
4. When the father and mother are both syphilitic the child rarely escapes infection.
5. The mother being syphilitic before pregnancy, is more liable to give birth to a healthy child the more ancient the syphilis.
6. The nearer the syphilis approaches the termination of pregnancy the greater chance the child has to escape infection.
7. The child born of a syphilitic mother may come into the world presenting lesions manifestly syphilitic, or be born apparently healthy and only become syphilitic after some months, or even years.
8. Syphilis imparts no particular characteristic to the course of confinement. Mercurial treatment should be instituted at the beginning of pregnancy.

The Surgical Treatment of Uterine Myoma.—At the recent meeting of the American Medical Association Dr. Henry O. Marcy, of Boston, reviewed briefly the history of the surgical measures devised for the removal of uterine tumors, and showed that the successful performance of this operation, as well as that of ovariotomy, was of American origin. He refers to his earlier publications upon the subject, showing that he published the method of infraperitoneal treatment of the stump (extraperitoneal from below) in 1881 and again in 1882, using buried animal sutures with complete closure of the abdomen without drainage. Dr. Marcy recommended the careful closure of all rents in the peritonæum, especially of the pelvis. He discussed at considerable length the advantages which might result from each of the various methods, insisting that operators should be familiar with all the pathological conditions likely to be met with and deal with them as was most fitting. The operative methods most desirable were, usually, to ligate the arteries independently and leave a small portion of the cervical tissues covered over with intrafolded peritonæum, infraperitoneal; to close the abdominal wound without drainage and seal with iodoform collodion, using ever and only buried tendon sutures. When it was possible, with the smaller growths, to do myomectomy, saving all healthy structures. Dr. Marcy thought it much better to conserve the appendages if they were normal. He referred to the greatly decreased mortality and advised operating in a large class of cases in which, until recently, the patients had been relegated to prolonged and oftentimes hopeless suffering.

Stretching the Pneumogastric.—M. Jaboulay (*Lyon médical*, April 17th; *Presse médicale*, June 15th) has stretched the pneumogastric in two cases. The first was in a patient sixteen years of age affected with frequent epileptic attacks which disappeared after the operation. The second was a case of exophthalmic goître accompanied by paroxysms of cough. Resection of the cervical sympathetic was decided upon, and advantage was taken of the opportunity thus afforded of stretching the vagus and acting upon the sympathetic fibres associated with that nerve. The disease was greatly ameliorated. The procedure is the same as for exposing the sympathetic, and unilateral stretching is sufficient. M. Jaboulay thinks that this operation will prove of great service in certain inflammations of the lung and in certain troubles of deglutition having a nervous origin.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 4, 1898:*

Huntington, E. C., Assistant Surgeon. Detached from the Navy Hospital, Boston, and ordered to the marine rendezvous, Boston.

Shugrue, D. A., Assistant Surgeon. Detached from the marine rendezvous, Boston, and ordered to the *Abarenda*.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Twenty-two Days ending June 30, 1898:*

Austin, H. W., Surgeon. Relieved from duty at bureau and directed to rejoin station at Boston, Mass. June 23, 1898. Relieved from duty at Boston, Mass., and directed to proceed to Philadelphia, Pa., and assume command of service. June 30, 1898.

Irwin, Fairfax, Surgeon. Upon being relieved by Surgeon H. W. Austin, to proceed to Boston, Mass., and assume command of service. June 30, 1898.

Wheeler, W. A., Surgeon. To proceed to Cleveland, Ohio, and assume temporary command of service during absence of Surgeon D. A. Carmichael. June 16, 1898.

Glennan, A. H., Passed Assistant Surgeon. To proceed to Egmont Key Detention Camp, Florida, for special temporary duty. June 9, 1898.

White, J. H., Passed Assistant Surgeon. To proceed to Fontainebleau, Miss., detention camp for special temporary duty. June 14, 1898.

Geddings, H. D., Passed Assistant Surgeon. To proceed to Fontainebleau, Miss., detention camp for special temporary duty. June 9, 1898.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Statesville, N. C., for special temporary duty. June 9, 1898. To proceed to Reidsville, N. C., for special temporary duty. June 28, 1898.

Brown, B. W., Passed Assistant Surgeon. Granted leave of absence for five days. June 28, 1898.

STEWART, W. J. S., Passed Assistant Surgeon. Granted leave of absence for two days from July 1, 1898. June 25, 1898.

DECKER, C. E., Assistant Surgeon. Granted extension of sick leave for one month from June 23, 1898. June 23, 1898.

TABB, S. R., Assistant Surgeon. To proceed to Fontainebleau, Miss., detention camp for special temporary duty. June 13, 1898.

CLARK, TALIAFERRO, Assistant Surgeon. To proceed to Brunswick Quarantine, Ga., and assume temporary command of service during absence of Sanitary Inspector R. E. L. BURFORD. June 22, 1898.

FOSTER, M. H., Assistant Surgeon. To proceed to Savannah, Ga., and assume temporary command of service. June 13, 1898.

Board Convened.

Board convened June 22, 1898, to report by letter on the physical condition of Assistant Surgeon C. E. DECKER. Passed Assistant Surgeon A. H. GLENNAN, chairman; Passed Assistant Surgeon W. G. STIMPSON, recorder.

Resignation.

NORMAN, SEATON, Assistant Surgeon. Resignation accepted, to take effect June 22, 1898.

Society Meetings for the Coming Week:

MONDAY, *July 11th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *July 12th:* New York Academy of Medicine (Section in Genito-urinary Surgery); Medical Societies of the Counties of Chautauqua (annual), Clinton (semiannual—Plattsburgh), Greene (annual—Cooperstown), Jefferson (semiannual—Watertown), Madison (annual), Oneida (quarterly—Utica), Ontario (annual—Canandaigua), Rensselaer, Schuyler (semiannual), Tioga (Owego), and Wayne (annual), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioner's Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery; Norfolk, Massachusetts, District Medical Society (Hyde Park).

WEDNESDAY, *July 13th:* American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis); Franklin, Massachusetts, District Medical Society (quarterly—Greenfield); Hampshire, Massachusetts, District Medical Society (quarterly—Northampton); Worcester, Massachusetts, District Medical Society (Worcester); Kansas City, Missouri, Ophthalmological and Otological Society.

THURSDAY, *July 14th:* Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private).

FRIDAY, *July 15th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital.

Births, Marriages, and Deaths.

Married.

ABBOTT—COOK.—In New Bedford, Massachusetts, on Saturday, June 25th, Dr. Harlan Page Abbott, of Providence, Rhode Island, and Miss Cornelia Seabury Cook.

ANDERSON—PATTERSON.—In New York, on Thursday, June 30th, Dr. Thomas Simpson Anderson, formerly of Pittsburgh, and Miss Mary Ray Patterson.

CAMPBELL — BOGUE. — In Montclair, N. J., on Wednesday, June 29th, Mr. Andrew J. Campbell and Miss Stella M. Bogue, daughter of Dr. Edward A. Bogue.

FREEMAN—CARRINGTON.—In Hyde Park, Massachusetts, on Monday, June 27th, Dr. George N. Freeman, United States navy, and Miss Henrietta Carrington.

MASON—NELSON.—In Birmingham, Alabama, on Thursday, June 30th, Dr. Ulysses Grant Mason and Miss Alice Jessie Nelson.

O'KELLEY—DE BUYS.—In New Orleans, on Wednesday, June 29th, Dr. James Phares O'Kelley and Miss Marie Clemence De Buys.

Died.

LAKEMAN.—In Rochester, N. Y., on Monday, June 27th, Dr. William H. R. Lakeman, in the sixty-eighth year of his age.

MILHOLLAND.—In Abita Springs, Louisiana, on Saturday, June 25th, Hubert Murray, infant son of Dr. W. H. Milholland.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of April 13, 1898.

The President, Dr. WALTER B. JOHNSON, in the Chair.

(Concluded from page 28.)

A Röntgen Picture of an Injured Shoulder.—Dr. PROBEN presented a Röntgen picture of a shoulder injured in a railroad accident. The patient received the injury about six months before; two weeks afterward he had slight crepitus, which had persisted ever since. There was apparently no osseous lesion, and the case did not improve much under treatment. The crepitus persisted, and the shoulder joint was painful, though no deformity existed. In order to clear up the diagnosis, a Röntgen picture was taken, which showed that the bones of the shoulder joint were intact, without any visible lesions. The case was of interest from a medicolegal point of view, and the picture fairly well determined what injury had been done. From inferences deduced, he was inclined to diagnosticate the case as one of dry synovitis. Without the picture this was certainly dubious.

Destruction of the Brachial Artery.—Dr. R. C. Newton presented a specimen of a brachial artery injured in a railroad accident; in two places the artery was drawn out by the separation of the inner and middle coats to the size of a thread. The humerus had been crushed, the upper portion having been broken into several pieces. There had been a good deal of venous but no arterial hæmorrhage from the arm after the accident, and it was with great difficulty that the hæmorrhage was arrested. The arm was finally amputated, but the man had been struck in the chest, his ribs broken and driven into the liver and pleura, so that he had an extensive emphysema of the chest wall. He died a few days after the accident. The specimen showed the remarkable elasticity of the outer wall of the brachial artery.

The Attitude of the Medical Profession toward Alcohol.—Dr. Frank Overton read a paper on this subject.

Dr. W. H. Porter said he thought the reader of the paper had covered the ground pretty thoroughly. It was unquestionably true that there was an endless amount of contradictory opinion in relation to the action of alcohol in the system, but he thought that at the present time there was not much reason for the profession at home to have any doubt about it. It certainly belonged to the hydrocarbon series, was rapidly oxidized, as he believed, in the epithelial cells of the alimentary canal. This generated heat very rapidly, which stimulated the nervous system and had a tendency to exhaust it, leaving it in a state of depression which called for more. In that way the individual got in the habit of taking more than was good for the system, but if it was kept within the limits of oxidation, he thought a reasonable amount of alcohol could do no more harm than sugar. He believed the damaging effects came, not from the alcohol, but from the disturbed oxidation of the proteid bodies, and the innumerable toxic bodies that were produced. In that way one got the great variety of toxic symptoms. At one time a heavy drinker would have certain symptoms, at another time others. If it was the alcohol and the alcohol alone, it ought to affect him in the same way. He thought the statement that large quantities of alcohol could be circulated in the blood was absolutely incorrect, as had been clearly demonstrated by Dr. Anstie. He had experimented with a dog, gave him large quantities of whisky for a week or ten days, and then, half an hour before he completed his experiment, giving the dog half a pint of whisky, then cutting the dog up and getting half a drachm of alcohol as the result, which demonstrated conclusively that the alcohol was rapidly oxidized. Of course, a very delicate chromic-acid test would detect a drop or two of alcohol in some gallons of water.

Dr. Newton said he would like to add his word to what the reader said of the abuse of sugar. He always believed that the candy shops did more harm than the liquor shops, and he did not see why, if men were to be kept from drinking liquor, children should not be kept from eating candies. Around the schoolhouses there were a number of shops where taffy and sweet things could be bought. The children were tempted to indulge in them, and, when they got home, could not eat a square meal of proper food. He thought the abuse of sugar blunted the sensibilities and was very bad for the digestion. It was one of the chief troubles physicians met with in treating chronic children's diseases, and was a direct bar to the physical and moral well-being of growing children. He would like to see legislation that would shut up the candy shops or make them pay a license. The child who ate candy excessively might develop into a man who would drink liquor to excess. Children got into the very bad habit of not eating plain food, of turning up their noses at good wholesome food, because it is not seasoned enough or was not sweet enough. No young man or woman could have a worse heritage than a finicky appetite, a desire to have the food highly seasoned or presented in a very attractive way; and this very craving was the foundation for an alcoholic appetite. As a rule, people who enjoyed good health and had good digestions were not heavy users of alcohol; they were not subject to those terrible fits of depression which came frequently from poor digestions, and led to the abuse of alcohol and narcotics. He did not mean that no sugar should be eaten, as it was in its proper proportion an essential part of the diet, especially of children; but confectionery should be taken after the regular meals and in sparing quantities.

Dr. Stowell said that a few years before he had been interested in looking up the treatment of several diseases, to see the changes in the tendency of treatment during the last generation. He took three American books, three German, and three English, and noted how they treated typhoid fever, pneumonia, and peritonitis. A generation ago alcohol was universally advocated for pneumonia and typhoid fever in very large quantities, anywhere from twenty-five to thirty ounces of wine, sherry, or sometimes the same number of ounces of brandy. Some of the books advocated twenty-five or thirty ounces of wine and half as much brandy. Ten years later it was not so universally advocated. In the last decade the leading books advocated the use of stimulants with discretion. There was a distinct tendency to use less alcohol in the treatment of disease, both in adults and in children. He was also interested in the use of alcohol with reference to pædiatrics. There was as much diversity in those interested in pædiatrics as in the profession at large. In 1848 West recommended large quantities of alcohol for typhoid fever in children, and spoke of giving ten or twelve ounces of brandy in twenty-four hours. One of the more recent writers, J. Lewis Smith, recommended alcohol as almost a specific for diphtheria. That was before the antitoxine days. In 1878 there was a bad epidemic of diphtheria in the Foundling Asylum, and alcohol was given, a teaspoonful of brandy every half hour; notwithstanding this, one after another died. The aim apparently was to save the severer cases by alcohol, but it certainly was not to be wondered at that the children died. At Randall's Island the last month's report showed fourteen one-hundredths of an ounce to a patient *per diem*, which was a little less than the average for the past two or three years. Probably a large part of that was consumed by the adults, and it was not likely that, out of the thousand children there, a large percentage of them had been given stimulants. In the Charity Hospital the statistics on the consumption of liquors for 1897 showed about thirty one-hundredths of an ounce a day, and in Harlem and Bellevue the same. Gouverneur Hospital ranged from half an ounce to an ounce and a third. In his own practice he did not use alcohol at all in children for diphtheria or any other disease. In adults he did not hesitate to give alcohol in pneumonia and typhoid fever, although he thought it could be dispensed with. A safe rule was not to prescribe alcohol for a patient to take by himself. If the patient was so ill that all the medicine had to be administered, he would not be in danger of acquiring the appetite for liquor. It should never be prescribed as a tonic, only as a symptom medicine.

Dr. Adolph Rupp said, in regard to the question of oxidation, it would seem from the course of the discussion to be the crucial test of alcohol in the system. Physicians were as ignorant of the action and fortunes of alcohol in the system as laymen, for both had to depend on what laboratorians taught, and the teaching was not always corroborative. Looking at the matter empirically, we were obliged to infer that alcohol had another way of acting on the system than by modifying its oxidation. We might take the experience of two men as they related it in their autobiographies, J. Marion Sims and Helmholtz. Sims told us that if he took but half a glass of wine at dinner it set him almost crazy; and Helmholtz told us that if he took wine while occupied with the solution of a scientific or mathematical problem, his thinking powers were interfered with and he had to wait for the alcoholic effects to work off before his inspiration returned. Certainly these contrary effects on the cerebral or nervous apparatus could not be accounted for on a theory of modified oxidation. Alcohol affected the system in evanescent and permanent ways. In acute suppurative and acute inflammatory troubles, like suppurative amygdalitis, either in the beginning of the affection or at its height, he had found that alcohol in liberal doses had no effect in reducing temperature. In diphtheria and scarlet fever alcohol was not, in his experience, alike in action in all cases, and when it was of benefit as a stimulant and nutrient it was so in an evanescent sense. With reference to alcohol, in the popular sense in which the reader had introduced it, Dr. Rupp thought we ought to look not only for its effects in the body, but also for the causes that created a taste or craving for liquor and beer, for instance, bad habits, etc. Dr. Rupp disagreed with Dr. Newton, and did not think candy shops as bad as liquor shops, nor did he think it would be right to legislate on candy-eating. Badly ventilated dwellings and unpalatable food, he thought, had much to do with giving rise to the "drink habit," and he was glad to have seen in print the remark of a prominent bishop who said, if women cooked better there would be fewer drunken husbands. The German poet, Gerhardt Hauptmann, had treated and illustrated this problem graphically in his drama *Vor Sonnenaufgang.*

Dr. Overton said that he did not feel that he could give the members any scientific points, it was not his intention to do that. He took up the subject from an educational point of view in the schools, not the medical but the high school. In the high school there was a great deal of hygiene supposed to be taught, but it was an inferior sort of hygiene, especially along the line of alcoholic drinks. His idea was to show the correlation of other forms of intemperance as well as alcoholic. It seemed to him, as Dr. Newton had said, that incalculable harm was done in the way of improper eating. It had been his own experience to lose patients by their going to some other doctor, because he insisted on their eating properly. He had been much interested in reading of some experiments of Dr. Chittenden, of Yale, who was working out the effects of alcohol in as thoroughly scientific a manner as that in which those of most other drugs were already worked out.

Some Clinical and Therapeutical Features of Vascular Degeneration.—Dr. Joseph Collins read a paper on this subject.

Dr. Rupp said that ever since he had been a student, when he studied therapeutics from Wood's *Science and Art of Therapeutics,* he had been puzzled as to whether he ought to apologize for himself or for the book. When he looked at the physiological action of drugs, and then had to consider what they were expected to do to remedy disease processes, he failed to find the connection. So, too, in listening to Dr. Collins's paper he had been similarly puzzled, and had concluded that the disease conception and the remedies recommended did not fit. Dr. Collins had left out of account the bacterial element in speaking of the pathogenesis of the affections he was describing. Neither had he dwelt on the specific functions of the endothelium of the blood-vessels. In so far as the blood-vessels are influenced by the nervous system, the sympathetic part of it, on which so much stress is laid, is but one half of the mechanism—the other half doing its share in an opposite way.

Dr. Newton said he would like to thank Dr. Collins personally for a very admirable paper. It certainly gave a great deal of food for thought. As the doctor spoke of the ten men to one woman who showed the stigmata of vascular degeneration, the speaker could not but think that the use of tobacco must have a good deal to do with it. He had watched the case of a friend of his, a physician. This gentleman was a smoker and had false teeth, and the speaker had observed that when people had false teeth they generally had bad digestion; they did not seem to assimilate their food properly, and seemed particularly prone to these troubles of degeneration as well as those who smoked a great deal. The physician he spoke of found his heart was acting badly; he could not walk, could not exert himself as he wanted to do. He was a man of enormous physical strength, but remarked that he would have to stop smoking or die. He was an obstetrician and celebrated in the use of the forceps. He was called out one night to assist in delivering a woman. He put on the forceps and exerted himself severely; he finally delivered the woman, turned around, and fell dead. That was the way many of those persons died. He believed Dr. Collins was right in thinking that the sympathetic nervous system was mainly at fault in bringing about these conditions of the system. At all events, as we understand the matter, assimilation and elimination, anabolism and metabolism, the so-called chemical functions of the body, were regulated and controlled by the sympathetic system, and any permanent derangement of this system must result in serious deterioration of the economy. So it seemed quite reasonable to infer that any constantly disturbing element, like the excessive use of alcohol or tobacco, overwork, bad air, improper or excessive amounts of food, etc., might disturb this balance between the various functions which were presided over by the sympathetic nervous system, and which was necessary to the preservation of health and the proper performance of the bodily functions.

As we frequently might observe, Nature made wonderful efforts to restore this balance of the functions whenever it was impaired. Increased assimilation was followed by increased elimination, and *vice versa.* But the time came when the overstrained sympathetic system gave way, just as the overstrained cerebro-spinal nervous system might give way, and serious permanent impairment to the economy, such, for example, as arterial degeneration with its accompanying myocarditis and cirrhosis of the kidneys or liver, might supervene.

Dr. Collins's view of the subject was especially interesting, because it led us to reflect upon the harm which constant small abuses of the sympathetic nervous system might lead to. One strong cigar, one glass of wine, one hour snatched from healthful sleep, might not have any perceptible effect, nor, for that matter, might countless such indulgences so long as the integrity of the sympathetic nervous system was not impaired; but let the resiliency, the reserve force, of this system be destroyed by repeated, albeit individually small onslaughts, and the results would be as disastrous to the bodily condition as prolonged and unreasonable mental strain would be to the intellectual functions.

Book Notices.

The Diseases of the Stomach. By WILLIAM W. VAN VALZAH, A. M., M. D., Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital, and J. DOUGLAS NISBET, A. B., M. D., Adjunct Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 5 to 674. [Price, $3.50.]

THE opening chapters of this work create a favorable impression.

The section on diagnosis and diagnostic methods is written in a clear and concise style, sufficiently in detail to be of the utmost value. The descriptions of the various chemical tests are especially explicit. We are pleased to see that Braun's method for determining HCl acidity is recommended for its simplicity and accuracy, but in a work of this scope it seems strange that no mention is made of Siöquist's or of Leo's methods.

The article on diet and general medication is one of the most valuable in the book, and should be read by every practising physician. The extensive experience of the authors is nowhere better exemplified than in this section. But why, in this supposedly progressive age, are hydrochloric acid and *pepsin* still recommended to supplement gastric digestion? We certainly had been led to believe that pepsin had long since been laid away among the collection of medical "has-beens," and we must confess that we are disappointed by its resurrection.

"Dynamic affections" are defined as those presenting no characteristic pathological anatomy, and are next described with considerable detail. The authors' style, always involved, here becomes not only obscure, but in places self-contradictory.

As an example, may be quoted a sentence on page 264:

"The dynamic affections are common among women near the end of the social season in large cities, but are infrequent among country girls; for, in spite of the pure air and sunshine of the country and the freedom from the withering touch of 'culture,' anxiety and sorrow, and disappointment and disorders of menstruation, of reproduction, and of lactation, have the same influence in the hut as in the palace."

The article on adenohypersthenia gastrica is extremely unsatisfactory, especially when read in connection with that on hypersthenic gastritis. Not only is the classification cumbersome and confusing to the reader, but apparently so to the authors as well, as shown in the sections on the diagnosis of these affections.

We deplore, moreover, the multiplication of new terms in gastric pathology. The terms "adenohypersthenia gastrica" and the like may be and probably are good terms of pure classical lineage, but we are impressed more and more with the need of greater simplicity in the classification and nomenclature of the subject.

Under the heading of adenasthenia gastrica it is stated that, as a rule, pepsin is diminished in proportion to the total diminution of hydrochloric acid. The authors do not make a clear separation between anacidity of a purely neurotic type and achylia gastrica, the terminal period of atrophic gastritis. In purely functional cases of hypoacidity or anacidity it would seem as if the presence of ferments or zymogens in normal strength afforded the most positive proof of the functional basis of the disorder. So that we can not agree with the authors on this point or allow the unqualified statement to pass unnoticed.

Myasthenia gastrica is discussed in considerable detail, and there is much of value in the article, although the text is in many places obscure.

The articles on ulcer, cancer, and displacements are carefully written, and the book closes with a brief account of the "vicious circles" of the stomach, in connection with other diseases.

The opening sentence of the preface reads: "The chief excuse for the existence of a book is its individuality." While we can not agree to this statement as applied to medical literature, we can, nevertheless, emphasize the fact that individuality marks this book throughout, and constitutes one of its most prominent attributes. This quality appeals most strongly to the specialist, and he can not but at least be interested. This same quality, however, detracts very considerably from its value to the general practitioner or student, and it is the specialist, therefore, who will profit most by the book.

Yellow Fever in the West Indies. By IZETT ANDERSON, M. D. Edin., Extraordinary Member of the Royal Medical Society of Edinburgh, etc. London: H. K. Lewis, 1898. Pp. 106. [Price, 3*s.* 6*d.*]

"IT appeared to me that a short account in an inexpensive form of the results of long and extensive practical acquaintance with this disease might be of service to young practitioners settling in the West Indies."

This quotation from the author's preface aptly describes the tone and scope of his little book, and when we consider that over thirty years' experience with the disease whereof he writes had been his, we can not but read his work with careful attention. The result of our reading has been to place the book high in our estimation and, frankly, also to make us perhaps less tolerant of other writers who with little or no personal observation of yellow fever presume to portray it, their portrayals being but too often poor photographs from negatives long since worn out by service.

The picture of yellow fever which Dr. Anderson gives us is clear and vivid. It contains little of pathology and bacteriology, the author frankly stating that he speaks only whereof he knows, but for symptomatology the description is most excellent. Some things indeed there are in the book which may be criticised; for instance, the third stage of the disease described by so many as characteristic is not recognized by Dr. Anderson, for he thinks that should a febrile period succeed the second stage, that of apyrexia, it is fortuitous only and bears no constant relation to the typical course. Again, he insists that albuminuria is a constant and essential feature of yellow fever, and prefers to regard cases symptomatically resembling yellow fever but without albuminuria as malarial in character. This reasoning is scarcely convincing, and the author, too, rather convicts himself when in concluding his remarks upon the pathognomony of albuminuria he states that "during an experience extending over thirty years I have never known a case of *yellow fever* prove fatal, or black vomit to come on, unless the urine was albuminous." This would, indeed, seem natural, for the nonexistence of albuminuria would certainly point to mildness of infection, but scarcely to the necessary absence of yellow fever. The writer is firm in his belief in the non-contagiousness of the disease, and clearly his observations and experience must make his opinion weighty. He is not alone in this view, of course, but scarcely in agreement with the larger number of observers.

Traité de chirurgie clinique et opératoire. Publié sous la direction de MM. A. Le Dentu, Professeur de clinique chirurgicale à la Faculté de médecine de Paris, etc., et Pierre Delbet, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome sixième. Bouche, pharynx, œsophage, larynx, trachée, corps thyréoïde, cou, poitrine. Par MM. H. Morestin, M. Ganglophe, F. Lubet-Barbon, C. Lyot, J. Arrou, Ch. Souligoux. Avec 107 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1898. Pp. 948. [Prix, 12 fr.]

Few of the many systems of surgery which have appeared in the past few years are so satisfactory in every respect as this great monument to French industry, now passing through the press. The present volume, the sixth, is devoted to the upper portion of the alimentary canal, the neck, and the chest. The most striking and valuable article is that by H. Morestin, on the mouth, pharynx, and salivary glands, which forms a complete study of the surgery and surgical pathology of that region. In the discussion of the subject of buccal leucoplakia, Morestin holds the rather uncommon position in regard to the ætiological rôle of syphilis, that this disease has little to do with the actual causation, and that most of the cases can be regarded as a simple coincidence.

This differs greatly from the teachings of the German school, among them Erb, who estimates that eighty per cent. of these patients have syphilis, and connects the two ætiologically. This same radical difference of opinion also exists in the discussion of the origin of the mixed tumors arising from the salivary glands. The French follow Berger in his views of their origin from the epithelial cells of the glands, while the German school has long held to the exactly opposite point, that these tumors are endothelial in nature and are developed from the endothelium lining the connective-tissue spaces of the gland framework. These differences are, however, exactly the valuable part of the work; they give us the views long held by a body of independent investigators as the results of their studies and not influenced by foreign opinion. Two other chapters of special interest are those contributed by Lyot, on the surgery of the thyreoid, and by Arrou, on the diseases of the neck. Of the illustrations, but few are a credit to the artistic sense of the race whose anatomical drawings, as seen in the works of Hirschfeld and Bourgery, have never been equaled.

Manual of Operative Surgery. By H. J. Waring, M. S., M. B., B. Sc. (Lond.), F. R. C. S., Demonstrator of Operative Surgery and Surgical Registrar, Late Senior Demonstrator of Anatomy, St. Bartholomew's Hospital, etc. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xxvi–661. [Price, $3.25.]

In a time when technics is of such great importance in surgery that it has threatened to eclipse the weightier matters of the surgeon's outfit, a good operative manual is a most desirable book. Such the present work is. The operations are, so far as feasible, grouped according to the organs operated upon, stomach, intestines, liver, urinary organs, etc., or when necessary into systems as the arteries, veins, nerves, etc. We miss no operation of established repute, and even many debatable ones are included. The descriptions are clear, concise, and adequate. The mechanical execution of the book is excellent, with good paper, good printing, and good type. The illustrations, of which there are more than four hundred, are plain, and mainly in outline, to emphasize the guiding anatomical points, while lines of incision are marked with thick distinguishing lines. It is a decidedly useful book.

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Fifth Edition. Revised by Henry Leffmann, A. M., M. D., Ph. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xvi–17 to 645. [Price, $3.]

The fifth edition of this well-known and highly esteemed work preserves the character of the previous editions. While revision has been done, it is not of a radical character, for medical jurisprudence, as the preface very truly points out, is essentially conservative. The work is one which will continue to have deserved success.

Ambroise Paré and His Times. 1510–1590. By Stephen Paget. Illustrated. New York and London: G. P. Putnam's Sons, 1897. Pp. xii–309.

Among the recent notable additions to the literature of medical history there is none which surpasses this work in value and in interest. The subject is one which lends itself happily to the biographer, and when his work is so admirably done as is the case here, the result must of necessity be pleasing. The purely professional labors of Ambroise Paré were in themselves of sufficient interest to make their recording a chronicle of great import, but, apart from this, so interwoven was the life of Paré with stirring events in military and political France that the work far passes the ordinary medical biography in its power to charm. The author has done well, too, in permitting Paré to speak freely for himself, and in the quaint language and descriptions of the surgeon which occupy so considerable a portion of the book, the subjects are brought before us with a vividness which otherwise would have been scarcely attainable.

We wish there might be a greater number of works like this; and surely the field of medical history is not so barren that it might not be cultivated to advantage. Beyond mere medical technicality, there is a wealth of educational value in such a book which renders it of infinite use as a corrigent of that vicious tendency in modern medical life, narrowness. We can not but allude, too, with appreciation to the illustrations of this volume; the reproductions of old prints are uniformly good, and the views of old Paris and the pictures of Paré's instruments are invaluable.

Transactions of the American Pædiatric Society. Ninth Session, held in Washington, May 4, 5, and 6, 1897. Volume IX.

The reports of the work of this society have long maintained a reputation for judicial fairness and conservatism; the continuance of the investigation into the value of diphtheria antitoxine is, therefore, a most interesting feature of the current volume of *Transactions.* The committee closes its report with the recommendation that antitoxine be given at the earliest possible moment in all cases of suspected diphtheria, selecting the most concentrated strength of an absolutely reliable preparation. The dose recommended is two thousand units, repeated in twelve hours and again twenty-four hours later, unless improvement takes place. Patients under two years of age should receive only from a thousand to fifteen hundred units.

In addition to this report there are a number of most interesting papers, among the best being one by the late Dr. Joseph O'Dwyer, on Intubation, and one by Dr. L. Emmett Holt, on Abscess of the Brain in Infants, with which the volume closes.

Spectroscopie biologique. Spectroscopie de l'urine et des pigments. Par A. Hénocque, Directeur-adjoint du Laboratoire de physique biologique du Collège de France. Paris: Masson et Cie., 1898. Pp. 5 to 203. [Encyclopédie scientifique des aide-mémoire.]

This volume is the third of a series by the same author which have appeared in that excellent collection of short monographs the *Encyclopédie scientifique des aide-mémoire.* In this book the subject of the spectroscopic study of the urine is very completely developed, and in a practical way which will be useful to the student whose training in such matters has been limited. The modern literature on the coloring matters of the urine is very well represented in the volume, and at the end there is a complete bibliography.

Praxis der Harnanalyse. Anleitung zur chemischen Untersuchung des Harns. Nebst einem Anhang Analyse des Mageninhalts. Von Professor Dr. Lassar-Cohen. Zweite Auflage. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 40.

This little pamphlet contains many very useful suggestions on the conduct of the various practical tests for the urine and for stomach contents. The methods given are all sound and their description is exceedingly clear. The work is especially suited for those who have not access to a large clinical material and who therefore cannot obtain readily some of the rarer pathological urines. Frequent suggestions are made for the artificial preparation of such urines in order that the beginner may learn and carry out such tests with very little trouble. The appearance of two editions within six months is a sufficient guarantee of the usefulness of the volume.

Die Säuren der Rindergalle und der Menschengalle. Von Professor Dr. Lassar-Cohen. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 3 to 82.

The recent rapid advances in physiological chemistry have rendered a complete review of the work of the past twenty years an absolute necessity. Such a motive has actuated the author of this little monograph to collect the studies of previous chemists and to add to them by original work of his own. It contains a very thorough survey of the chemical views concerning the acids present in the bile of the ox and in that of man.

BOOKS, ETC., RECEIVED.

The Study of the Child. A Brief Treatise on the Psychology of the Child, with Suggestions for Teachers, Students, and Parents. By A. R. Taylor, Ph. D., President of the State Normal School, Emporia, Kansas. New York: D. Appleton and Company, 1898. Pp. xliii–215. [Price, $1.50.]

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume VI. New York and London: The Macmillan Company, 1898. Pp. xii–1058. [Price, $5.]

Hay Fever and its Successful Treatment. By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pædiatrics in the Medico-chirurgical College of Philadelphia, etc. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–9 to 137. [Price, $1.]

Notes on Military Hygiene for Officers of the Line. A Syllabus of Lectures formerly delivered at the United States Infantry and Cavalry School. By Alfred A. Woodhull, LL. D. (Princ.), Lieutenant Colonel, Medical Department of the United States Army. New Edition, revised and augmented. First Thousand. New York: John Wiley & Sons. London: Chapman & Hill, Limited, 1898. Pp. 181.

Burdett's Hospitals and Charities, 1898. Being the Yearbook of Philanthropy and the Hospital Annual. Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year. By Sir Henry Burdett, K. C. B., Editor of *The Hospital,* etc. London: The Scientific Press, Limited. New York: Charles C. Scribner's Sons, 1898. Pp. 1071.

The Extra Pharmacopœia. Revised in Accordance with the British Pharmacopœia, 1898. By William Martindale, F. L. S., F. C. S., Member of Council of the Pharmaceutical Society, etc. Serotherapy, Organotherapy, Medical References, and a Therapeutic Index, by W. Wynn Westcott, M. B. Lond., etc. Ninth Edition. London: H. K. Lewis, 1898. Pp. xxviii–626. [Price, 10*s.* 6*d.*]

Transactions of the Academy of Stomatology. January 26, 1897, to December 28, 1897. [Reprinted from the *International Dental Journal.*]

Transactions of the New York State Medical Association. For the Year 1897. Volume XIV.

Quinine in Malaria. By R. D. Mason, M. D., of Omaha, Nebraska. [Reprinted from the *Charlotte Medical Journal.*]

The Importance of Rectal Examinations in Life Insurance. By R. D. Mason, M. D. [Reprinted from the *Tri-State Medical Journal and Practitioner.*]

A Case of Bilateral Syphilitic Ulceration of the Palpebral Conjunctiva. By Clarence A. Veasey, A. M., M. D., of Philadelphia. [Reprinted from the *International Medical Magazine.*]

The Ætiology and Pathology of Delirium. By C. W. Simmons, M. D., of Philadelphia. [Reprinted from the *Medical Times.*]

The Place of the Murphy Button in Gastro-enterostomy. By Willy Meyer, M. D. [Reprinted from the *Annals of Surgery.*]

Case of Removal of the Entire Stomach for Carcinoma. Successful Œsophago-duodenostomy; Recovery. By Charles Brooks Brigham, M. D., of San Francisco. [Reprinted from the *Boston Medical and Surgical Journal.*]

Early Aid to the Wounded. By Dallas Bache, M. D., United States Army. [Reprinted from the *National Medical Review.*]

Duralinfusion. Von Dr. Paul Jacob, Assistenten der Klinik. [Sonderabdruck aus der *Berliner klinische Wochenschrift.*]

Wesen, Ursache und Behandlung der Zuckerkrankheit (Diabetes mellitus). Von Dr. Albert Lenne, in Bad Neuenahr. Berlin: S. Karger, 1898. Pp. iv–152.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, New York. Volume V. Part II. For the Collegiate Year 1897–'98.

Miscellany.

A Burton Society in Denver.—We learn from the *Colorado Medical Journal* for June that a Burton Society has been founded in Denver. Its purpose is the reprint in facsimile of the Benares edition of the late Sir Richard Burton's literal translation of the *Arabian Nights.* The work is very scarce, only a limited number of the original issue having been printed.

The Philadelphia Hospital Overcrowded.—Notwithstanding the immense facilities offered by this large hospital, it is always pressed for room. Mayor Warwick has repeatedly called the attention of the council to this matter, and offers as a suggestion that it would be best "to provide for the consolidation of all poor districts in the county and place them under the department of charities and correction." He has pointed out "that, while the almshouse is now overcrowded, some of the old district poorhouses in the suburban sections of the city have few inmates and could be used advantageously by the city to relieve the overcrowding at the hospital proper." The condition of the insane wards seems to be worst of all; while they have a capacity for the care of a thousand and fifty persons, the necessary room is being encroached upon. It is further stated that all the State institutions for the treatment of the insane are filled to their limit, and for the present "Blockley" at least can have no relief. Since the "loan bill" has been finally passed it is possible that at least part of the funds to be obtained may be devoted to this necessary purpose.

Better Water for Philadelphia.—The "loan bill," which has been for such a tiresome period before the city council of Philadelphia, has at last been made a law, and $11,200,000 will be spent in building up a greater Philadelphia. Most of the funds will be expended for public improvements, museums, street paving, sewerage systems, etc., but above all what the physicians of this city have hoped, worked, and prayed for will now be obtained—viz., pure filtered water supplied to the city.

As in everything else, those things which pertain to the public health are hard for the average councilman to understand, and on this most important subject there have been a few dissentients. It is, no doubt, true that had the physicians of the city not been most active and waged an incessant warfare against the horrible water supply this necessary step would never have been taken. The newspapers of the city are especially to be thanked for keeping before the public mind the action of councilmen in relation to the need for purer water.

Three Families of Philadelphia Poisoned by Ham.—It is reported that during the week ending June 18th there were at least ten persons poisoned by ptomaines in Philadelphia.

The first who suffered were John and Edward Flanagan, of No. 2751 Germantown Avenue, the cook, Mrs. Mary Taylor, and her two children, aged respectively thirteen and eleven years.

A few hours after eating boneless ham, which seemed to be in good condition at the time, they all began to suffer from nausea, vomiting, and intense pains in the abdominal region. The symptoms were interpreted as those of ptomaine poisoning.

Later Mrs. Weiss, living at No. 2737 Germantown Avenue, bought some ham at the same grocer's, which she served to both of her sons at lunch. In the afternoon both became ill and were seized with pains in the stomach and vomiting. This attack was attributed to the excessive heat prevailing at the time. The following morning Mrs. Weiss prepared some of the ham for her two daughters and her little boy, but decided not to give any of it to those who were affected the day before. Soon after the meal the two girls and boy were taken ill and for a while it was thought that one of the girls would die, but by prompt medical attention all of the patients recovered.

The Associated Physicians of Long Island.—An organization with this title was formed in Garden City on June 8th. Over sixty of the most prominent physicians from the various parts of the island were in attendance. The desirability of a more general acquaintance among the members of the profession on the island has long been recognized, and the very cordial and enthusiastic spirit shown by those present augurs well for the future.

The meeting was called to order by Dr. Louis N. Lanehart, temporary chairman, with Dr. Robert J. Morrison acting secretary. After the details of organization had been arranged, the society went into scientific session and papers were presented and discussed. Prognosis in Chronic Nephritis was the title of a paper by Dr. H. A. Fairbairn, of Brooklyn, who gave a short review of some of the investigations of the physiological chemist in late years. He pointed out their bearing on the treatment and prevention of this disease. He maintained that the factors which aggravated and kept alive the process were becoming better known, and that the method of dealing with those factors was getting to be more exact and effective, so that the outlook was less unfavorable.

The History of a Case of Leprosy, with an Exhibition of the Lepra Bacillus, was the title of a paper by Dr. James MacFarlane Winfield, of Brooklyn. The patient was a boy, aged fourteen, a native of Key West. The disease had existed two years before his coming under the observation of Dr. Barber and Dr. Winfield. There was no history of contagion, and there had never been leprosy in the family. The patient had been under the care of his Brooklyn physicians for four years, and finally died of exhaustion. The disease was a typical tubercular leprosy. The lesions were situated principally on the face, hands, genitals, and lower extremities. There were ulcerations of the nose and nasopharynx. The lymphatic glands were enormously enlarged. The microscopic specimens were secured from smears made from the glands and cuttings of the glandular tissue. The case was of special interest on account of its being purely American, and the microscopical exhibit was unique, because it was, perhaps, the first example of the lepra bacillus obtained from an American case.

Dr. Ezra H. Wilson, of Brooklyn, presented a paper on Immunity.

On the completion of the regular work of the day the members had an informal dinner.

It was decided to hold three meetings a year, in June, October, and January. All members in good standing of the regular county societies of the island are eligible for membership.

The following officers for the ensuing year were unanimously elected: President, Dr. William Browning, of Kings County; vice-presidents, Dr. Louis N. Lanehart, of Queens County, Dr. William A. Hulse, of Suffolk County, and Dr. Charles Jewett, of Kings County; secretary, Dr. Robert J. Morrison, of Brooklyn; treasurer, Dr. Arthur H. Terry, of Patchogue; historian, Dr. Joseph H. Hunt, of Kings County.

Another Case of Ptomaine Poisoning near Philadelphia.—Alfred Hirst, of Jenkintown, a suburban town near Philadelphia, recently partook of an oyster stew and soon afterward became ill. An emetic was given, which relieved him to a great extent. Soon after the emetic had acted he again became affected with intense pain in the region of the epigastrium, accompanied by excessive heat and profuse perspiration, but reaction was good and he showed signs of recovering, being able to get up and walk around the wards of the Cooper Hospital, Camden, whither he had been taken. The following afternoon, however, he again showed symptoms of violent poisoning, and death ensued, notwithstanding prompt medical aid was summoned.

Three Deaths from Sunstroke in Philadelphia.—During the week ending Saturday, June 18th, there were three deaths produced by the intense heat which prevailed during the first few days. In addition to the fatal cases four prostrations were reported. The intense hot wave lasted only about seventy-two hours, and the pernicious effects commonly seen in children were not observed.

The Anales de la Sociedad Mexicana de Cirurgia.—We are glad to notice the first number of this new publication, which appeared on June 15th under the editorship of Dr. Manuel Barreiro. It contains the statutes and by-laws of the Mexican Society of Surgery; A Case of Abscess of Tuberculous Origin on the Convex Surface of the Liver, by Dr. Alfonso Ortez; the inauguration address, by Dr. Ramón Marcías; Proceedings of the First Ordinary Meeting of the Mexican Society of Surgery, and a review of the contents of foreign surgical journals. We wish the new contemporary from our sister republic, and the surgical society with which it is associated, both of them evidences of the scientific progress made by Mexico with rapid strides during recent years, every success.

Orexin in the Vomiting of Pregnancy.—Dr. Richard Frommel (*Therapist*, June 15th) states that in four cases in which he used orexin in the vomiting of pregnancy the effect of treatment was very prompt. In two cases vomiting stopped entirely in two days, and in the other two it lessened, and ceased within a fortnight. Orexin was discovered by Paal and recommended by Penzoldt as a gastric stimulant. It is phenyldehydroquinazolin, $C_{14}H_{12}N_2$. It is prescribed in four-and-a-half-grain doses two or three times a day, followed by a little cold water or milk.

Cold Tea as a Soldier's Beverage.—The *Scientific American* for July 2d calls attention to the great value of cold tea flavored with a few drops of lemon juice, and cites Sir John Hall, K. C. B., on the Kaffir war of 1852, in which a march of a thousand miles was covered by two hundred men in seventy-one days on cold tea without either wine, spirits, or beer. The experience of Indian officers, and of Lord Wolseley are also quoted, and the example of the Canadian lumbermen is cited. It contains a maximum of thirst-quenching energy in a minimum of space.

"The Blues" as a Disease, and their Treatment.—Dr. W. F. Waugh (*Tri-State Medical Journal*, vol. v, No. 1, p. 8; *American Medico-surgical Bulletin*, June 25th) says that "the blues" are due to constipation and to a sluggish liver. He recommends those who are subject to frequent visitations of the unwelcome guest to correct their diet and habits, and to take little meat, milk, or coffee, but plenty of fruits and fresh vegetables. Sugar is bad. A cold or salt bath in the morning, and a long, brisk walk or a bicycle ride are, he says, excellent means for dispelling the "blues." Of medicines, he recommends a blue pill, a small dose of aloes, or podophyllin as useful; but the sulphocarbolates seem to come nearer to a "specific" in the treatment of the blues than any other remedial agent.

Chloroform Externally in Labor.—Dr. Archangelsky (*Vratch*, vol. xix, p. 355; *American Medico-surgical Bulletin*, June 25th) extols the rubbing of the abdomen, which is subsequently covered with a warm compress, with a mixture of one part of chloroform to two or three parts of olive oil. It is said to relieve pain and cause the contractions to become more regular and effective while presenting none of the ordinary disadvantages of chloroform.

The Cuban Commission on Yellow Fever.—The following (*Journal of the Mississippi State Medical Association*, May) is an abstract of the report of the Cuban Commission made to the State board of health, by Dr.

Harris A. Gant, Dr. J. R. Tackett, and Dr. H. M. Folkes:

Modes of dissemination exist in many articles of daily use and are principally made up of household goods, as bedding, cloth or hair furniture, carpets, curtains, etc., wearing apparel, edibles, as coffee, sugar, or tea, in bags or sacks, canvas hams, etc., in fact, any material of soft or porous nature. We doubt if vegetables and fruits ever serve as fomites, but in absence of proof of their harmfulness we consider it advisable to interdict their shipment. It will be observed that infected points occur only along lines of travel or by direct communication. This is worthy of note in connection with its prevention by quarantine. Concerning its spread by mail, we doubt if this ever occurs in letters, if properly fumigated. With papers or books freshly printed and subjected to infection before becoming dry, we believe there may exist a possible source of infection.

The period of incubation varies from twenty-four hours, the shortest known, to fourteen days, the longest known, with an average of three days.

Racial or residential characteristics modifying the disease exist most markedly among negroes and people living in a hot climate. As a rule, negroes have the fever in mild form often difficult of diagnosis.

Those coming from a colder clime are more susceptible to the fever and show a higher mortality than the local people among whom the disease first appears.

The onset is usually at night, though occasionally it makes its appearance during the day.

A chill occurs in ninety per cent. of the cases; sometimes pronounced, at others so light as not to be noticed.

The temperature is usually but not always at its height at the cessation of the chill. As a general thing the temperature does not range high, not often being over 104°, though sometimes it has been seen as high as 107°. It usually ranges about 103° or 103.5°. The fever begins to abate from the beginning as a rule, and in from twelve to seventy-two hours the patient is usually free from fever, though many cases will show about a half degree rise of temperature, or perhaps the same amount subnormal, during the stage of so-called calm, which lasts from twelve to forty-eight hours, and is then in a majority of cases followed by a fever of remittent type, lasting commonly four or five days. This is in a typical case of yellow fever; but it happens very often that the patient becomes secondarily infected, and then falls into a typhoid condition which may last anywhere from twenty to ninety days. This is the condition referred to by the older physicians as running into typhoid fever, but with whose pathology we are now better acquainted and which we recognize as septic poisoning. Malaria must be remembered in the cases of long-continued fever. In convalescence we see the temperature nearly always below normal to the extent of a degree or a degree and a half, which condition exists for a week or ten days, being most pronounced on rising in the morning.

The pulse must be closely observed. At the onset of the attack it is fast in proportion to the fever. It occasionally happens that as early as thirty-six hours after the beginning of the fever it will begin to slow down and lose its ratio to the temperature, but as a rule it is in the second rise of the fever that we see it steadily slowing or remaining stationary, while the temperature rises or remains normal. The pulse sometimes drops as low as thirty-six to the minute, but fifty-six is the average, which continues during the remittent stage and on into convalescence for many days, when it begins to slowly rise until it reaches the normal. The tone of the pulse throughout is markedly gaseous.

The facial expression of a yellow-fever patient is worthy of close and careful study. At first the face is flushed, the eyes bright, expression quick and restless; this appearance changes into a look of worry, anxiety, and dread, giving the patient a haggard expression. At times the face is remarkable for its dull apathetic appearance. The eyes are at first bright, watery, glistening with a kind of fleety, wavy movement. Sclerotic congestion soon follows, to which is quickly added an icteroid tinge, soonest and best observed by lifting the lids. This can be found as early as ten or twelve hours after the onset. The congested condition remains a marked feature on through convalescence. The eyelashes are frequently matted, and this, like the congestion, lingers long.

Epistaxis is a frequent and at times a dangerous symptom.

The skin is a factor of great moment in the treatment of yellow fever, and as such deserves careful attention and observation. At the onset usually, except in fulminating cases, it shows a tendency to act nicely, which will continue if proper care is exercised. Diaphoresis continues; and during the fever, through the stage of convalescence, and during the remittent period, is a frequent accompaniment of convalescence, and in children must be closely observed at night, when at times it may become so excessive as to prostrate the little patient. The skin as a general thing, though not always, assumes a yellowish color, most noticeable in the scalp and ears, and best brought out by pressure upon the parts to be observed. Some cases, only the serious ones, however, become extremely yellow, deepening into a bronze. It is also in this class of cases that ecchymotic spots most frequently make their appearance, especially noticeable in the dependent parts of the body, as the back of the neck, shoulders, and calves. Not more than twenty per cent. of those cases seen by us in Havana had a decided yellow color. In patients kept in a close room or under many blankets there is to be found a distinct and characteristic odor, differing from the smell of malarial or any other fever, and being almost indescribable as to its exact nature, though its closest resemblance is to be found in a bed of young mice.

Pain is one of the most pronounced symptoms. It occurs in the head, usually in the region of the temples, sometimes on the sides and top, is very severe, and causes patients much suffering. Pain in the lumbar region is an unfailing accompaniment, and during the first two or three days causes the patient more trouble, perhaps, than any other symptom. The pains in the calves of the legs and thighs are severe but endurable, and are almost unfailing symptoms. Headache during convalescence is a feature so striking as to almost be pathognomonic. A sense of constriction around the body at the edge of the ribs is an occasional symptom and, while not exactly pain, should be classed with it. In connection with this, also, attention is called to a sense of oppression, at times approaching dyspnœa, which is marked in some cases at the height of the fever.

The tongue is usually clean at first, but in a few hours becomes coated, red on edge and tip, slightly pointed, sometimes broad and thick, but never a malarial tongue, though at times indentations are observed; these indicate a mixed infection. The coat is at times so thick as to feel like cotton. When it clears up it usually does so in patches. There is a waviness or tremulousness about it which is characteristic. Beneath the tongue there is, as a rule, a marked congestion of the vessels. It sometimes bleeds, hæmorrhage usually coming from the edges. The gums soon become congested, swollen, spongy, and bleed on pressure. They present an appearance strikingly simulating ptyalism. The mouth is frequently sore after a few days' illness and along the edges of the teeth becomes very much indurated and swollen. The breath in these cases is quite offensive. After a long-continued illness, when the patient has lapsed into a typhoid state, the breath is extremely fœtid, reminding one strongly of the odor of a confinement.

The stomach is sore and tender. Frequently the patient is nauseated at the onset of fever, and the first vomit consists of undigested food, if there is any in the stomach. If there is none, then it is a thick, glairy mucus. Should there be a malarial element in the patient, there is likely to be a vomiting of bile also.

There is tenderness over the bowels, which are at times disturbed, but, as a rule, no tympanites. Obstinate constipation is the rule. The stools, when the bowels do move, are black or grayish-black in color.

The kidneys will show in many instances a tendency toward suppression of urine which is usually scanty, high-colored, in nearly all cases albuminous, containing anywhere from traces to seventy-five per cent. A marked feature is the fact that with low temperatures there is to be found in many cases only the faintest trace of albumin, and then only by the closest search; in some cases the urine will contain blood, but only rarely. Phosphates and mucus have been found in patients who have old cystic troubles, and these should be remembered, as also should cases of gonorrhœa which may exist unsuspected. Retention is an occasional feature to be borne in mind.

The appetite is of no moment at the first onset of the disease, but gives rise to a gnawing pain during the stage of calm. The appetite of convalescence is great and must be closely guarded. Thirst is not marked as a rule.

There is marked insomnia during the first few nights, due in a large measure to the pain in the back and head. Restlessness is such a pronounced feature and symptom as to call for the closest watchfulness on the part of the nurse.

The nervous system is usually profoundly depressed.

Hæmorrhage from the uterus is a frequent symptom in women, especially among young girls about puberty, who nearly always prove bad cases.

Yellow-fever complications will be classed under one head, as presenting features which, while characteristic of the disease, are not always to be insisted upon before making a diagnosis. One of the most frequent is black vomit, so called from its usual dark wine-colored appearance, with little particles resembling dirty dishwater. This has been in the past a most dreaded symptom, but the records prove that about forty per cent. of those having this symptom died under the old treatment and not more than twenty-five per cent. under the new. A distinctive feature of this vomit is its projectile character.

Suppression of urine is, without doubt, the gravest complication met with in yellow fever. Nearly eighty-eight per cent. of those having it die. Let us remember that retention is not suppression, and every case should be closely examined to make the distinction, which should be easy, as retention is usually an early symptom and the patient does not present that appearance of grave illness which is so prominent in suppression.

Inflammation of the parotid and submaxillary glands is a rather frequent sequela of the fever, in children especially.

Convulsions occur, though rarely, mostly due to high temperature, but at times dependent upon the poison in the blood or the gastric disturbances.

Cessation of diaphoresis sometimes occurs, and, as it throws more work on an already overburdened kidney, it must be promptly met.

Septic conditions must be kept in mind as an occasional feature.

Under this heading will also be mentioned subacute or typical cases occurring during epidemics. These cases start out with a pronounced pain in some region of the body, or with a continuous attack of almost uncontrollable vomiting. Though the temperature rarely exceeds 99.5°, it sometimes does not rise until the other symptoms have been under observation for two or three days; the pulse slows down to 60, perhaps, the eyes are injected, the bowels constipated, the urine contains faint traces of albumin, and the stools are characteristically black. A sore mouth and swollen gums frequently add to the other features of the disease. The occurrence of these cases among immunes shows the influence of the poison.

Diagnostic Findings of Yellow Fever post mortem.—The skin and sclerotics markedly icteric; usually early ecchymotic spots on the back of the neck, shoulders, and lumbar regions, thighs, calves of legs, and the ears. The abdomen is usually dry, sometimes a little fluid is present; the liver is contracted away from the ribs, of a boxwood color, bloodless, and friable. The gall bladder is contracted, usually empty, but sometimes containing a thick, tarry fluid. The spleen is normal in size and color. The kidneys are normal, sometimes showing signs of recent acute inflammation. The stomach is usually anæmic, generally shows exfoliated spots where hæmorrhages have occurred, and frequently contains black vomit. The intestines generally contain a pasty colored material like the stools, only not so black. The mucous membrane of the whole alimentary tract shows the most decided effects of the poison. The heart often shows traces of fatty degeneration.

Treatment demands a sober, intelligent, honest, wideawake nurse, one who will take interest in the case and further your every effort; very little medicine is needed, but chiefly management; a household or bulb syringe is required. Should the patient be taken before complete digestion of a heavy meal, empty the stomach either by hot soda water in large quantities or preferably by a stomach siphon. Give ten grains each of calomel and soda, divided into two doses to be given three hours apart, followed by an enema or saline cathartic in six or eight hours, if necessary. Put the patient to bed, give a hot mustard foot bath, and cover with one blanket next to the body. At night put on enough covering to keep the patient from becoming chilled. If the patient is in pain, or the temperature too high, give one five-grain dose of phenacetine or acetanilide and repeat once or twice if required. In a malarial patient give twenty grains of quinine in solution, and if rejected, give another dose at once. Keep the patient in a gentle perspiration by warm drinks of orange-leaf tea, flaxseed tea, etc. The use of Stafford mineral water from the start will prove of great service in combating a possible tendency toward suppression. The insomnia, being largely due to the back pain, can be much relieved by the following:

℞ Oil of mustard .... 10 minims;
Chloroform .... 60 "
Menthol .... 20 grains;
Extract of hamamelis, } each, enough
Alcohol, } to make .. 1 ounce.

M. Rub the back well with it.

A couple of ten-grain doses of trional or sulphonal in hot milk at intervals of one hour will prove very efficacious. As a stimulant, elixir Ducros, in two tablespoonful doses with a like amount of water, every two or three hours, is much used by the laity. Dietary: absolutely liquid. During the first stage of fever and the calm state it is best to give little or nothing except water as needed, two tablespoonfuls or more every half hour. Corn-meal gruel, strained thin, chicken soup or broth, oatmeal gruel, are the most valuable food stuffs we possess. Fresh buttermilk in small quantities may also be used. In using these diets care must be exercised not to overload the stomach, it being safest to give small quantities at frequent intervals. There is more to be feared from eating than from nearly all other causes put together.

Black vomit is best prevented by keeping the stomach at rest as nearly as possible. Should it supervene, a large mustard plaster must be placed upon the epigastric region, and from a fourth to half a grain of hydrochloride of cocaine should be placed on the back part of the tongue and with a little water washed at once into the stomach. These measures rarely fail. Creosote in half-minim doses, pushed to the point of burning the fauces, is also a valuable remedy. Three to five or even ten grain doses of calomel, floated on champagne, have proved efficacious. Ice-cold compresses, applied to the throat, have proved serviceable in controlling nausea. Suppression of urine is a symptom demanding urgent work. Have a big mustard plaster at once applied to the loins, and while this is being made ready give a copious enema of hot water, to clean out the system and relieve congestion. Give ten-minim doses of oil of turpentine on a lump of sugar every thirty minutes until sixty minims are given. Apply hot applications to the entire surface of the body. Green coffee " tea," made by putting a pint of boiling water upon two tablespoonfuls of green coffee and letting it steep, is a powerful remedy. Epistaxis, if excessive, can be controlled by plugging, or by spraying with a thirty-three-and-a-third-per-cent. Monsel's solution. The checking of perspiration sometimes demands attention, and is best met by hot drinks and hot applications to the body. The slow pulse and possible cardiac weakness are best treated by the use of strychnine sulphate or tincture of nux vomica. In giving rectal injections, remember that normal solt solution is not nearly so irritating as is plain water. Should convulsions supervene, direct urgent measures to all the emunctories. The patient should be placed in hot water at once, if relief is not obtained by this and small doses of bromides. Insomnia and restlessness are often relieved by sponging with equal parts of hot water and alcohol. In extremely high temperatures, when other measures fail, ice poultices or sponging with ice water may be resorted to. Of all measures at our command the enema is, without doubt, the most efficacious in yellow fever.

The Vomiting of Pregnancy.—Bacon (*American Journal of the Medical Sciences*, June; *Medical Age*, June 25th) defines vomitus gravidarum as " vomiting during pregnancy, due to a variety of immediate causes acting upon the abnormally irritable nervous system of the pregnant woman." These causes may be due: (1) To an abnormal condition of the vomiting centre; (2) to sufficiently powerful impulses sent from the genital tract causing an irritation of the vomiting centre; (3) to a combination of influences affecting the vomiting centre both directly and reflexly, as poison circulating in the blood or nutritive changes coexisting with peripheral irritation; (4) to a psychopathic factor like that which exists in the vomiting of hysteria.

While vomiting may commence at any time after the first week of pregnancy, seventy per cent. of all cases begin during the first month, very few developing during the fifth or sixth months. The greatest amount of sickness exists during the second month. Vomiting does not always occur in first pregnancies, but in primiparæ the frequency of its appearance increases with age, so that ninety per cent. of first cases over twenty-five years of age are more or less affected. Women who menstruate regularly, without pain, and not too freely, have less sickness than those who are troubled with profuse or painful menstruation.

In summing up his suggestions regarding treatment the writer says:

1. The abnormal irritability of the nervous system, including the vomiting centre, is to be allayed by keeping the patient in the horizontal position, by attention to the skin, bowels, and kidneys, using rectal and, if necessary, hypodermic injections of salt solution.
2. The hysterical condition which is so commonly present should be controlled by strengthening the will and influencing the dominant idea of the patient.
3. All sources of peripheral irritation should be discovered and treated.
4. In extreme cases subcutaneous saline injections serve the threefold purpose of (*a*) dilating the blood and increasing vascular tension; (*b*) eliminating toxines through renal and intestinal emunctories; (*c*) furnishing two most important kinds of food.
5. Induction of abortion is never indicated. At a stage when it is safe and efficient it is not necessary, and in extreme cases it adds greatly to the danger, rarely stops the vomiting, and can be replaced by the artificial serum.

A Means of Emptying the Bladder.—Anderson (*Louisville Medical Monthly*, June) says that the bladder, when partially paralyzed from parturition or any other cause, can always be made to empty itself perfectly by throwing a large amount of very warm water into the bowel, thereby doing away with the necessity of using a catheter, a most important consideration, particularly when the patient lives at a distance from the doctor.

After difficult and protracted labors he has been obliged to use the catheter every day for weeks at a time, which was annoying to the patient and inconvenient to himself. Since using the plan here recommended, he has had no trouble in this direction, the bowel and the bladder emptying themselves at the same time.

Vaginal Bacteriology. — Kottmann (*Archiv für Gynäkologie*, 1898, vol. lv, p. 615; *Gazette hebdomadaire de médecine et de chirurgie*, June 12th) arrives at the following conclusions: 1. The vaginal secretions of pregnant women contain, Kronig's views to the contrary notwithstanding, both aerobic and anaerobic bacilli. 2.

The staphylococci which have been isolated from these secretions differ in no respect from ordinary staphylococci. The streptococci therein found differ from those of puerperal infection in their lesser virulence, which virulence may be artificially augmented or decreased. 3. Pathogenic bacteria are more numerous at the entrance than in the deeper recesses of the vagina.

The Treatment of Asphyxia Neonatorum.—Dr. S. Stringer, of Brooksville, Florida, in a paper read before the Florida Medical Association and published in the *Texas Courier-Record of Medicine* for June, makes a suggestion which certainly deserves the most careful attention of the profession. He says that in the asphyxiated infant, unless the blood becomes oxygenated very soon, the child must die; the sensorium has become so deadened or blunted as not to respond to the irritation of the atmospheric air, the application of cold water, or other methods of inducing respiration; yet fœtal life still remains and would continue were it not that the placenta has become detached, and thereby respiration, or oxygenation of the blood through the medium of the maternal circulation, is cut off.

Now, if fœtal life could be maintained by any method until the sensorium could recover sufficiently to respond to the nervous excitants of respiration, the life of the infant would in many instances be saved.

A few years ago the author was called to a multipara in labor in her fourth or fifth month of pregnancy. In a few hours she was delivered of a fœtus which he took to be about the age indicated. The fœtus, membranes, and placenta were all delivered by the same effort. Nothing unusual having occurred, the fœtus and envelopes were laid aside until his departure, when he had them placed in some cloths and rolled up to carry with him as a specimen; but, it being late in the night, he laid them aside until morning, when, on examining them, to his astonishment he found the fœtal circulation still going on, with a very perceptible pulse at the wrist. Here was a case of fœtal circulation apparently carried on several hours after birth by the aeration of the blood through the medium of the placenta exposed to the atmospheric air.

It occurred to the author that this procedure might be utilized in cases of asphyxia in newly born infants, and he resolved to try it in the first case that came under his care.

At last a case presented itself in a large and well-developed child of white parentage, in which the head had been molded into cylindrical form by a narrow pelvis. The child could not be induced, by the usual method of cold application and rolling, to make any effort at respiration. The circulation was still going on in the funis with some vigor, but the deepening of the dark hue of the surface plainly indicated that, unless oxygenation of the blood could take place, death would soon follow.

Already the pulsation in the cord had become feeble, and was rapidly becoming more so, when he delivered the placenta, rapidly cleansed it of clots, and exposed the maternal surface to the atmospheric air. In a very short time the pulsation was perceptibly increasing in force; the livid and deathlike hue was being displaced by one of life and health, and it required but a few moments for the restoration of sensibility, when the process of respiration commenced. Had the placenta remained in the os uteri or vagina, excluded from atmospheric air, death from asphyxia would certainly have occurred to the child. Several subsequent cases have proved to the author that this simple and rational plan of restoration is preferable to all others.

The placenta should be spread out with the maternal surface cleansed of all clots and membrane, so that free access of air can be had. If it becomes necessary, on account of numerous clots, to use water to cleanse the maternal surface, it is advisable to have it warm, for it is remarkable how quickly the use of cold water will chill the child.

So long as the circulation keeps on through the cord, there is no need to fear for the life of the child, for it is a continuance of fœtal life *after birth,* and will keep the child alive for an indefinite time. As soon as respiration occurs, which, in some instances, has been delayed as long as twenty-five minutes, the circulation is diverted from the placenta to the lungs, and pulsation in the cord ceases in a few seconds, when the child is to be separated from the placenta, as in ordinary cases.

The author further refers to the great advantage which, as it seems, must result from the delivery of the placenta in cases of placenta prævia—advantages not only to the mother but to the offspring.

Beechwood Creosote in the Treatment of Phthisis.—Mr. Charles Lamplough (*British Medical Journal,* May 28th) thus sums up the results of his observations on one hundred cases of pulmonary tuberculosis treated with large doses of beechwood creosote:

Having compared the objections raised against the administration of beechwood creosote in phthisis with the results obtained at this hospital by treating one hundred cases with this drug, I would suggest that the following points are worthy of consideration and further investigation.

1. The best beechwood creosote can be given with benefit, in amounts varying from one hundred and twenty to two hundred and forty minims daily, in cases of pulmonary tuberculosis.
2. The drug is best administered in cod-liver oil or in a spirituous solution, and in some cases the "creosote chamber" or oro-nasal inhaler may be ordered in addition, with advantage.
3. The dose should be small at first, but it can be rapidly increased to forty minims three times daily for an adult. In three cases doses of thirty minims three times a day were well borne by children.
4. Large doses rarely cause any gastric disturbance; on the contrary, the appetite is frequently increased, symptoms of dyspepsia disappear, and cod-liver oil is more easily assimilated. The cough, expectoration, and night sweats are diminished, and the physical signs improved.
5. Owing to its disinfectant action in the alimentary canal the drug probably diminishes the risk of tuberculous enteritis by self-infection when patients swallow their sputa, but owing to the increased peristalsis which is created by creosote, it is usually contraindicated in cases where the ulceration is already advanced.
6. The drug does not tend to cause hæmoptysis, but rather to prevent its recurrence.
7. Creosote does not irritate the normal mucous membrane of the genito-urinary tract.
8. Owing to its extremely small cost pure creosote can be given to a much larger number of patients than the carbonates of creosote and guaiacol, which respectively cost four times and twelve times as much as the older drug.

Original Communications.

CÆSAREAN SECTION.

By W. H. MARCY, M. D.,

SURGEON TO INGLESIDE HOME;
CHIEF SURGEON, RAILROAD MEN'S HOSPITAL, BUFFALO, N. Y.;
SURGEON, WEST SHORE RAILROAD AND THE NEW YORK CENTRAL RAILROAD.

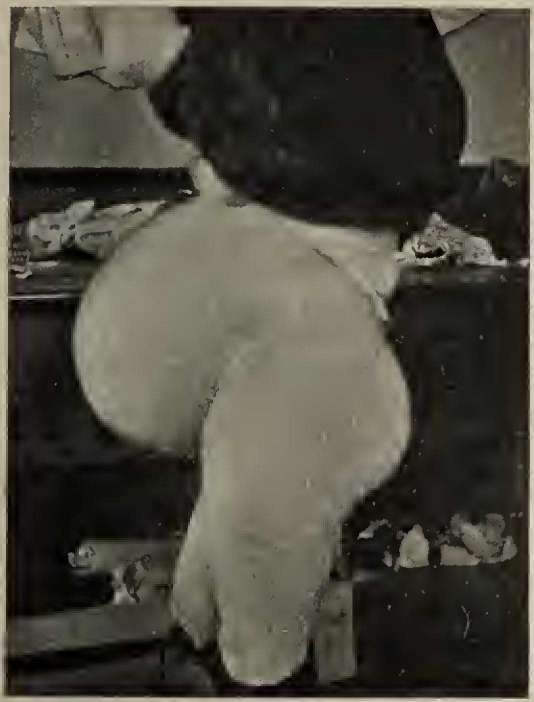
In May, 1897, I was called to see Mrs. G., aged thirty years; height, four feet three inches; a dwarf who was eight months pregnant. Upon examination I found the pelvis very small and took the following measurements: Spinæ ilii, twenty-five centimetres; cristæ ilii, twenty-four centimetres; external conjugate, fifteen centimetres; internal conjugate (diagonal), eight centimetres; true conjugate (estimated), five centimetres and three quarters.

The child was in breech presentation L. A. S. The abdominal walls being thin, the approximate measurements of the child's head were easily taken with the pelvimeter, which subsequently proved to be true by comparison with the accurate measurements obtained after birth, which were as follows: Biparietal, eleven centimetres; fronto-occipital, twelve centimetres and a half; fronto-occipital circumference, thirty-eight centimetres.

After ascertaining these measurements I saw normal labor was impossible. Two weeks before her expected time I transferred her to the hospital, deciding to do Cæsarean section.

I allowed labor to progress sufficiently to dilate the os uteri to the size of a silver dollar. The bags of water were unruptured. The patient was anæsthetized in bed and taken to the operating room.

Operation.—An abdominal incision was made from just above the umbilicus to the pubes. The uterus was thrown outside the abdominal wall. The skin along the line of incision was clamped close to the uterus to protect the abdominal viscera from amniotic fluid and blood clots. At the lower segment of the uterus was placed a rubber tube, mainly as a safeguard should hæmorrhage be excessive, and around this was a strip of gauze to reassure protection to the viscera. Constriction was exerted through the rubber tubing only as hæmorrhage showed itself.



Concerning the Technique.—It is of great importance to diagnosticate the site of the placenta and avoid its injury, but not to avoid incising the uterus over the placental site, as suggested by many authors. I wish to emphasize this point. I diagnosticate the site of the placenta and try to make my incision over its centre, cutting only a buttonhole in the uterus, inserting my finger as a guide, and making a five-inch uterine incision. The back of the hand at the same time compresses the placental site. Immediately on removing the hand the intra-uterine pressure forces the placenta through the incision, and all one has to do is to use gentle pressure so that the placenta and uterine contents do not come out with a rush. The placenta pops out, with the aid of intra-uterine pressure and at the same time aided by uterine contraction, like a cauliflower. I was able in this case to lift the placenta with membrane intact from the uterus. The hæmorrhage did not exceed two ounces. The patient was immediately given a hypodermic injection of ergotine. The child was not asphyxiated and began to cry immediately. The uterus contracted normally.

Silk was used for the intramural stitches, which did not penetrate the peritonæum or mucosa. A second line of sutures (Lembert's) united the peritoneal coat outside of the intramural sutures. The omentum was drawn down over the peritoneal sutures in the uterus. The peritonæum proper was united with continuous suture of catgut. The abdominal fascia and integument were sutured separately with catgut.

The mother made an uninterrupted recovery. The lochia were normal, and she did not suffer more than from an ordinary labor.

The baby tipped the scales at eight pounds and a half. To-day (March, 1898) both mother and baby are in perfect health.

Appended are photographs of the mother before operation, and after operation with her babe in her arms.

1148 MAIN STREET.

A CASE OF

EPITHELIOMA OF THE LARYNX.

LARYNGECTOMY AND PARTIAL PHARYNGECTOMY; DEATH ON THE ELEVENTH DAY FROM EXHAUSTION.*

By E. L. SHURLY, M. D.,
DETROIT.

MISS A. H., aged forty-five years, was brought to me January 28, 1898, by Dr. Howell, of Tecumseh, Michigan, to whom I am indebted for the clinical history. The patient had always been active and in "good health" until about February, 1897, when she was taken with what was supposed to be *la grippe.* There was more or less "trouble" and pain in swallowing following this attack, with gradually supervening hoarseness. Phonation became progressively disturbed, with increase of pain extending from the right side of the larynx to the side of the head. She had been treated for these symptoms without effect, and during the last few months had experienced so much pain, difficulty in swallowing, breathing, and phonation, that she was becoming rapidly exhausted. In January, 1898, she first consulted Dr. Howell, who at once recognized that the cause of her distress was in all probability some growth in the larynx. At that time she had severe paroxysms of dyspnœa upon exercise, and sometimes upon efforts at swallowing. There were some mucous râles in the bronchial tubes, but the "lungs seemed clear." She had become weak and emaciated, and was unable to travel; but by careful tonic and nutrient treatment she became stronger, and was brought to this city January 28, 1898.

Her condition when I first saw her was about as follows: Very much emaciated; great dyspnœa upon slight exertion; great inability to swallow (she stated that the taking of a bowl of gruel or soup occupied about an hour, and was attended by severe paroxysms of coughing, retching, and dyspnœa). Pulse small and 130 per minute; respiration shallow and panting on movement of the body; no fever; voice a coarse whisper, occasionally broken by a stridulous sound upon making an extraordinary expiratory effort; a hacking cough; considerable salivation, and a moderate amount of pain and tenderness of the throat and right side of the neck.

Examination.—Upper pharynx was smooth, slightly œdematous, and showed a few enlarged veins; its muscles were very irritable.

Larynx.—The larynx seemed almost filled with a growth of lobular appearance, some lobules being pale and large, like œdematous swellings, and some (the smaller) appearing of a purplish or cherry hue. The growth seemed to be mostly on the right side. The ventricular and vocal bands could not be seen, neither could any respiratory channel be clearly discerned. The arytenoids were also difficult to make out. The growth, however, seemed strictly limited to the larynx—within the confines of the thyreoid cartilages—and therefore was considered intrinsic. There were no enlarged cervical glands visible or to be felt externally.

Laryngoscopic examination was very difficult of accomplishment on account of the paroxysms of dyspnœa, coughing, and consequent weakness induced by the manipulation. Indeed, at one time the introduction of the laryngeal mirror caused great dyspnœa and spasm. On this account it was impossible at the time to obtain a piece of the growth for microscopical examination. Believing, however, from appearances, together with the clinical history, that the disease was malignant, and, moreover, that it was really intrinsic—for there was no visible evidence of pharyngeal implication—we advised her to undergo the operation of laryngectomy, at the same time fully and particularly acquainting her of all the untoward results, both immediate and remote, which might attend or follow such an operation. Accordingly she was placed in Harper Hospital, and the following morning a tracheotomy was made. She recovered very well from this operation, and for the ensuing ten days took large quantities of concentrated nourishment, some alcoholic stimulants, and one twenty-fourth of a grain of strychnine three times a day.

On February 9th, assisted by Dr. P. M. Hickey, Dr. J. K. Gailey, and Dr. Meyer of the house staff, I removed the larynx and a considerable portion of the lower pharynx on the right side.

Operation.—The ordinary tracheal cannula was replaced by a Trendelenburg tampon cannula; the usual vertical and transverse incisions were made through the superficial parts, and the anterior part of the larynx enucleated, so to speak, principally by means of the Addis dissector. Upon reaching the posterior lateral border of the larynx on the right side, it was found that the growth and accompanying exudates had softened and perforated the lower part of the thyreoid cartilage, extending through and involving all of the adjacent portion of the pharynx, which had become also closely adherent, so that its separation from the larynx was impracticable. All of this portion of the pharynx (which was considerable) was therefore excised with the larynx. On account of this condition the upper and lower attachments of the larynx were first separated, and the organ dissected out sidewise from left to right. In order to give support to the œsophagus, and possibly to lessen the danger of infiltration into the mediastinum, the posterior arc of the cricoid cartilage, which seemed healthy, was left in place, the anterior portion being partially cut away by pliers and scissors. The few enlarged glands lying behind the right wall of the pharynx were also afterward removed. The remaining portion of the border of the anterior wall of the pharynx was stitched to the supralaryngeal fold bearing the remains of the epiglottis, and a soft-rubber feeding tube was then introduced into the œsophagus to within a few inches of the stomach, and its proximate end brought out at the left upper angle of the external wound. Each edge of the lower portion of the external wound was folded in and stitched stoutly to the trachea, according to the method of Dr. J. Solis-Cohen, and the upper portion of the wound, after being thoroughly dusted with Semon and Butlin's mixture of iodoform and boric acid, was closed by a few catgut stitches. Thanks to the expert assistants, no extra hæmorrhage or other untoward event attended the operation. The anæsthesia (chloroform), for the administration of which I am indebted to Dr. J. K. Gailey, was perfect.

At no time during the two hours occupied in the whole operation did the patient come out from under the influence of the chloroform, and at no time was there any interruption on account of its profound effects. This, I think, may be justly attributed to the splendid mechanism of Dr. Gailey's anæsthesia apparatus, which so admirably regulates the amount of air and anæsthetic inhaled that a minimum amount of the anæsthetic will accomplish the object. In this case only five drachms of chloroform were used during the whole period. It seems to me that the Gailey apparatus can not be too highly extolled for the administration of chloroform for long surgical operations because of the small amount of anæsthetic used and the avoidance of the distressing nausea which almost invariably follows prolonged chloroform anæsthesia. This patient had no nausea whatever after the operation. The tampon cannula which was used in this case was entirely satisfactory. It effectually closed the lumen of the trachea during the operation and afterward, and was not removed once during the after-treatment. It was necessary, however, to inflate the tampon occasionally. I felt some hesitation in using this form of tampon cannula in the face of the criticisms which have been lately directed against all forms of cannulæ constructed with surrounding rubber air bags, but felt that the advantage of the rubber air bag, when working satisfactorily, was such that it deserved further trial. These advantages consist in its smoothness and non-irritating surface, and its ready coaptability to the internal surface of the trachea. Microscopical examination of the growth showed it to be unmistakably epithelioma.

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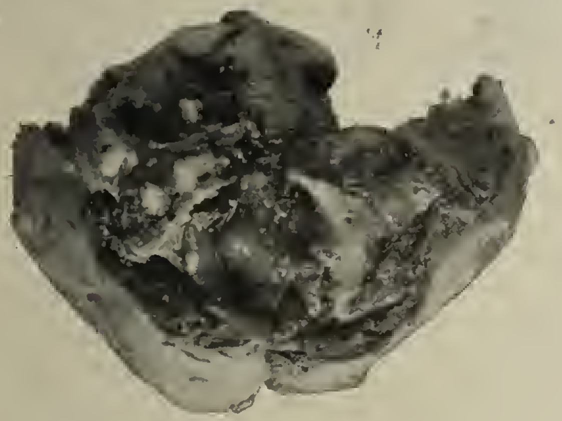
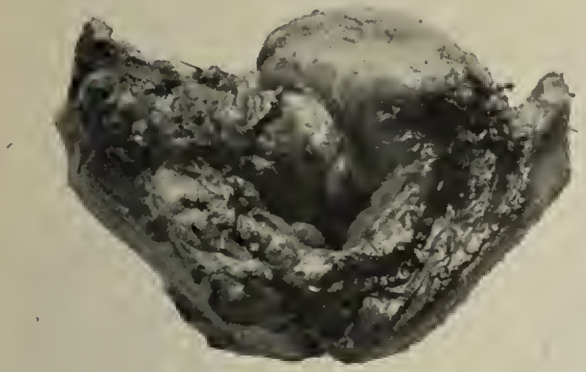
* Read before the Detroit Medical and Library Association.



A summary of the subsequent history of this patient would indicate that she died of exhaustion instead of inspiration—pneumonia or septicæmia—the usual sequelæ of such operations when not followed by immediate death from shock or hæmorrhage.



The operation was begun at 10.30 A. M., and occupied about two hours. At 4 P. M. the temperature, taken by the rectum, was 97.8°; pulse, 112; respiration, 28. The temperature gradually rose, and at 8 P. M. was 98.8° and pulse 108. From this time to the 12th of February (third day) the temperature ranged between 98° and 99.8°. The pulse reached 120 on the 10th inst., and maintained that rate, excepting for a period of a few hours on the evening of the 10th and 11th (when it reached 132 and 140, respectively), until the afternoon of the 16th (seventh day), when its rate averaged about 140. This pulse rate was maintained right along until the day of death. The temperature, however, never went above 101° and the respiration never beyond 30 per minute. Strychnine, quinine, and alcohol were administered through the feeding tube, and also from eight to twenty-four ounces of concentrated nourishment or milk each twenty-four hours. There was never any attempt at vomiting, and there was but very little nausea. This result—absence of nausea—may possibly be attributed to the fact that the distal end of the feeding tube was not passed quite through the œsophagus into the stomach at any time, but remained in the œsophagus. Auscultation elicited no evidences of pneumonia at any time. The lower part of the wound in the neck was kept open by a light packing of iodoform gauze, which was removed once or twice daily. Through this opening the cavity of the pharynx was dusted with the iodoform and boric-acid powder as mentioned above. Respiration through the cannula was always free and easy. Death occurred at 11.15 P. M., February 19th, preceded by symptoms denotive of gradual exhaustion.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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(*Continued from volume lxvii, page 743.*)

A SERIES of investigations associated with the names of von Gudden,* Forel, Mayser, Mendel, Bregman, Darkschewitsch, Nissl, and Flatau must now be considered. The first four investigators experimented by tearing spinal or cranial nerves away from their connections with the central nervous system, especially in newborn or very young animals. These animals were allowed to live for several months, after which they were killed and the central portion of the nerve involved, together with the group of nerve cells corresponding to it, was studied microscopically. The histological examination revealed marked changes in the nucleus of origin. The cells present showed distinct atrophic alterations and many of them had entirely vanished, so that enumerations of the cells of the groups concerned revealed a decided discrepancy in the counts on the two sides. The nerve fibres in the central portion of the nerve had suffered degenerative changes, many of them having totally disappeared.

Bregman, in Vienna,† and Darkschewitsch,‡ in Koshewnikow's laboratory at Moscow, undertook the study of the central stump of motor nerves soon after the establishment of the lesion, and were able to show by the delicate method of Marchi that extensive undoubted degenerative processes occurred in the fibres.* In one case, in which the facial nerve had been operated upon, Bregman demonstrated complete degeneration of the fibres of the central stump at the twentieth day (Figs. 93 and 94).† Startling as were these results in face of the fact that the trophic doctrine of Waller had held sway for forty years, they were eclipsed by others, which must now be considered. Nissl, with his methylene-blue and soap staining of alcohol tissues, found that he could actually demonstrate definite alterations within the nerve cells very soon after the solution of continuity of their axones. In rabbits, for example, after excision of a portion of the facial nerve on one side, characteristic alterations can be demonstrated, consisting in the main of a rarefaction and finely granular change in the Nissl bodies of the cells of the seventh nucleus.‡ He asserts that while the changes are most marked if the animals are killed after from eight to fifteen days, to one acquainted with them alterations are recognizable within the cells of this nucleus as early as twenty-four hours after the operation. The findings, as might be expected, vary for the different forms of nerve cells and somewhat in the same form of cells in animals of different species. Even if the peripheral nerve is not cut through but is rendered temporarily incapable of functioning, the regressive alterations can be made to appear, as Nissl asserts he has shown, by the application of chemical substances (for example, common salt) to the trunk of the facial nerve, or by applying a temporary ligature to it. After these have reached a maximum (eighteen to twenty-two to thirty

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* V. Gudden. *Gesammelte und hinterlassene Abhandlungen.* Herausgegeben von H. Grashey, Wiesbaden, 1889.

† Bregman, E. Ueber experimentelle aufsteigende Degeneration motorischer und sensibler Hirnnerven. *Arbeiten aus dem Inst. f. Anat. und Physiol. des Centralnervensystems a. d. Wiener Univ.*, 1892, p. 73.

‡ Darkschewitsch, L. Ueber die Veränderungen in dem centralen Abschnitt eines motorischen Nerven bei Verletzung des peripheren Abschnittes. *Neurol. Centralbl.*, 1892, Bd. xi, p. 658.

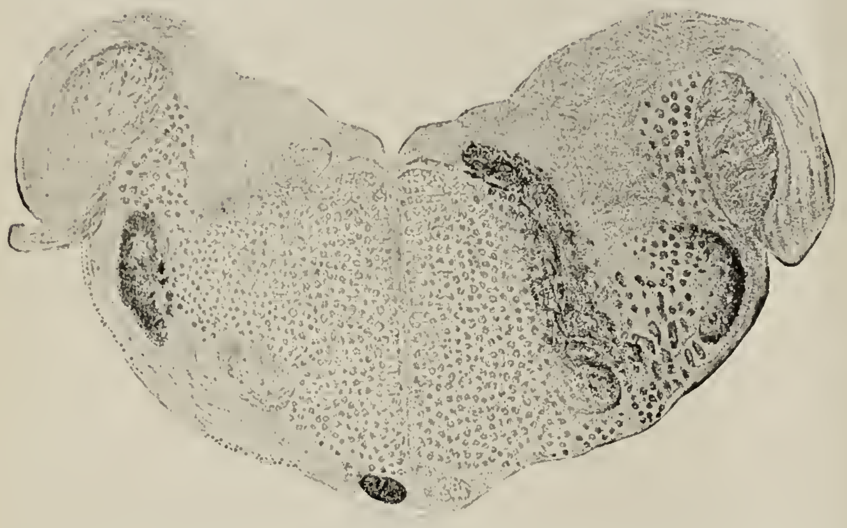

FIG. 93.—Transverse section through the medulla oblongata of a rabbit. The facial nerve of the right side has been torn out of the Falloppian canal and the animal killed fifty-eight days later. Thirty days before death both nervi trigemini were cut through incompletely intracranially according to Magendie's method. On the right side the corneal reflex was retained; on the left side it was absent and suppurative keratitis set in. The cerebral peduncle was also wounded on this side.

Treatment by Marchi's method. The nucleus and fibres of the right facial root completely degenerated; left facial nerve normal. From the rhaphe fibres go to both sides along the dorsal border of the fasciculus longitudinalis medialis and become lost beneath the bundle of facial fibres. These fibres —crossed facial root of the authors—remain normal. On the right side the dorsal part of the crescent-shaped cross section of the tractus spinalis nervi trigemini is degenerated; on the left side only the ventral part of the same. The left pyramid shows degenerated fibres. A few black masses are visible in the rhaphe, in the fasciculus longitudinalis medialis of both sides, in the left nervus acusticus, and in the fibræ arcuatæ externæ. (After Bregman.)

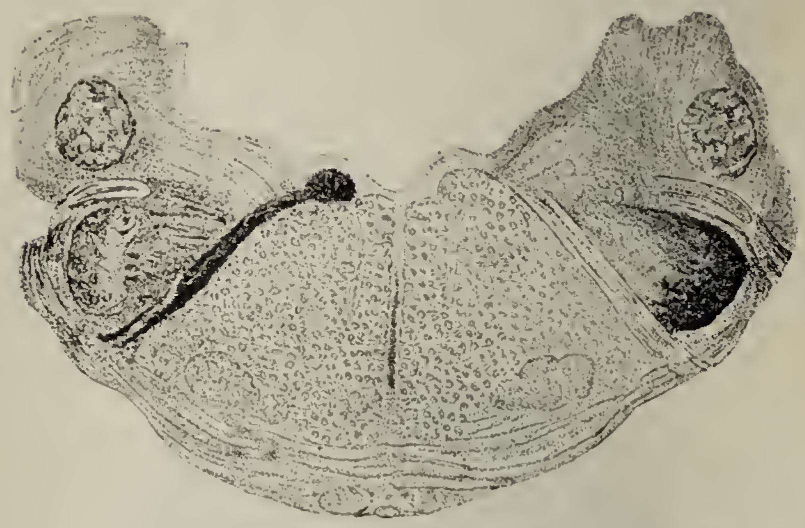

FIG. 94.—Cross section through the medulla oblongata of a rabbit corresponding to the distal part of the corpus trapezoideum. The facial nerve on the left side was torn out of the Falloppian canal fifty-four days before the death of the animal. The nervus trigeminus on the right side was completely severed intracranially thirty-two days before the death of the animal. Treatment by Marchi's method. (After Bregman.) On the left side of the figure the root fibres of the facial nerve are completely degenerated. The right facial root contains a few black granules, but not more than one usually finds in the root bundles of the cranial nerves at their exit. The nervus abducens is normal on both sides. The so-called crossed facial root is normal on both sides. The tractus spinalis nervi trigemini is completely degenerated on the right side. In the neighboring substantia gelatinosa numerous bundles of degenerated fibres arranged in groups are visible. The dorsal portion of the tractus spinalis nervi trigemini runs out medially as a narrow stripe. In the corpus trapezoideum a few fibres are degenerated on both sides of the middle line. There are a few black granules in both acoustic nerves in both corpora restiformia, in the fasciculus longitudinalis medialis of both sides, and in the fibræ arcuatæ externæ.

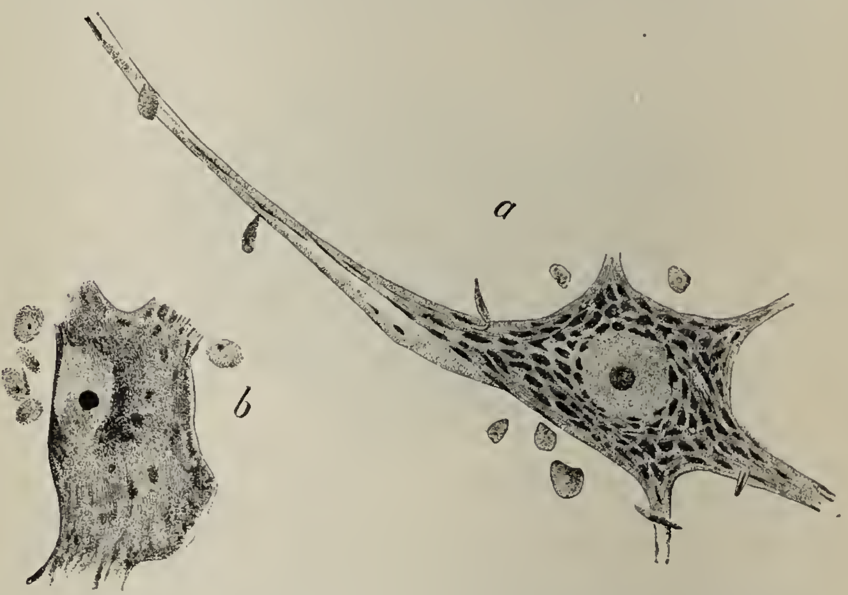

FIG. 95.—Cells from the nuclei of the oculomotorius nerves of the cat thirteen days after section of the root fibres of the nerve on one side. (After Flatau.) *a*, cell from nucleus of side not operated upon, showing typical stichochrome arrangement of Nissl bodies; *b*, cell from nucleus of side operated upon. The homogeneous dustlike appearance is represented. Here and there single larger irregular Nissl bodies are visible. The nucleus is displaced to the side of the cell.

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* I am not sure that these results come within the province of traumatic degeneration, in which event they would not contradict the Wallerian doctrine. Certainly, inside the spinal cord, pressure causes no such rapid degeneration in the proximal ends of injured fibres extending to their cells of origin.

† That there is no lack of interest at present upon this topic is shown by the fact that, at the meeting of the British Medical Association held in 1896, Fleming reported the results of his researches made in Munk's laboratory in Berlin. *Cf.* Fleming, R. A. Ascending Degeneration in Peripheral Nerves and the Resulting Changes in Nerve Cells. *Lancet*, London, 1896, vol. ii, No. 7, p. 508.

‡ "Darin, dass dieselben unter einer feinkörnigen Umwandlung rareficiren."

days) the appearances for a time do not alter materially, but Nissl thinks that later the majority of the cells, perhaps through the formation of other unions, begin slowly to recover, so that by the fiftieth or sixtieth day it may be difficult for the inexperienced to distinguish them from entirely healthy cells. Characteristic changes in the neuroglia accompany those found in the nerve cells. Of the importance of this method, which has been designated by Nissl as *Die Methode der primären Reizung*,[*] I have already spoken in another place.[†] The method is a very delicate one—in fact, the most sensitive as yet introduced. Nissl cautions against drawing conclusions from its application before one has become skilled in the necessary technique. In order to obtain results of any value the operations must be done aseptically, and a long and intimate acquaintance with the appearances presented by the different varieties of cells occurring normally in the regions under examination is absolutely essential. The procedure has already been applied to determine a number of complicated relations existing within the nerve centres and is full of promise as regards the solution of many intricate questions, among which Nissl refers with especial hopefulness to those involved in the study of the eye-muscle nuclei.

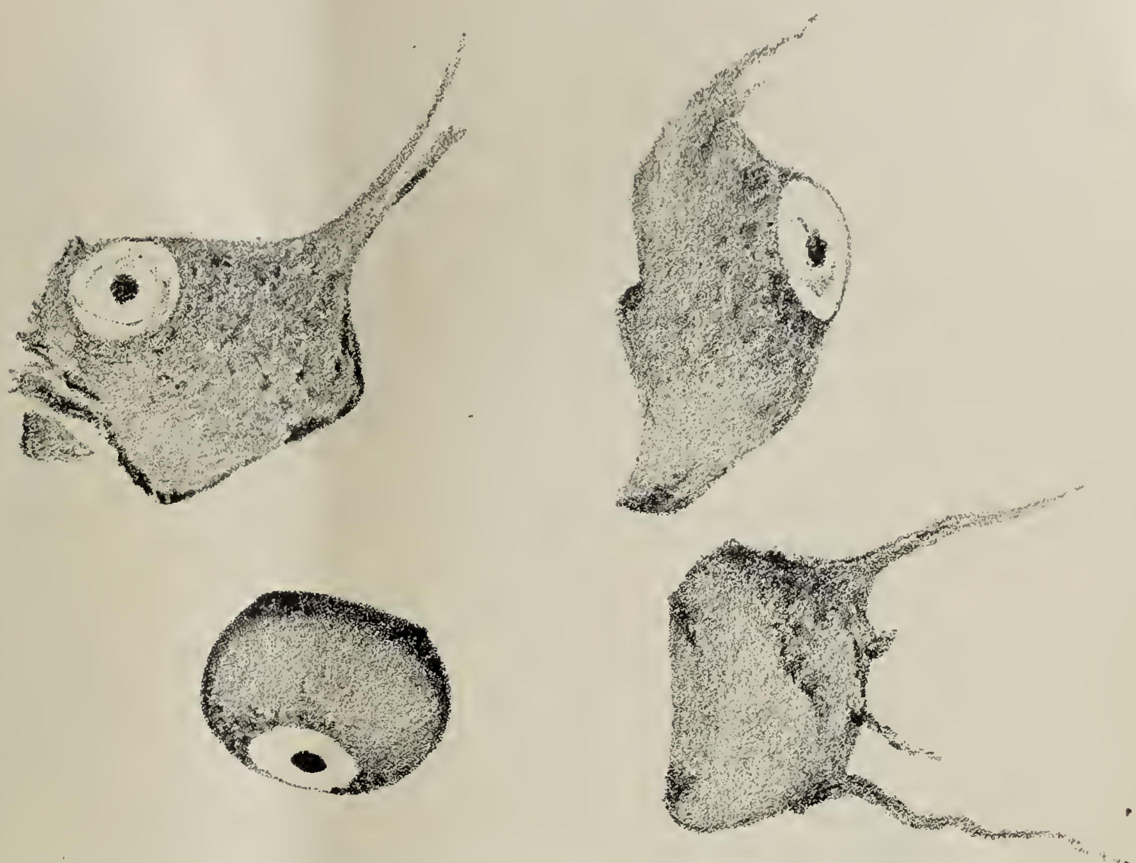
FIG. 96.—Four nerve cells from the nucleus nervi facialis of a rabbit fifteen days after section of the nerve root. The drawing made from one of J. Erlanger's preparations.

Flatau,[‡] in Waldeyer's laboratory, examined the brains of four young cats in which the third nerve had been cut intracranially by Gad thirteen, eleven, three, and two days respectively after section. His description of the findings accords entirely with those of Nissl's investigations (Fig. 95). Held states that he has employed the method and found it to be useful, especially where the central relations are very complex. Sadovský's researches[#] are also confirmatory of Nissl's studies. By both Nissl's method and Marchi's method Biedl[||] has demonstrated that cellulipetal as well as cellulifugal degeneration occurs after section of the splanchnic nerve. Bernheimer[*] thinks he has been able by this method to decide as to the portions of the nucleus of the oculomotorius respectively concerned in the innervation of the extrinsic and intrinsic muscles of the eyeball. According to him, in the rabbit the four external eye muscles supplied by the oculomotorius nerve are governed by the ganglion cells of the distal and middle thirds of the nucleus (chiefly of the opposite side), while the cells of origin for the intrinsic muscles of the eyeball are to be sought in the most proximal portions of the nucleus. J. Erlanger is at present engaged with me in the study of the spinal cords of animals from which pieces of nerve supplying muscles, and in some instances the muscles themselves, have been excised; the results of these investigations will be published later. In Fig. 96 are shown some cells from the nucleus nervi facialis fifteen days after section of the facial nerve. They may be compared with Fig. 97, which represents a normal motor cell.

As to the effects upon the cell body induced by injury to a portion of the terminals of the collaterals of a given axone, we have as yet no evidence.

Experiments such as the foregoing place certain diseases—for example, the so-called peripheral neuritis—before us in an entirely new light, for it is obvious that even if the morbid process be confined at first exclusively to distal portions of the axones (the lesion, when of the nature of a focal necrosis, is usually dependent upon poisons circulating in the blood), it does not remain localized in them, and, as we have seen, injury to an axone leads to alterations in the whole of the neurone to which it belongs. Ballet and Dutil * have already described such changes in the cells of the ventral horns in cases of polyneuritis (Fig. 98). Many additional examples of the bearing of these experiments upon pathology might be given. From what has been said it is obvious that we must be very chary of denying the existence of alterations in the cell bodies of the neurones in a given disease, unless these have remained undiscovered with the most delicate methods now at our command. There can be but little doubt that in many cases in which the nerve cells have been described in the bibliography as being perfectly normal, very distinct pathological changes could have been demonstrated in them had Nissl's method been used for their detection. On the other hand, it must be borne in mind that in the very delicacy of these methods there lies the great danger that with them the inexperienced may easily be led to describe pathological findings where, in reality, none exist. I must confess that I am very skeptical of accepting as facts the statements in any publication of work based on Nissl's methods where I am not sure that the results have been controlled by an investigator of experience.

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[*] Nissl, F. Ueber eine neue Untersuchungsmethode des Centralorgans speciell zur Feststellung der Localisation der Nervenzellen. Vortrag gehalten bei der Versammlung der sudwest. Neurologen und Irrenärzte in Baden-Baden, 3. Juni 1894. *Centralbl. für Nervenheilk. und Psychiatrie*, Juli 1894, Bd. xvii, p. 337.

[†] *Johns Hopkins Hospital Bulletin*, vi, 1895, p. 166.

[‡] Flatau, E. Einige Betrachtungen über die Neuronenlehre im Anschluss an frühzeitige, experimentell erzeugte Veränderungen der Zellen des Oculomotoriuskerns. *Fortschritte der Medizin*, Bd. xiv, 1896, No. 6, p. 201.

[#] Sadovsky, S. Névrite expérimentale par compression et lésions consécutives des centres nerveux. *Compt. rendus de la Soc. de biol.*, 1896, pp. 355–357.

[||] Biedl, A. Ueber die Centra der Splanchnici. *Wiener klin. Woch.*, 1895, No. 52.

[*] Bernheimer, S. Zur Kenntniss der Localisation im Kerngebiete des Oculomotorius. Vorl. Mitth. *Wien. klin. Woch.*, ix, 1896, No. 5.

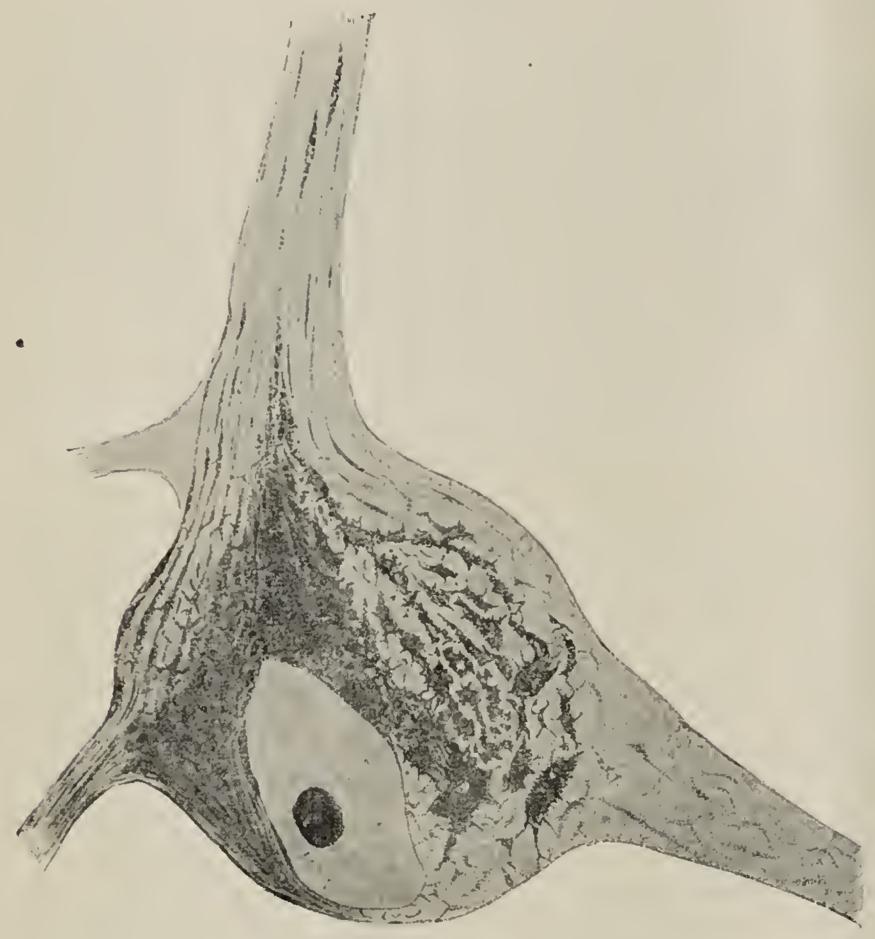

Fig. 97.—Motor nerve cell from ventral horn of gray matter of spinal cord of rabbit. (After Nissl.) Of the three lower processes, the middle one represents the axone. All the other processes are dendrites. The margins of the cells and of the masses of stainable substance appear too sharp in the reproduction. At the angle of division of the large dendrite at the left superior angle of the cell is shown one of the "wedges of division" (*Verzweigungskegeln*). The spindle-shaped Nissl bodies are well shown, especially in the dendrites. This cell is classed by Nissl as a stichochrome nerve cell in the apyknomorphous condition.

Unfortunately, tissues fixed for staining by Nissl's method in alcohol or corrosive-sublimate solutions are not suitable for staining by the method of Weigert or the method of Marchi. Marina * has tried to obviate this difficulty. His fixing mixture (formol and chromic acid) permits of staining of the tissues by the methods of Weigert, Nissl, and Van Gieson. The Nissl preparations are not, however, so beautiful as those prepared in the orthodox way.

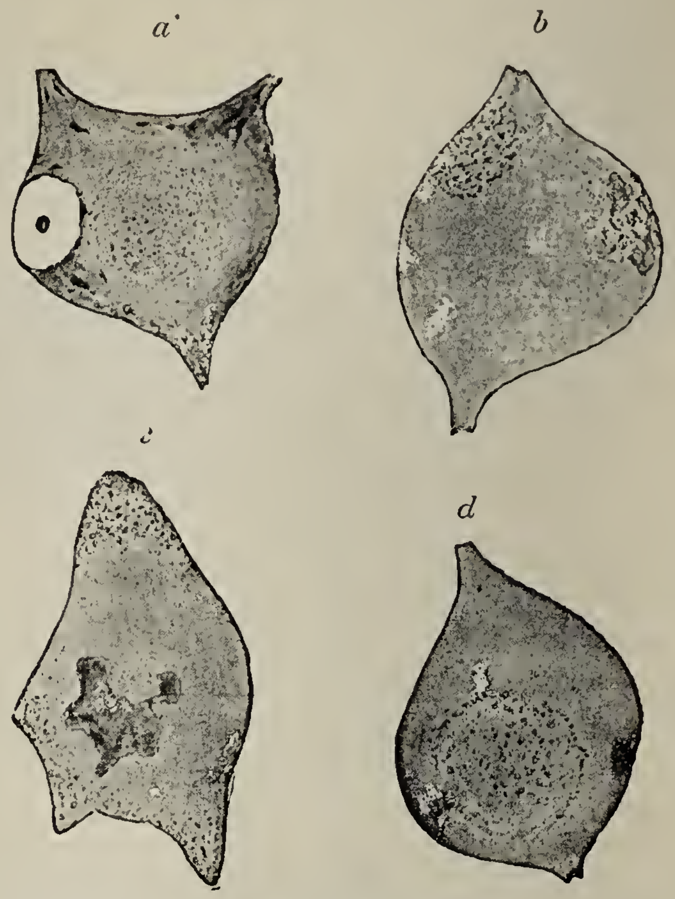

Fig. 98.—Ventral horn cells from the spinal cord of a case of multiple neuritis. (After Ballet and Dutil) *a*, *b*, cells stained with picrocarmin; *c*, cell stained with hæmatoxylin ; *d*, cell stained by Nissl's method. The alterations in the chromatic substance and the dislocation of the nucleus are well shown.

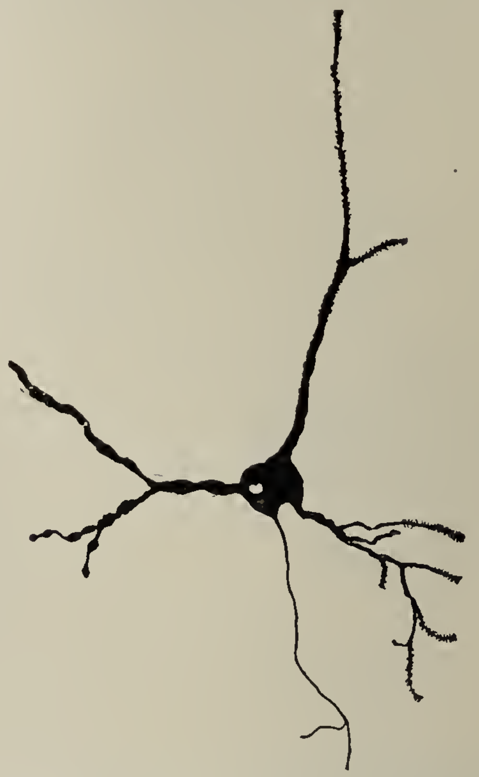

Fig. 99.—Nerve cell from cerebral cortex of dog. It shows alterations chiefly in the dendrites turned toward a thrombosed vessel. (After Monti.)

As regards the effects on the whole neurone resulting from injury to its dendrites we have much less definite information. Leaving out of consideration injuries to peripheral sensory nerve fibres, which, as we have seen, correspond in their embryological origin to dendrites, and which, as I shall point out a little later, though conforming in their physiological behavior, at least so far as the conduction of nerve impulses is concerned, rather to what is generally true of dendrites than of axones, are nevertheless histologically indisputably axones, we have as data in this connection only the observations of Monti * and Berkley.† These observers, employing the silver method of Golgi, the former in cases of inanition and experimental cerebral embolism (Fig. 99), the latter in several varieties of intoxication (Fig. 100) and in terminal dementia (Fig. 101), have found that under certain circumstances the earliest lesions which appeared were those affecting the dendrites. These showed varicosities and distortion phenomena with loss of the gemmules and finer side branches; only subsequently did the cell body and axone show alterations. An effort has been made to attribute the changes in such cases in the axone and cell body to the disturbances in metabolism resulting from the loss of the dendrites. It would seem to me more likely that the alterations in external form in a cell body and axone discovered by the method of Golgi are due to the same causes as the preceding changes in the form of the dendrites and are not simply their metabolic sequel.

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* Ballet et Dutil. Soc. méd. des hôpitaux, in *Comptes rendus*, Deber 19, 1895.

* Marina, A. Eine Fixationsmethode, bei welcher sowohl die Nissl'sche Nervenzelle als die Weigert'sche Markscheidefärbung gelingt. *Neurolog. Centralbl.*, Bd. xvi, 1897, S. 166.

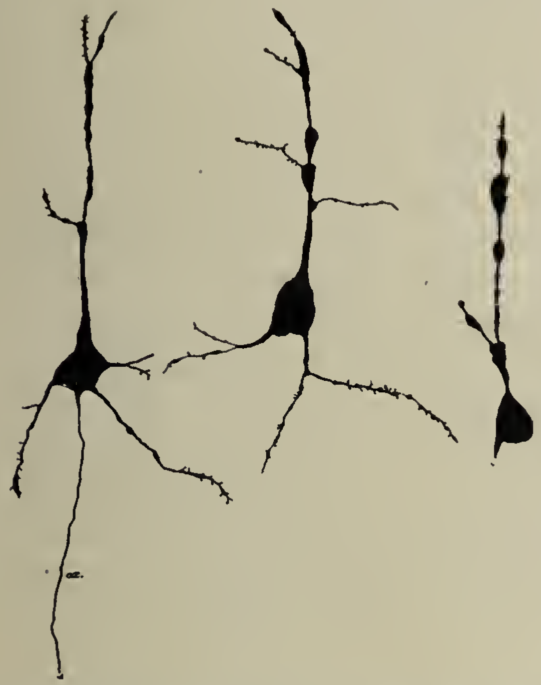
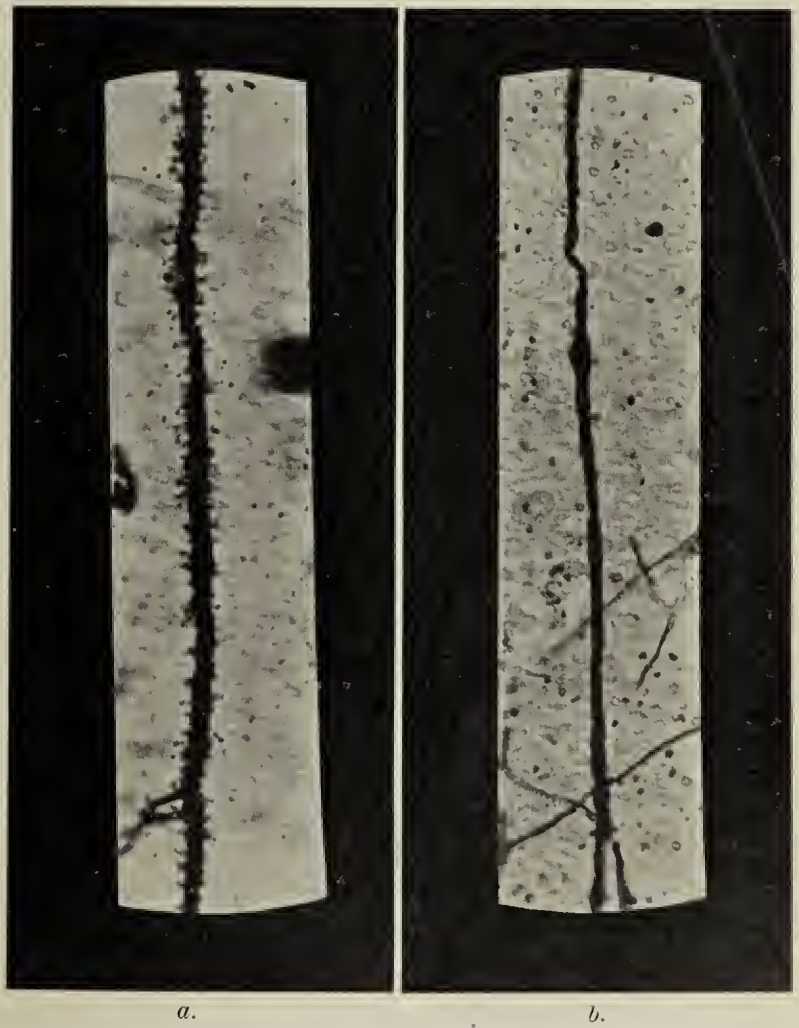


FIG. 100.—Larger pyramidal cells from the second layer of the cerebral cortex showing advanced stages of degeneration following ricin poisoning of fourteen hours' duration. The cells have lost the angularity of their contours. (After Berkley.)

That the cell body is of very great importance in the nutrition of the neurone is evidenced by (1) the existence in it of the nucleus with its surrounding endoplasm, and (2) its very intimate relations to the capillary plexuses within the gray matter (Fig. 102).*

Besides, the effect of severe injury to the ganglion cell upon the rest of the neurone is now very generally appreciated. It has long been known that destruction of a ganglion cell leads inevitably to the decay and disappearance of the nerve fibre connected with it. A few interesting experiments may perhaps be recalled. Ehrlich and Brieger showed in 1884 that if a ligature be applied for thirty minutes or an hour close beneath the point of origin of the renal arteries of the rabbit, there results a permanent sensory and motor paralysis of the posterior extremities and of the bladder and rectum, owing to acute necrosis of the cells of the gray matter of the lumbar spinal cord. These experiments, repeated later by Herter, Spronck, Münzer and Wiener, and others, are invariably followed by complete degeneration of the whole of the neurones of which the necrotic cell bodies form a part, and the course of the degenerating fibres can after a few days be profitably studied by the method of Marchi. The removal of the nerve cell (either through chemical injury, cutting off of nutrition, or ablation) is, for the part remaining, equivalent to severing the axone, and the typical sec-



a. b.

FIG. 101.—Strong apical dendrites of pyramidal cells from the human cerebral cortex. *a*, normal dendrite; *b*, dendrite from a pyramidal cell in a case of terminal dementia; the gemmules have disappeared and the irregular calibre is well shown. (After Berkley.)

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* An epitome of the work of Italian investigators with Golgi's method with regard to pathological alterations in nerve cells is to be found in the collective review of C. Sacerdotti, in Lubarsch-Ostertag's *Ergebnisse der allgem. Pathologie u. path. Anat. des Menschen u. der Thiere.* Zweiter Jahrgang, 1895. Wiesbaden, 1897, S. 799–806.

† Berkley, H. J. Studies on the Lesions produced by the Action of Certain Poisons on the Cortical Nerve Cell. *Johns Hopkins Hospital Reports*, vol. vi, 1897, fasc. i, pp. 1–88.

* Shimamura, S. Ueber die Blutversorgung der Pons- und Hirnschenkelgegend, insbesondere des Oculomotoriuskerns. *Neurol. Centralbl.*, 1894, Bd. xiii, p. 685.

ondary degeneration always occurs. This brings us to the utilization of experimentally produced secondary degenerations, by means of which important contributions have been and are being made to the anatomy of the central nervous system. No matter what nerve cell or group of nerve cells is destroyed, whether in the spinal cord, in the medulla, in the thalamus, or in the cerebral cortex, whether belonging to the projection systems or to the association systems, the corresponding axone or axones, with their enveloping myelin sheaths, degenerate completely to their terminals. The method of Marchi permits us to make out the changes long before they assume the degree necessary for their recognition by Weigert's method. Indeed, nowadays practically every neurological investigator employs this procedure, so valuable is the information afforded by it.

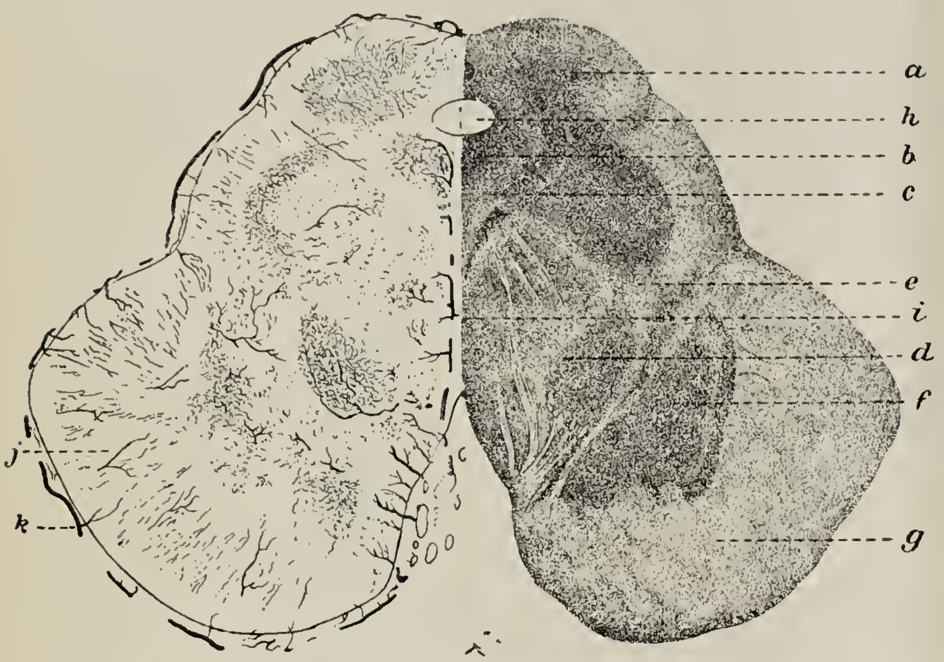

Fig. 102.—Frontal section through the mesencephalon showing vascular supply. (After Shimamura.) *a*, nucleus corpus quadratus; *b*, regio nuclei nervi oculomotorii; *c*, fasciculus longitudinalis medialis; *d*, lemniscus; *f*, substantia nigra; *g*, basis pedunculi; *h*, aqueductus cerebri; *i*, vessel running along near rhaphe; *j*, lateral blood-vessels; *k*, blood-vessel running along the basis pedunculi. The rich capillary supply to the groups of nerve cells is particularly well shown.

This method, when employed in connection with that of Nissl, is of extreme value, not only for anatomy, but also for pathology, for it must now be evident that once we have demonstrated degeneration in a given set of nerve fibres we can prophesy almost with certainty the existence of lesions of some sort in their cells of origin—lesions which, however, may obviously, from what has been said above, be, in a given case, either primary or secondary. The statement of this fact would seem to be all the more important in that it has been suggested by some investigators that apparently trivial injuries to neurones, so slight in the cell body as to exclude detection by all the cruder methods, may nevertheless in all probability suffice to give rise to easily demonstrable degenerative lesions in other parts of the neurones. Perhaps the most significant instance which can be cited is that met with in some forms of lateral sclerosis in human beings in which the pyramidal motor cells of the cortex show no marked lesions, though the most distal portions of the nerve fibres arising from them gradually degenerate. While it is not impossible that here, as seems probable in some forms of disease of the peripheral nerves (alcoholic neuritis, lead-poisoning, etc.), the degeneration of the distal portions of the axones may be due to the direct action upon them of some toxine, the view is gradually gaining ground that in these cases we have to deal with some deleterious influence acting upon the cell body, or perhaps upon the whole neurone, which expresses itself in a manner accessible to recognition by our methods first in those portions of the neurones in which the nutritive influences are least active, presumably those most distal from the cell body and nucleus (Strümpell). Wollenberg's idea regarding the primary seat of the disease of the sensory neurones in tabes would involve a similar explanation, but many have objected to the assumption that in this disease the primary lesion is in the cell bodies of the spinal ganglia.

(*To be concluded.*)

THE COMMON REAGENTS FOR THE DETECTION OF ALBUMINURIA:

THEIR APPLICATION AND COMPARATIVE EFFICIENCY.

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Remarks.—Many reagents outside of those in common use have, from time to time, been described, and each proclaimed to have peculiar and special merits. To attempt to consider them here would be a waste of time and material, for the reason that their use is limited, and it is exceedingly doubtful if they possess advantages over the reagents hereinafter described. These latter mentioned reagents are, and probably will be for some time to come, the standard tests for the detection of albuminuria.

The object in view is to eradicate the faults and to facilitate the method of application of the common reagents, and to compare the efficiency of each as to their delicacy in the detection of small quantities of albumin in urine. The busy practitioner limits, as a rule, the examination of a sample of urine to the determination of the reaction, specific gravity, and the presence or absence of glucose and albumin. If what concerns us here—albumin—be found, then the sediment is subjected to microscopical examination. It is important, therefore, that the reagent be one that will give a correct diagnosis in the largest percentage of cases.

Reagents Considered.—1. Nitric acid (HNO_3) in concentrated form.

2. Robert's—a modification of the above. Formula: Magnesium sulphate ($MgSO_4$), saturated solution, 5 parts; nitric acid (HNO_3), concentrated, 1 part.

3. Millard's. Formula: Potassium hydrate (KOH), five-per-cent. solution, 22 parts; acetic acid (CH_3CO OH), glacial, 7 parts; carbolic acid (C_6H_5OH), 2 parts.

4. Potassium ferrocyanide. Formula: Potassium ferrocyanide ($K_2Fe(CN)_6$), 1 part; water (H_2O), distilled, 20 parts.

5. Heat.

It is considered necessary in all cases before applying the above-mentioned reagents to have a perfectly clear transparent urine. This also applies to the reagent. The reason for this is obvious.

METHODS OF CLARIFYING THE URINE. 1. *Filtration.*—A properly folded filter paper is moistened with water and placed in a funnel and the urine is allowed to filter through; if the filtrate comes through clear, nothing further need be done before applying the reagent; if, however, there is still a cloudiness diffused throughout the filtrate it is in all probability due to the presence of bacteria. In such a case there must be—

2. *Separation of the Alkaline and Earthy Phosphates.*—Add to the urine an excess of ammonium hydrate and then the magnesium solution (formula: saturated solution of magnesium sulphate ($MgSO_4$), 8 parts; concentrated hydrochloric acid (HCl), C. P., 1 part; ammonium hydrate, q. s. till alkaline—about four parts being necessary) and filter the mixture. The clarification is accomplished by the precipitated phosphates entangling the bacteria and other diffused material and preventing their passing through the filter paper. Before applying the reagents the clarified urine should be slightly acidulated with dilute acetic acid.

Exhibition of the reaction may be shown by:

1. *Contact* between the reagent and the urine. If albumin is present there will appear at the line of contact a white zone.

2. *Diffusion,* the reagent and the urine being mixed. Albumin, when present, will appear as a diffused white precipitate.

APPARATUS COMMONLY DESCRIBED BY WRITERS UPON THE SUBJECT, WITH THEIR METHODS OF APPLICATION. —The *test tube* of itself is used with the diffusion methods of exhibiting the reaction. When the heat test is applied, the tube is to be filled to about an inch from the mouth and the flame from a Bunsen burner or spirit lamp should be applied to the upper portion of the tube. Albumin, when present, will appear as a white precipitate diffused throughout the heated portion, which can be contrasted with the lower clear urine. Albumin precipitate is distinguished from earthy phosphates in that it does not dissolve on the addition of nitric acid. In the diffusion methods the reagent is added directly to the urine, in the required quantity, without special precaution. A turbidity is produced if albumin be present, its opacity depending upon the amount present.

The *test tube and pipette* are commonly used when applying the contact method of exhibiting the reaction. The mode of procedure as usually described is to place some of the reagent in the tube and with the aid of the pipette float the urine upon it.

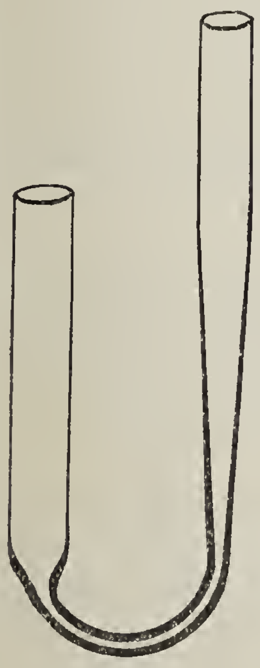
The *wineglass* is used for the same purpose as the above. A glass known as the "Collamore" is recommended because of its adapted shape. The method of procedure is to fill the glass to about one fourth its depth with urine and the reagent is allowed to trickle slowly down the side of the tilted glass.

With the contact methods of application the precaution of exerting the greatest amount of care in bringing together the fluids is necessary, lest there be admixture. It has been determined that the contact method is decidedly more delicate than those tests where the reagent is allowed to diffuse throughout the urine.

The main defect in the test tube, pipette, and wineglass lies in the fact that the flow of fluid, one upon the other, is not easily controlled so that perfect contact may be had. The mixture of fluids where there are small quantities of albumin present means a repetition of the test, or that the albumin remains undetected. Can this defect be eradicated? Can the methods of application be facilitated?

It is a known fact that if two fluids of varying specific gravity be brought together in a capillary tube the tendency to admixture is lessened. The reason for this is that the ratio of adhesion to fluid is greatly increased. This, then, is a principle that can be applied to the subject at hand.

The J-shaped Contact Tube (*Original*).—I have devised a tube to which the above name has been given. One can be made by any one in possession of ordinary skill in shaping glass tubing. Take a piece of tubing about seven sixteenths of an inch in diameter and about eight inches in length after the ends have been evenly broken off. This can be accomplished by making a scratch transversely with a file, using the thumb nails as a fulcrum at the lower opposite surface, and exerting pressure on each side of the scratched portion. The sharp edges should be rounded with a file. The centre of the tube is then heated to softness in a flame from a "fish-tail" or ordinary gas burner and drawn out until a calibre of about one sixteenth of an inch is obtained.



HALF SIZE.

FIG. 1.

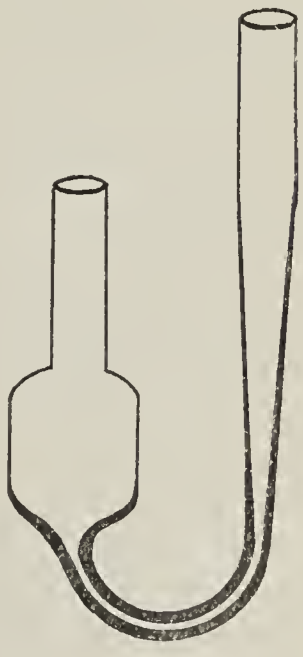


FIG. 2.

While still soft, fashion it like the letter J. The object is to secure a long and short arm joined together by a curved capillary portion (see Fig. 1).

The method of application is to place a small quantity of urine in the short arm, keeping the lower meniscus in the capillary portion of the tube by covering the mouth of the long arm with a finger. With a finger of the other hand cover the mouth of the short arm, after which the opposite opening is released. The reagent is allowed to enter the long arm, enough being used so that the upper level will be considerably above that of the urine. By rotating the finger covering the mouth of the short arm after the manner of controlling a pipette, or by alternately opening and releasing each mouth, the fluids are allowed to rise in the short arm until the level in both arms is the same, and the line of contact is beyond the capillary portion of the tube; thus a sharp line of contact is obtained and with the slightest possible opportunity for admixture.

A tube of this design is simple and, being of a single piece, is easily cleaned; the calibre of the capillary portion will admit of the passage of a small wire for this purpose. With the modification, as shown in Fig. 2, a zone of greater width is obtained, so that the smallest trace of albumin is easily discerned. In it are combined the advantages of the test tube, pipette, and wineglass, with the defects reduced to a minimum. It therefore facilitates the application of those reagents which, by the contact method of exhibiting their reaction, conduce to the highest degree of efficiency.

Comparative Efficiency of the Reagents.—To compare the efficiency of the considered reagents, fifty urines were selected, each containing a sediment which by its presence would indicate albumin—the character of the sediment being determined by microscopical examination, the centrifuge being resorted to when it was small in quantity. Urines containing large traces were not considered, for the reason that no doubt exists as to the efficiency of the reagents in the detection of albumin in large quantities. The sediments selected were casts, pus, blood, and seminal fluid.

With reagents Nos. 1 to 4 the application was effected with the J-shaped contact tube, and the reaction exhibited by the contact method. With each application the result of the reaction was sought for as soon as the reagent was applied.

In applying the potassium ferrocyanide test equal parts of the reagent and acetic acid were mixed, and this mixture brought in contact with the urine. It is worthy of note that *upon standing* a substance, not albumin, is thrown down by this reagent acting upon a urine clarified by the separation of the alkaline and earthy phosphates after the manner previously described.

Degrees of Reaction.—When the zone (or, in case of heat, diffusion) is merely perceptible, it is termed a very slight trace. When it is distinctly seen, but no more, it is called a slight trace.

Millard's.—A reaction was obtained in forty-eight of the fifty samples examined, an actual efficiency of ninety-six per cent.; twenty-four reactions being decided (slight traces) and the remainder not so marked (very slight traces). In two samples no reaction took place, and, as the other reagents also failed to react, the comparative efficiency would be one hundred per cent. Hyaline and fine granular casts made up the sediment of one urine in which no reaction was obtained; in the other it consisted of seminal fluid.

Robert's.—Actual efficiency, eighty-six per cent. Deficiency compared to above, eight per cent. Pus made up the sediment in two of the failures; seminal fluid, two; casts, two.

Potassium Ferrocyanide.—Gave an actual efficiency of sixty-six per cent. Comparative deficiency, twenty-six per cent. Of the failures, six urines contained seminal fluid as a sediment; four, casts; three, pus; two, blood.

Nitric Acid.—Actual efficiency, sixty per cent. Comparative deficiency, twenty-four per cent. Of the failures, the sediment in five consisted of pus; five, seminal fluid; three, casts; and one, blood. Questionable reactions were obtained in six (twelve per cent.), the principal cause of which was the excessive oxidation of coloring matter of the urine by the reagent, rendering the line of contact obscure. These are not considered.

Heat.—An actual efficiency of fifty-two per cent. was given, while the comparative deficiency was forty-two per cent. The sediments of the urines in which no albumin reactions were obtained consisted of seminal fluid, pus, casts, and blood; the number of each being eight, seven, six, and two, respectively.

Experimental Application. *Serum Albumin.*—The experiments were conducted with a series of dilute solutions of blood serum, the object being to determine the most efficient reagent. The basis from which the dilutions were made consisted of an approximate one-per-cent. solution, which was obtained by precipitating the albumin from the blood serum with Esmarch's picric-acid solution in a graduated tube, using a centrifuge until the precipitate was thoroughly settled. Having determined quantitatively the amount of albumin, enough water was added to make a one-per-cent. solution.

All of the reagents were applied as in the practical applications, with the exception of the heat test. In this case it was found necessary before the precipitate could be obtained, to add to the albumin solution a small quantity of saturated sodium-chloride solution. Before the addition, heat failed with a one-tenth-per-cent. solution.

Various dilutions were used up to 1 in 320, at which all of the reagents responded.

With the dilution 1 in 640, only Millard's exhibited a reaction. The limit to this reagent seemed to be about 1 in 1,280.

Peptone.—Dry peptone (Merck's) was dissolved in water, and the solution saturated while boiling with

Practical Application.

	Con. HNO_3.	Robert's.	Millard's.	K_2FeCN_6.	Heat.	Sediment.
1.	Absent.	Absent.	Very slight trace.	Absent.	Absent.	Considerable spermatozoids.
2.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Considerable spermatozoids.
3.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Considerable pus, blood-corpuscles.
4.	Absent.	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Little pus, vesical epithelium.
5.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Spermatozoids and calcium oxalate.
6.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Little pus.
7.	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Absent.	Hyaline casts, calcium oxalate.
8.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Spermatozoids, calcium oxalate.
9.	(?)	Absent.	Very slight trace.	Absent.	Absent.	Hyaline casts, calcium oxalate.
10.	Very slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Blood and excess of leucocytes.
11.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Spermatozoids, little calcium oxalate.
12.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Hyaline and granular casts.
13.	(?)	Very slight trace.	Very slight trace.	Very slight trace.	(?)	Very little blood.
14.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Little blood and calcium oxalate.
15.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Pus, hyaline cast.
16.	Very slight trace.	Very slight trace.	Slight trace.	(?)	Very slight trace.	Hyaline casts, calcium oxalate.
17.	Slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little blood, body like hyaline cast.
18.	Very slight trace.	Very slight trace.	Very slight trace.	(?)	Absent.	Hyaline casts, excess of leucocytes.
19.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus.
20.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Hyaline casts.
21.	(?)	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Very little pus, uric acid.
22.	Absent.	Absent.	Absent.	Absent.	Absent.	Spermatozoids.
23.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Very little pus, hyaline casts.
24.	Very slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus, few blood-corpuscles.
25.	Very slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus.
26.	(?)	(?)	Slight trace.	Very slight trace.	Absent.	Spermatozoids and calcium oxalate.
27.	Absent.	Absent.	Very slight trace.	Absent.	Absent.	Little pus, uric acid.
28.	Absent.	Absent.	Very slight trace.	Absent.	Absent.	Very little pus.
29.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus.
30.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus and uric acid.
31.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Hyaline casts and blood-corpuscles.
32.	(?)	Very slight trace.	Very slight trace.	Absent.	Absent.	Spermatozoids.
33.	(?)	Very slight trace.	Very slight trace.	Absent.	Absent.	Little blood.
34.	Absent.	Absent.	Absent.	Absent.	Absent.	Hyaline and fine granular casts.
35.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Considerable pus.
36.	Slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Few hyaline casts.
37.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Few hyaline casts.
38.	Very slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus.
39.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Numerous hyaline, few fine granular casts.
40.	Absent.	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Little pus.
41.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Very slight trace.	Few hyaline casts and abnormal blood-corpuscles.
42.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Few hyaline and blood casts, little blood.
43.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Numerous hyaline casts.
44.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little blood and pus.
45.	Very slight trace.	Slight trace.	Slight trace.	Slight trace.	Very slight trace.	Little pus.
46.	Absent.	Very slight trace.	Very slight trace.	Very slight trace.	Absent.	Few hyaline casts, calcium oxalate.
47.	Slight trace.	Slight trace.	Slight trace.	Very slight trace.	Very slight trace.	Little pus.
48.	Very slight trace.	Very slight trace.	Slight trace.	Very slight trace.	Absent.	Little pus.
49.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Slight trace.	Few hyaline casts, little blood.
50.	Absent.	Very slight trace.	Very slight trace.	Absent.	Absent.	Very little pus.

Summary of Practical Application.

REACTION.	Millard's.	Robert's.	K_2FeCN_6.	Con. HNO_3.	Heat.
	Number. Per cent.	Number. Per cent.	Number. Per cent.	Number. Per cent.	Number. Per cent.
Slight traces	24 or 48	16 or 32	7 or 14	10 or 20	7 or 14
Very slight traces	24 " 48	27 " 54	26 " 52	20 " 40	19 " 38
Absent	2 " 4	6 " 12	15 " 30	14 " 28	23 " 46
Questionable	0 " 0	1 " 2	2 " 4	6 " 12	1 " 2
Total applications	50	50	50	50	50
Reactions	48 or 96	43 or 86	33 or 66	30 or 60	26 or 52

ammonium sulphate—$(NH_4)_2SO_4$—in order that other proteid constituents might be precipitated. It was then filtered.

The considered reagents were applied to the clear filtrate, the reaction appearing only with Millard's reagent.

To find a possible source of error, the peptone solution was diluted with water until the reagent failed to respond. The solution was then tested with potassio-mercuric-iodide test solution to determine if peptone was still present, the result being a marked precipitate.

Each sample of urine containing pus in the sediment was saturated, while boiling, with ammonium sulphate and filtered, and the cool filtrate tested for peptone with the potassio-mercuric-iodide and Millard's reagent. In eight, a reaction was obtained with the former; none responded to the latter.

Other urines containing much pus were treated in a like manner, but no precipitate could be obtained with Millard's reagent.

Peptone was found in the urine of a patient suffering from a large abdominal abscess, which gave a marked response to the potassio-mercuric-iodide reagent; it, however, exhibited but a slight reaction to Millard's.

In conclusion, the practical and experimental applications prove the efficiency of Millard's reagent over the others here considered. It has been found to be reliable, since it will react with peptone only when it is present in large quantities, more than will likely be found from the presence of the albuminous sediments.

25 Day's Park.

THE ULTIMATE RESULTS OF THYREOID THERAPY IN SPORADIC CRETINISM.*

By HENRY KOPLIK, M. D.

The history of cretinism in most countries has been told. Since the light thrown upon these cases by the clinical work of Ord, Reverdin, Kocher, and the physiological experiments of Horsley, there remains but little to be said. The opinions seem to be blended in a unanimous whole that the sufferers from sporadic cretinism have been at last rescued by scientific medicine from a condition to which death is much preferable. I will not in this paper refer more than above to the history of the early cretins, or to the clinical or physiological data to which we owe our present advanced ideas on the subject of the treatment of these cases. I need only mention the exhaustive consideration of all past and present sides of the subject of sporadic cretinism published in the *Transactions of the Congress of American Physicians*, vol. iv, to excuse omission here. I will devote my attention exclusively to a consideration of the effects of thyreoid therapy in sporadic cretinism and the outlook in all of these cases toward an eventual restoration of mind and body to a condition equal to that of the average thinking civilized being. In approaching the subject I do so with much diffidence in the face of the mass of material thus far published, but if an interesting material of sporadic cretinism and a very much larger material of allied states observed over a long period of time justifies such an analysis, then I am certain this paper will not have failed its mark. There is no reason why the consideration of sporadic cretinism should any longer be confined to cases occurring in any one country. The disease is the identical one in its symptomatology in all countries. The division of the subject as to its occurrence in various countries was necessary at first for educational reasons. The efforts of Osler, for example, in this country have been especially brilliant, inasmuch as it is quite safe to say that his writings have made the disease familiar to the general medical hosts as it had not been before. We may say with certainty that most reading physicians are acquainted with the features of the fully developed cretins. It is to-day only in the rare cases of beginning myxœdema of children and early sporadic cretinism that I have personally found much difference in knowledge of physicians. Some would not recognize a beginning case at all, others would very much doubt the diagnosis after the various features of the case were pointed out to them.

In this country alone Osler has succeeded in collecting fifty-eight cases of both male and female cretins, of which twelve were born in this country; the youngest being a case of Dr. West, of Ohio, seventeen months and a half old, and four being over forty years of age.

In no part of this country do we meet endemic cretinism, and therefore we need not consider that part of the subject here.

In all of the cases the diagnosis, as shown by the portraits, was made at a time when the disease was fully developed. In a series of pictures of Dr. Putnam, that phase of the diagnosis referred to above, the early symptoms, are very well exhibited. In this case the diagnosis was not made until a late stage of the disease, and in the earlier portraits of the child the advancing symptoms of cretinism unrecognized are well shown. In the early papers of Dr. Osler he shows quite distinctly that many of the cases diagnosticated as cretinism were really only forms of idiocy.

Before the introduction of the thyreoid therapy the cretins were treated much in the same manner that the subjects of leprosy are to-day. They were colonized, and the cretins, sporadic or otherwise, were outcasts from society. They were taught the simplest things, and if the cretin could take care of himself to the extent of keeping cleanly, the gain was considered very great. The atmospheric conditions were thought to have a distinct influence; therefore these asylums were situated in the mountains, such as the Alps, where, with a good water supply, the isolation of the endemic cretin was above reproach; for the water supply in such countries as Switzerland is still thought to be a factor in the ætiology of endemic cretinism. The endemic and sporadic cases were grouped together until Fagg pointed out the difference. To-day, the thyreoid therapy makes it possible to care for these unfortunates in the midst of the family circle.

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* Read before the New York Academy of Medicine, March 17, 1898.

What, in the main, are the immediate results of thyreoid therapy in sporadic cretinism? It may be remarked that after three weeks of treatment the infant has lost the most marked features of its malady. The myxœdema of the face has retrograded, the anæmia has improved, the tongue is not as large, and the infant notices its mother. The improvement is marked and advancing.

In reviewing the results of thyreoid therapy in sporadic cretinism, we should, as I have pointed out in a previous article, sharply distinguish between cases which come under the treatment in infancy, childhood, adolescence, and adult life. It would be too much to expect that any mode of treatment, especially with the internal secretions of the lower animals, would effect the same change in an organism stunted by disease for decades as it would in those who are discovered and placed under care at the very outset of the affection.

The most satisfying results are obtained in those cases in which the stultifying influences have existed only for a brief period, say a few weeks. Such cases have come under my care. They are the only cases of the kind on record.

Case I.—Female infant, aged one month, seen first December 24, 1896. This infant is a sister to a fully developed cretin, and is the first infant born to the mother after the cretin referred to had been under treatment fully two years. Mother and father are first cousins; no goître in either. The birth was a normal one. When the child was four days old icterus neonatorum appeared and persisted six weeks. At the age of one month the mother brought the infant to me for jaundice. I saw a fairly nourished infant still jaundiced; the expression of the face was strikingly prognathous. The infant did not cry unless severely teased; it seemed very torpid. The head was broad at the base of the skull, smaller at the summit, not markedly pointed. The abdomen was distinctly rotund. The extremities were short, but not deformed. The child was short and thickset. There was no myxœdema of the skin, but the whole surface was cool to the touch; the lips were slightly puffed; the tongue was very large and thick (macroglossia); the neck was short and thick. Head: Circumference, thirty-eight centimetres; antero-posteriorly, twenty-three centimetres; bitemporal, twenty centimetres; of the oxycephalic type. Fontanelle, anterior, three and a half by two centimetres; sagittal suture open to the occipital depression. Thyreoid gland not palpable; hæmoglobin, 85; temperature, rectum, 96° F.

As said above, the child was stupid, and clapping of the hands failed to attract its attention. Under thyreoid treatment the temperature gradually rose in the rectum to 98° F. The infant became bright and seemed to notice its surroundings, and smiled. The tongue became markedly thinner, and the face normal in expression. It played and laughed and cried as other infants; the forehead was broader and had lost its wrinkled appearance.

February 15th.—Hæmoglobin, 60; temperature, rectal, 98.4° F. At no time could the thyreoid be felt, and no supraclavicular masses of fat were present.

In this case we find a newborn babe, whose mother had previously given birth to a cretin, showing symptoms of slight cretinism. The stupidity of the infant, the reduced internal temperature, the peculiar conformity of the extremities as related to the trunk, the wrinkled skin on the forehead and hands, the narrow animal forehead, the thick lips, the thick, immense tongue (macroglossia), the coarse cry, the immediate improvement of the stupidity under thyreoid, and the reduction of the thickened and hypertrophied tongue—all point to the inevitable conclusion that here we had to deal with a congenital cretin who, if allowed to progress, would have the symptoms of the disease in their more pronounced forms. It is an interesting fact that in this case, early in the disease, the hæmoglobin was greater than later on, though the infant was immediately placed upon thyreoids. This was also the case with the second patient, in whose history blood data are given, and which will be discussed later on.

May 25th.—At the present day, with six months of treatment, we have a very bright and interesting infant, in every way resembling the normal infant. It attempts to stand and utters sounds. The infant is still under thyreoid therapy, half a grain three times a day. On the whole, the infant is a much more satisfactory case after six months of treatment, so far as restoration to normal conditions is concerned, than its brother was after the same period of treatment.

March 1, 1898.—To-day the condition is perfectly normal to such a child. My assistant, Dr. Lewi, gives me the following notes of the condition of the infant to-day:

February 4, 1898.—Aged fifteen months and a half.

Status.—Development: Child is fairly bright and observant. It has a happy disposition, laughs a great deal; is much brighter and quicker than her older brother Harry (Case I, second class), and when they quarrel, she always gets what she wants away from him. Plays with all sorts of toys; says "mamma" and "papa"; walks a little, four or five steps at a time (last two weeks), but falls easily; makes a broad base in walking; voice is very deep and rasping (*this is very marked*).

Physical Development.—Child fat and flabby; complexion good.

Measurements.—Height, seventy-one centimetres; weight, twenty-one pounds and a half; from glabella to occiput, twenty-five centimetres (antero-posteriorly); circumference from glabella around occiput, forty-six centimetres; arms, twenty-two centimetres; chest girth, forty-seven centimetres; thigh, thirty-four centimetres; abdominal girth, fifty-three centimetres.

As the child stands, she seems well proportioned; abdomen rather prominent; skin normal; head square, forehead broad, anterior fontanelle open 1 × 1, hair normal.

Mouth: Jaw very square, lips thick; tongue thick and protrudes slightly at times when child is in repose, and is on first glance the only cretinoid symptom. Teeth: Four, lower and upper central incisors; neck short and thick; thyreoid not palpable; chest, slight beading of ribs; heart and lung normal. Abdomen:

Liver palpable, an inch below border of the rib; sphincters not controlled; bowels move once a day; micturition very frequent. Extremities: Epiphyses of wrists large; anterior and slightly outward curve of tibias; epiphyses of ankles prominent; genitals normal; temperature, 97.8° per rectum; pulse, 86. Child sleeps well; appetite poor; always thirsty; urine clear, light yellow; reaction slightly acid; specific gravity, 1.008; no albumin; no sugar; microscopical examination negative. Blood: White cells, 10,100; red cells, 4,190,000; hæmoglobin (Fleischl), fifty-three per cent.

CASE II.—W. F., female infant, nine weeks old. Mother and father healthy; mother or father have no goître or any other abnormities; no consanguinity. This is the first baby; breast fed. Mother from birth of the baby, which was normal, head presentation, noticed that the baby was stupid. The baby did not resemble either parent, having a small, low forehead, flat nose, puffy eyelids, thick lips, and large tongue. The abdomen had been quite large, and the baby cried incessantly, so much so that the mother took it to a physician, who diagnosticated an obstruction of the gut. She then brought the infant to the writer.

Status Præsens.—Looking at the infant, it has the gross characteristics in expression of a typical cretin, but in less pronounced form. The forehead is low and narrow, the eyelids are puffy and œdematous in appearance, the bridge of the nose is flat, the lips are thickened; the tongue is large, broad, thick, and protruding at times. The abdomen is large, and the thighs and legs are quite dwarfish as compared with the size of the trunk. The skin has a greenish hue; no thyreoid can be felt; the external temperature of the skin is much below normal; hands and feet are cool; skin of hands has a finely wrinkled look; cry is coarse and deep; internal rectal temperature, 97.8° F.; the bowels are constipated.

Measurements.—Head: Fontanelle, anteriorly and posteriorly, open; glabella to occiput, eighteen inches; vertex, eight and a quarter inches; bitemporal diameter, nine inches. Chest, fourteen inches. Length of arm, thirteen inches and a quarter; length of forearm, eight inches and a half; length of body, eighteen inches.

Blood, May 15th (Fleischl).—Hæmoglobin, 105; red cells, 3,026,000; white cells, 13,500.

April 29th.—Hæmoglobin, 55.

May 22d.—Hæmoglobin, 65.

Course of Case.—The infant improved in its general appearance from the first week of treatment. The writer noticed that it became quieter or brighter. The puffiness of the eyelids has gradually subsided. The lips have become thinner, and the tongue has improved, so that to-day it is quite slender and much like the normal tongue. The temperature has gradually risen to the normal, and the color of the skin has lost its greenish tint and taken on a healthy hue. The cry is no longer deep and hoarse. The abdomen is not large and distended, and the dwarfish appearance of the legs has disappeared. The baby seems as bright as a normal baby of its age (three months and a half). The expansion and growth of the forehead and bridge of the nose, both of which have lost their cretinal conformity, are most interesting, and now the face has a tolerably pleasant appearance. The baby is beginning to remember its mother; takes thyreoid, half a grain, three times a day.

In the above-cited case we have a typical cretin of the congenital type. There were all the symptoms of cretinism developed in an early stage. The beginning myxœdema of the skin, the prognathous expression of the face, the low forehead, the flattened bridge of the nose, the thickened eyelids, the thickened lips, the enlarged and thickened and broad tongue, the dwarfish conformity of the body extremities as compared to the length of the trunk, the protuberant abdomen, the skin of a greenish hue, the marked torpor, reduced internal temperature—all point inevitably to the diagnosis of congenital sporadic cretinism.

It may be remarked that the hair in this case was not as yet dry and sparse, but glossy and abundant.

This infant, after six months of treatment, was as bright as any ordinary infant of that age. At this time the summer vacation intervened, and for an interval of one month the thyreoid was omitted. The mother brought the infant to me with a recurrence of all the symptoms. Being an ignorant woman, she insisted that if I cured the constipation, which had returned, all would be well. She did not seem to see, what was apparent to all outsiders, that the infant had become stupid, cretinic in expression, myxœdematous. Here was a proof not only that the original diagnosis was correct, but that the infant could not do without the thyreoid for any length of time.

CASE III.—Mamie C., female infant, three months old; is breast fed. Mother has five children, all in good health, with the exception of one dying at eighteenth week in hospital. Mother noticed that at birth the infant looked queer, and much more so later on, but did not say anything, and had allowed several physicians to see infant. They treated the constipation. Mother came for this to dispensary.

Status.—Infant has a prognathous expression of the face and looks idiotic; has at times an idiotic smile. The skin is dry and wrinkled on face and forehead. Forehead is small; skin about eyes myxœdematous; hair silky; tongue large, thick, broad, and protruding. Abdomen distended; lower extremities small as compared to the length of the trunk. Hands dwarfish, flat, and skin wrinkled on same. The bones have rhachitic deformities; voice is deep; internal rectal temperature on two occasions, 99° and 98.6°; thyreoid not felt; weight, ten pounds; length of body and extremities, twenty-two inches and a half; body, from shoulder to anterior superior spine, six inches and a half; anterior superior spine to heel, nine inches and a half; abdomen at umbilicus, fourteen inches in circumference; head, occipito-frontal, fifteen inches in circumference; occipito-mental, fifteen inches and three quarters.

Here are three cases which prove how early symptoms of cretinism appear in infancy, and how we must be on the lookout for the early detection of such cases.

The features which distinguish these cases are those of the advanced cretins except in lesser degree. The body being in a very early stage of development, the features not quite formed, it is not to be expected that the mother will notice much of anything.

In the cretin III, aged three months, and in Case II, the infant came for the treatment of the inordinate constipation. In Case III the mother admitted that her infant was not like other infants, but was afraid to voice her misgivings to others.

In all of these early cases we have the prognathous face and expression, the myxœdema of the features, the low internal temperature, the idiotic expression, the protuberant abdomen, the shortness of the extremities as compared to the length of the trunk, the myxœdema of the skin of the extremities, such as the hands in Case III, the deep voice, the enormous tongue, flat, thick, and protruding.

As seen in the brilliant examples in Cases I, II, and III, these symptoms disappear and remain thus under thyreoid therapy. It would seem that in those cases where the disease is discovered early, the best results are to be attained. The treatment here goes hand in hand with the mental and physical development of the infant. Cases similar to these would be the cretins in whom the affection appears during late infancy and is diagnosticated before the malady has obtained firm hold. No such cases, except those of Dr. Putnam, have been published. Here the old picture of the infant seemed to show a period up to which the infant was normal, then a stealthy change came, and in time we had a fully developed cretin. No treatment having been given during the early period of the malady, the intellectual hiatus in this case, as in others, may remain always apparent.

The second set of cretins which we must consider, so far as the results of thyreoid therapy are concerned, are those which form the mass of the literature of cretinism. Here the diagnoses were made when the physician had a fully developed cretinic idiot before him. The ages range from fifteen months to the later periods, two to four years, of childhood.

Fletcher Beach, in a discussion before the British Medical Association, presented statistics of fifty-two cases of sporadic cretinism in Great Britain. Almost one half of the cases manifested symptoms of the disease before the eighteenth month. In Dr. Osler's statistics of fifty-eight cases in this country, six were under the age of two years, and twelve from two to five years.

What have been the results of thyreoid therapy in these cases of the second class?

I have published elsewhere at full length two cases belonging here of the five of which I have had control (*New York Medical Journal*, 1897).

Case I.—H. G., a male, fifteen months old, first seen October 10, 1895; fully developed cretin. What is the condition of the child to-day, after two years and four months of treatment?

Status: Mental Development.—The child is very quiet and good-natured; is very easily frightened. He makes no friends among other children; he can say only "mamma"; occasionally talks to himself, but no one understands him; does not understand what people about him say, but when his name is mentioned he laughs; can not feed himself; can not make people understand what he wants, and this makes him cry. His face in repose has an unintelligent expression; stands with mouth open and tongue slightly protruding between his teeth.

Physical Development.—The child walks slowly, can not run, puts his feet down as if he were not sure of himself; can not stand with eyes closed. Child plump; standing naked, trunk seems large compared with extremities; abdomen prominent.

Measurements.—Weight, twenty-seven pounds; height, eighty-four centimetres; circumference from glabella to occiput, fifty centimetres; antero-posteriorly, from glabella to occiput, thirty-three centimetres and a half; length of arm, twenty-eight centimetres; lower extremity, forty-one centimetres; chest girth, fifty centimetres; abdominal girth, fifty-two centimetres.

Child pale; mucous membranes pale; parietal bones prominent; nose has broad, flat bridge. Mouth: Teeth, twenty-four, very poor. Tongue somewhat thick; neck short; thyreoid not palpable. Chest: Slight beading of ribs; heart and lungs negative; abdomen large. Extremities: Hands and feet cold; genitals normal; bowels regular; passes water very often; sleeps well; appetite *very poor;* never asks for food of any kind. Temperature, 98° F.; pulse, 84; urine clear, light-colored; slightly acid; specific gravity, 1.010; no albumin; no sugar; microscopically negative. Blood examination: Hæmoglobin (Fleischl), sixty-three per cent.; red cells, 5,506,000; white cells, 17,000.

Case II.—The second case presented more the myxœdematous side of the cretinic symptom-complex when first seen. Female, aged twenty months, seen first on April 10, 1895. This case to-day, after two years and ten months of treatment, presents the following status: F. L., January 28, 1898, aged four years one month and a half. Child well nourished, but pale; skin normal, smooth; child's figure, as it stands, very short and thickset, of the dwarf type; height, ninety-one centimetres; weight, thirty-four pounds and a half; from glabella to occiput, thirty-four centimetres; circumference of head, antero-posteriorly, sixty centimetres; length of arm, thirty-four centimetres; length of lower extremity, fifty centimetres; chest girth, fifty-seven centimetres; abdominal girth, sixty-one centimetres. Head, square over parietal bones; hair coarser than average girl of that age; grows very slowly and sparsely; nose, bridge broad and flat; mouth, lips thick; tongue somewhat thickened; teeth, twenty-two, good; neck short and thick; thyreoid absent; chest, no beading of ribs; lungs negative; heart, apex beat one centimetre within nipple line; heart sounds vary in intensity; abdomen negative; hands not enlarged; extremities, finger tips and toes cold; epiphyses of wrist and ankle enlarged; sphincters normal; vulva normally developed; bowels regular, one movement a day; sleeps well, appetite good, very thirsty. Temperature per rectum, 98.8° F.; pulse, 84. Urine: Child urinates very frequently, about every half hour. Urine, specific gravity, 1.006; very light in color; clear; slightly acid; no proteids; no sugar.

Child's Development.—Child is very slow in all her movements; when she walks, walks slowly and *can not be hurried.* When she walks she places her legs far apart, making a broad base, and as if sensibility were not very acute. Can not stand with eyes closed without falling forward. Child's speech is very slow, and she can not always make herself understood; can often motion and do things, but can not *say* the things she wants to do. Voice is very low, almost husky at times. Temperament: She is good-natured; phlegmatic in disposition, but is very easily frightened or teased. Cries easily, much more than the other two children, and often for no assignable cause. She plays with other little girls, but not long at a time, as she is so quiet they do not like her; plays alone with dolls a good deal. She understands everything that is said, but rarely speaks unless directly addressed.

Blood: Hæmoglobin (Fleischl), 65; white cells, 9,600; red cells, 4,155,000. White cells : red cells : : 1 : 430. Microscope shows nucleated red blood-cells.

What are the results attained by others in cases which could be placed in this class?

In Osler's report in the *Transactions of the Congress of American Physicians,* of fifty-eight cases we find eighteen cretins below the age of five years. In most of these there is no record of how long the disease may have existed before coming under treatment. Of these twelve patients, that of Dr. Osler, Case I, is to-day a perfectly normal child eight years of age. Dr. Peterson's patient also seems perfectly normal, May, 1896. Dr. Hayes's patient two years of age seemed, after a year, "perfectly normal." In Case XXXVII of Dr. Cuverly's, the child, sixteen months old, appears normal after a year's treatment. Case LVIII of Dr. Coyner's is that of a cretin twenty-three months at the outset, who after eleven months appears to the observer a perfectly normal child. Thus there are only five of the eighteen below five years which the observers think are perfectly normal to-day. Of the thirteen others, it may be said that in all there was a marked and immediate improvement and a retrogression of all the myxœdematous symptoms. In some the treatment has not been continued long enough to bring them to a complete retrogression. In others it is noted that the mental is not up to the physical improvement. It must be that in those cases which proceed to a certain state of improvement and then cease, originally the disease had lasted a longer time before coming under treatment than in the cases in which we find the note that the child is perfectly normal to-day. Of fifty-eight cases collected by Dr. Osler, thirty-five were put under treatment and showed improvement in one way or another; most striking was the rapid retrogression of myxœdematous symptoms. Only five of them are normal to-day and no one can be, without the continuance of the thyreoid, for any great length of time. A typical case in this respect is the case of Dr. West. This case was seventeen months and a half old when first seen. After three years of treatment, Dr. West writes to Dr. Osler: "She grows very slowly, learns to talk still more slowly. Large doses of thyreoid, enough to cause fever and restlessness, etc., for a few days, always cause a change for the better with her." Dr. West writes at a later date to me that "the child has not had any very regular thyreoid therapy for a while. She at times is quite stupid when she does not receive the thyreoid. To-day, at the age of five years, she is a dwarf, she talks quite a little and tolerably plainly, active, and takes an interest in things when under thyreoids." "While the thyreoids will do wonders for these cases, they will not, in my opinion, do all for them we had expected."

The third class of cretins is that which will become more and more limited as our facility of discovering early symptoms of the disease improves. These are cretins who come under our observation in later childhood with fully developed symptoms of the disease, those which have reached adolescence, and finally the adult cretins. There is a set of cases in which myxœdema, especially with goître, will attack children or adolescents who before have been in good health. Such cases have been reported (Osler, Francis Huber), but they form a class by themselves, and should not be included in the above-mentioned third class of cretins who come under observation at the later periods of life and in whom the disease has existed for years. In the fifty-eight cases collected by Osler, forty persons were above five years of age; the cretinism had existed for years, the oldest cretin being of the age of sixty to eighty. In this class of cases thirteen were put on the thyreoid and improved to varying degrees, but it must be noted in not one case do we find notes which would lead us to think the patient resembled a normal person of his age. In the children from five to sixteen years we find notes that the myxœdematous symptoms had all disappeared, but there are scattered references to the mental condition which point toward a childishness, a very limited vocabulary, uncertainty of gait, weakness in extremities. It is true that in a great number of cases the treatment has not lasted long enough (only a few months) to give definite results. Thompson, of Edinburgh, who has written on the results of thyreoid therapy (*British Medical Journal,* September 12, 1896), has made some interesting observations in this direction. He found that in his own cases, those of one child, two adolescents, and two adults, the children grew more rapidly than the adolescents, and the latter more than the adults. In one adolescent and adult, severe spinal curvature followed as a direct result of treatment. In both adolescents bowlegs of a marked type, due to softness of the bones, resulted as an effect of the thyreoid therapy. As to the hair, the child and adolescent received new growths of hair, the adult not so. The mental improvement in the child was not so very evident until after the sixth or eighth month. About this time the body weight had ceased to be reduced and was on the increase. The child to-day is an intelligent child of eight years, at school, brighter than some others in her class. The adolescents are deficient in mathematical bent. Here the improvement mentally is more in "an increase in the power of giving effect to their thoughts by action." "The patients become more inquisitive, independent, and enterprising."

The thyreoid therapy first and above all supplies an animal thyreoid to make up for the lack of function of the human thyreoid. If the cases are obtained early, before the disease has stultified the brain and general nervous system, our results will apparently reach the greatest perfection. It is imperative, therefore, to try to make an early diagnosis, and not wait until the disease has caused marked inroads. In the first class of cases the results seem the most promising. In the second class, infants and children below the age of five years, and especially below the age of two, the results are varying. Osler and Thompson have noted, the one normal, the other restoration to a satisfying normal state. As noted above, my own results can not even now, after the lapse of fully two years, be said to be entirely satisfactory. Both children are good-natured, both are apparently intelligent up to within a certain limit. The vocabulary of the one case is more limited than that of the other, and one does not even talk as plainly or as much as his baby sister, who was a congenital cretin. One case has a vacuous expression to the face when at rest and is unsteady in gait, and this in spite of full dosage of thyreoids. Both cases retrograde when taken off the thyreoids.

It seems to me that, as Thompson says, the immediate effect of the thyreoids is marvelous, so far as the immediate transformation of physique and features, in all cretins. In the development of the mind, especially in cretins above the age of five, study will always detect elements of childishness and difficulty of speech acquirement and self-reliance. Thompson has brought older cretins to a state in which they can be sent to school. Osler reports no such advanced results, partly perhaps because a great many of the cases are still under short periods of treatment. In short, the older the cretin the more lacking some mental and physical essentials which go to make up a normal individual. It has been lately proposed to give thyreoids during pregnancy to women who have borne cretins. I think the results here, and such a case is published in the *Lancet*, 1897, can scarcely be laid at the door of the thyreoid administered, though it certainly does no harm. I have one cretin whose mother has since borne a perfectly healthy infant without such thyreoid therapy during pregnancy. Moreover, it has been shown that the cretinism can supervene years after birth. Again, cretinism can scarcely be compared in its pathology and therapy to congenital syphilis, which evidently occurred to the author who records the case in the *Lancet*. We find that we can cure a congenital syphilis and suspend therapy after a time. This is not so with cretinism. Suspend the therapy here and a recurrence of symptoms is the sequence. We have no assurance, therefore, that even if an infant is normal at birth, born of a mother who has brought forth cretins, and has been under thyreoids during pregnancy, such an infant will not have cretinism later on. Time alone will clear up these problems.

66 East Fifty-eighth Street.

AN EXPERIMENTAL STUDY OF

THE TOXIC PROPERTIES OF INDOL.*

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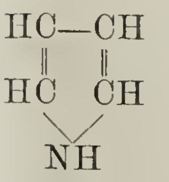
I wish to bring to your attention this evening certain facts relating to the action of indol upon various animals, including man. These facts possess a considerable degree of practical interest, because indol is a substance produced in some amount in the intestine of most adult human beings as the result of bacterial action upon proteids. The indol produced in the intestine is oxidized within the organism into indoxyl, which, in combination with sulphuric acid, as indoxyl-potassium sulphate, forms the basis of the well-known indoxyl or indican reaction of the urine. It is not uncommon in various derangements of digestion to find the indoxyl or indican reaction of the urine much more pronounced than in health, and the inference from such increase is that an unusual quantity of indol has been formed in the intestine and absorbed from it. The question which will be discussed and in some measure answered in this paper is this: What detrimental effects, if any, does the excessive formation and absorption of indol entail upon the human organism? In order to discuss this question in an intelligent manner it is desirable to review systematically the facts that bear upon it. This may be conveniently done by considering:

First: The chemical nature of indol, the conditions under which it is produced, and its transformation into the indoxyl-potassium sulphate of the urine.

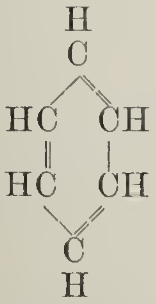
Secondly: The action of indol upon animal organisms.

Thirdly: The clinical conditions in which the indoxyl of the urine is increased, and their relations to excessive indol production.

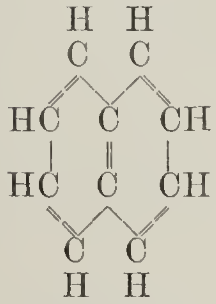
1. *The Chemical Nature of Indol, the Conditions under which it is produced, and its Transformation into the Indoxyl-Potassium Sulphate of the Urine.*—Although this section has important bearings on the problem to be discussed, I shall refer to it only briefly this evening, as it is my intention to make indol production the subject of a special and somewhat technical communication.



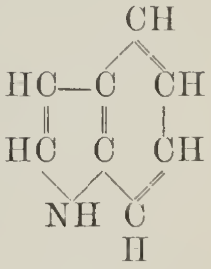
Pyrrol.



Benzene.



Naphthalene.



Indol.

Indol is a derivative of the aromatic series and a member of the indigo group of compounds. Its empirical formula is C_8H_7N. Its relation to the aromatic series is best seen by considering its probable constitutional structure, which is represented by a union of pyrrol and benzene in such a manner that pyrrol and benzene have two carbon atoms in common—as, for instance, in naphthalene.

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* Read before the New York Pathological Society, March 9, 1898.

Indol crystallizes in glancing white crystals, has a melting point of 52° C., and volatilizes readily with steam. It has a characteristic fæcal odor, and is partly responsible for the odor of normal human fæces. I have noticed that the odor is less intense when the indol is thoroughly freed from an unknown oily substance * with which it is apt to be associated when derived from putrefying fibrin. Indol is a weak base. It is soluble in water. A solution containing indol, when treated with sulphuric acid and sodium nitrate, undergoes a change in color due to the formation of nitroso-indol. The reaction is an exceedingly delicate one, for it is recognizable in a solution of one part of indol in two hundred thousand of water. The well-known "cholera-red" reaction depends on the formation of nitroso-indol.

Although indol may be produced without the intervention of bacterial activity—as, for example, by heating O-nitro-cinnamic acid with potash and iron filings, and by the action of alkalies on proteids—it is its production as the result of the action of bacteria upon proteids that interests the pathologist.

It is produced by the action of a considerable variety of bacteria, both pathogenic and non-pathogenic. Thus it is one of the products of the activity of most varieties of the *Bacillus coli communis*, of the *Proteus vulgaris*, of the typhoid bacillus, of most vibrios, of the comma bacillus of cholera, of putrefactive bacteria, etc. The formation of indol through bacterial activity is distinctly influenced by a variety of conditions. It was found by Hoppe-Seyler,† for instance, that when an abundance of oxygen came into contact with putrefying proteid material, which would ordinarily yield indol, and the carbon dioxide and ammonium carbonate resulting from the putrefactive process were rapidly and entirely removed, indol, skatol, mercaptan, etc., were not formed at all. Salkowski and Blumenthal ‡ found that a slight grade of alkalescence was more favorable to the formation of indol than a somewhat stronger degree of alkalinity. Smith has recently shown that the presence of sugar retards the indol production of the colon bacillus, because micro-organisms act on the sugar rather than on proteids until the former is consumed.

I have found that the addition of the common yeast plant to fibrin putrefying under the influence of the colon bacillus may cause a marked diminution in the usual yield of indol. These examples of influences capable of modifying the production of indol must suffice.# A knowledge of them helps us to explain the variations in indol production that occur in the human intestine.

Although there is no close relation between the pathogenic properties of the colon bacillus and its indol production, both can be increased by the growth of a culture in a medium which contains an unusual amount of proteid material especially adapted for bacterial assimilation.*

It is, of course, not to be understood that indol is the sole aromatic product of proteid putrefaction, although under certain conditions it is the chief one. Skatol, phenol, parakresol, and benzoic acid are other aromatic decomposition products of the proteid molecule.

The indol which was employed in the experimental observations to be described was obtained from the putrefaction of large quantities of pig's fibrin. Thus two thousand grammes of fibrin after exposure to the air for eight days yielded 2.7 grammes of indol. It was found that the addition of cultures of the common colon bacillus from the fæces of a normal individual resulted in a large yield—namely, 4.2 grammes of indol—the quantity of fibrin, the duration of the process, and the temperature being the same as in the case first mentioned.† It is not necessary to refer here to the methods used for the isolation of pure indol, which was prepared for me in considerable amounts by Dr. A. J. Wakeman.

The indol absorbed from the intestine is not excreted as such by the urine, but undergoes an interesting and important change within the organism.

This change consists, first, in the oxidation of indol, and, secondly, in the combination of indoxyl with sulphuric acid to form the indoxyl-sulphate of potassium. It is as the indoxyl-sulphate of potassium that the indoxyl formed within the organism leaves the body in the urine. Other putrefactive products than indol—for instance, skatol, phenol, and kresol—undergo a similar conjugation with sulphuric acid in the organism, and are eventually excreted as potassium salts of sulphuric acid. These bodies are sometimes referred to as ethereal sulphates, sometimes as combined or conjugated sulphates.

The indoxyl-potassium sulphate which is found in the urine is not to be recognized as such without elaborate chemical manipulation. The indoxyl radicle may, however, be easily oxidized into indigo blue or indican, by means of calcium hypochlorite, as proposed by Jaffé, or by means of ferric chloride in hydrochloric acid, as proposed by Obermeyer. This appearance of indigo blue on oxidation is the reaction employed in the routine examination of urine—the so-called indican test, or, as we should say, the indoxyl test. By its help we are enabled to say whether the urine contains more indoxyl than is usual in health, and to detect marked variations from day to day, but it scarcely suffices to make us positive of the occurrence of slight variations.

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* This substance lowers the melting point one or two degrees.

† *Zeitschrift für physiologische Chemie*, Bd. viii, 1884.

‡ *Zeitschrift für klin. Medicin*, Bd. viii.

# It was found by Brieger (*Zeitschrift für physiologische Chemie*, Bd. iii, p. 141) that the entire absence of air greatly slowed but did not wholly prevent the production of indol. There appeared to be no difference between the effect of the presence of a moderate and an abundant supply of air. Salkowski found that indol once formed was not destroyed, even in part, by the progress of putrefaction, but some loss by evaporation took place when air was freely admitted. There is good reason to think, however, that indol undergoes decomposition in watery solutions.

* A. W. Ward. *Journal of Experimental Medicine*, September, 1897, p. 569.

† In a case in which the yeast plant as well as the colon bacillus was added to 1800 grammes of fibrin the yield of indol was much smaller (1.3 gramme), although the putrefaction continued for about two weeks.

When we come to inquire into the seat in the organism of this remarkable synthesis of indol and other aromatic compounds with sulphuric acid, it is seen that we have no positive knowledge. The observations of Baumann,* however, render it probable that the liver takes a part in bringing about this conjugation.

That the animal organism is capable of rapidly transforming considerable quantities of indol seems clear from experiments of which the following is an example: Into the femoral vein of a strong dog weighing about thirty pounds was injected an aqueous .228-per-cent. solution of indol at the rate of five cubic centimetres per minute. From time to time small quantities of blood were withdrawn from the femoral vein of the opposite side. Although as large a quantity of indol as half a gramme was introduced into this animal, no indol could be detected in the distillate from the blood drawn. Very minute quantities of indol are readily detected in the distillate of blood to which indol is added outside the body.

Although we are wanting in positive information as to the parts of the body concerned with the indoxyl synthesis we have a little light on the equally interesting question of the significance of this pairing process to the organism. Thus Stolnikow † observed that resorcin and pyrogallol are much more toxic than resorcin-sulphuric acid and pyrogallol-sulphuric acid respectively. In harmony with this observation is the fact that Baumann found phenol to be distinctly more toxic than phenol-sulphuric acid. There are as yet no observations, I believe, relating to the comparative toxicity of indol and indoxyl-potassium sulphate, but it seems safe to infer from analogy that in the case of indol, as with phenol, the conjugation with sulphuric acid is a process by which the poisonous properties of this aromatic product of putrefaction are lessened, or, as one might say, the process exerts a detoxicating influence upon the organism.

There yet remains much to be learned regarding the influences that favor and that inhibit the formation of indol within the human intestine. In a recently published paper I advanced experimental evidence in favor of the view that the main factor in the production of indol in the intestine is the common colon bacillus, and it is an indisputable fact that conditions which permit the multiplication of this organism are associated with the presence of a strong indoxyl reaction in the urine. It was found that when large numbers of a pure colon-bacillus culture from normal human or dog's fæces were injected in watery solution into a loop of the small intestine in a dog, the urine invariably gave a very strong indoxyl reaction, although it might previously have given a negative reaction. On the other hand, negative results were obtained with injections of pure cultures of the lactic-acid bacillus, which produces little or no indol.

The evidence that the administration of indol is followed by an increase in the indoxyl reaction is beyond criticism, as I have satisfied myself in the case of rabbits, dogs, and human beings. It need not be further referred to.

In concluding this abridged presentation of the leading facts pertaining to the nature of indol and its relation to the indoxyl-potassium sulphate of the urine, it is desirable to reiterate and emphasize the fact that we possess an unbroken chain of evidence connecting the indican of the urine with the putrefaction of proteids and the production of indol. This chain consists of the following links:

1. The fact that certain proteids may be in various ways decomposed so as to yield aromatic derivatives, including indol.
2. The fact that the common colon bacillus, which normally inhabits the human intestine, and some other micro-organisms are ordinarily producers of indol when acting upon proteid media.
3. The fact that indol produced in the intestine is transformed into indoxyl after absorption, and subsequently into indoxyl-potassium sulphate, within the organism, probably in the liver.
4. The fact that the indoxyl of the urine is convertible by oxidation into indigo blue or indican.

2. *The Action of Indol upon Animal Organisms.*—The literature relating to the action of indol upon animals is scanty. The first observation relating to the subject is probably that of Nencki,* who in 1876 observed that a dog to which one gramme of indol had been fed showed no indication of intoxication, but developed active diarrhœa and hæmaturia when it received two grammes in twenty-four hours. Christiani † two years later found that indol, like phenol, was readily absorbed by frogs through the medium of the skin, and gave rise to increased reflex irritability followed by slight transient paralysis when the animals were placed in a solution containing ten milligrammes of indol in a hundred cubic centimetres of water.

These symptoms resembled in every respect the symptoms observed to follow the absorption of phenol.

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* Baumann. Pflueger's *Archiv*, Bd. iii, 1870, S. 448; also, Christian und Baumann. *Zeitschrift für physiologische Chemie*, Bd. ii, 1878, S. 350; also, Baumann. Pflueger's *Archiv*, Bd. xii, 1876, and Bd. xiii, 1876.

† *Zeitschrift für Physiologie*, Bd. viii, S. 280.

* *Berichte der deutsch. chem. Gesellsch. zu Berlin*, 1876, S. 299.

† Ueber das Verhalten von Phenol, Indol und Benzol im Thierkörper. *Zeitschrift für physiologische Chemie*, Bd. ii, 1878.

When a frog was placed in twenty cubic centimetres of a one-per-cent. solution of indol several paralytic symptoms appeared after thirty-five or forty minutes. Even in this condition slight external stimuli gave rise to tremor. Death occurred invariably at the expiration of twenty-four hours. It was further found by Christiani that very minute doses of indol gave rise to pronounced and persistent symptoms when injected subcutaneously, the effects of an injection of 1.2 milligramme being still noticeable after forty-eight hours. The abdominal organs in such cases were found to be congested and the liver was colored yellow.

No further observations were made on the toxic properties of indol until 1896, if we may judge by a fairly careful search through the literature relating to the subject. Then Rovighi * published some experiments in relation to the toxic effects of indol, skatol, and phenol. He found that indol and skatol produce essentially the same derangements in rabbits—namely, torpor, somnolence, widespread paresis, feeble heart action, reduction in temperature, and retention of urine and fæces. The fatal doses of indol and skatol for rabbits was found to be 1.5 to two grammes, when given subcutaneously in the course of forty-eight hours. Rovighi found that animals became more sensitive to the poison after the first dose, as though they no longer possessed the power of transforming and excreting it.

Congestion of the liver was found to succeed acute indol poisoning. In chronic poisoning areas of small spheroidal cell infiltration were observed surrounding the bile ducts. The kidneys were the seat of congestion only.

The experimental observations made by me were conducted without knowledge of the work of Rovighi, and cover a somewhat different field. They relate to acute indol poisoning in rabbits and dogs, to chronic indol poisoning in rabbits, and to the effects of moderate doses, taken by the stomach, on man.

A. ACUTE INDOL POISONING IN RABBITS AND DOGS.

Experiment No. 1.—Injection of indol solution in the intestine. Large rabbit weighing about three thousand grammes.

After laparotomy, 195 cubic centimetres of a 0.1-per-cent. solution of indol were injected into the large intestine. During the infusion the pupils became much contracted, but afterward returned to normal. There was some twitching of the muscles during and after the injection. This lasted during several hours. The animal developed no new symptoms and was ultimately chloroformed. Previous to the injection the urine contained no indican. After the injection a strong reaction was present.

Experiment No. 2.—Injection of indol solution into femoral vein. Rabbit weighing 1,230 grammes. A 0.1-per-cent. solution of indol was injected into the femoral vein at the rate of five cubic centimetres a minute. After thirty cubic centimetres were injected the animal was much prostrated, the heart action was very feeble, the respiration was weak, and the pupils were very strongly contracted. When the injection was stopped, the pupils widened a little. The animal remained much prostrated and died about two hours later, "gasping" Nothing abnormal was noticeable at autopsy.

Experiment No. 3.—Injection of indol solution into femoral vein. Rabbit weighing 2,100 grammes. A 0.1-per-cent. solution of indol was injected into the femoral vein at the rate of five cubic centimetres to the minute. Between five and ten cubic centimetres, momentary contraction of pupils; at ten to fifteen cubic centimetres pupils were normal. After twenty cubic centimetres. pupils were a little smaller than at onset. After forty-eight cubic centimetres, rather violent tonic spasm (not clearly involuntary). After seventy-two cubic centimetres, pupils became suddenly contracted. Injection was stopped. Pupils remained small about three minutes, then widened. Twitching began in muscles of face. Respiration was shallow and slow, and heart action was weak. Injection resumed after about four minutes. After ninety-two cubic centimetres there was general fibrillary spasm. The reflex excitability of the muscles was increased. After stopping the injection (at ninety-two centimetres) the animal lay quietly for about two hours, the heart and respiration becoming better. Then there developed irregular general clonic spasm, depressing the heart and respiration. Death occurred apparently from cardiac failure.

Experiment No. 4.—Injection of indol solution into femoral vein. A 0.1-per-cent. solution of indol was injected slowly into the femoral vein of a small dog weighing about fifteen pounds. After twenty-five cubic centimetres the pupils were strongly contracted. After fifty cubic centimetres the heart was weak and the respiration slow. Fibrillary contractions occurred, especially marked in the legs. After seventy cubic centimetres there were irregular clonic spasms in the legs. These soon ceased. The animal was unsteady after the injection. At one time he appeared excited and ran round and round the room. Eight hours later the animal was found dead.

Experiment No. 5.—Injection of indol solution into femoral vein. A 0.1-per-cent. solution of indol was injected at the rate of five cubic centimetres to the minute into a dog weighing about twenty-five pounds. After about five cubic centimetres the pupils were contracted. After twenty cubic centimetres the pupils were strongly contracted and remained so, the respiration was slowed, and there was slight clonic spasm in the muscles of the leg on the side of the vein infused. This spasm increased and the knee-jerks became much exaggerated. After a time the spasm became continuous and rather violent. After seventy cubic centimetres irregular clonic spasm extended to all four extremities. Respiration became very much slowed and heart action grew feeble. At one hundred and sixty-two cubic centimetres the injection was stopped. The spasm soon ceased wholly and the animal ran about freely. The animal wholly recovered.

Experiment No. 6.—Injection of indol solution into femoral vein. A dog was chloroformed and fifty-five cubic centimetres of a 0.1-per-cent. solution of indol introduced into the femoral vein. Only slight contraction of the pupils was observed. The animal was bled to death.

Experiment No. 7.—Injection of indol solution into femoral vein. A 0.1-per-cent. solution of indol was injected into the femoral vein of a dog weighing about twenty pounds, at the rate of five cubic centimetres a minute. After fifteen cubic centimetres the pupils were contracted; subsequently they became very strongly contracted. The reflexes were much exaggerated; the heart became slow and weak. After about fifty-five cubic centimetres clonic spasm occurred in the four extremities. The animal was bled to death.

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* Azione dei prodotti tossici delle fermentazioni enteriche nella milza ed il fegato. *Arch. di farmacologia e terapeutica*, iv, fas. 3, 1896.

It is clear from the foregoing experimental records that intravenous injections of indol exert marked toxic effects upon the nervous system both in rabbits and in dogs. Both in rabbits and in dogs the characteristic symptoms were cardiac and respiratory depression, general prostration, marked contraction of the pupils, irregular clonic spasm, and increased reflex excitability, including increase in the activity of the knee-jerks. When a quantity of indol sufficient to cause death was injected, the cause of death in several instances seemed to be cardiac rather than respiratory failure. In one instance only (Experiment No. 6) was myosis not a pronounced symptom. In this case the animal had been chloroformed previous to the infusion of the indol solution. It is noticeable that in the first experiment (the only one in which the indol was injected directly into the intestine) both myosis and twitching were present. Although the effects of intravenous infusion and those of intraintestinal infusion are probably similar, there seems little doubt that the influence upon the nervous system is much more pronounced in the case of intravenous infusions. Observations upon the temperature were not made, nor was it practicable to make studies of the arterial pressure.

The following observations illustrate the effects of repeated small doses of indol, given subcutaneously, upon rabbits.

B. CHRONIC INDOL POISONING IN RABBITS.

Experiment No. 1.—Injection of indol subcutaneously. A rabbit, weighing 1,470 grammes, received ten cubic centimetres of a 0.1-per-cent. solution of indol subcutaneously daily for six days. Then, after an interval of five days, the animal received ten cubic centimetres daily during ten days. The only symptoms observed were marked prostration and gradual loss of weight. The animal was well fed and took considerable food. Death occurred sixteen days after the beginning of the experiment. Weight at death, 1,120 grammes.

Experiment No. 2.—Injection of indol subcutaneously. A rabbit weighing 1,170 grammes received ten cubic centimetres of a 0.1-per-cent. solution of indol daily during thirteen days. The animal became prostrated and lost weight. Death occurred at the end of thirteen days. At this time the animal weighed 920 grammes.

Experiment No. 3.—Injection of indol subcutaneously. A rabbit weighing 1,480 grammes received ten cubic centimetres of a 0.1-per-cent. solution of indol daily during twenty-two days. No symptoms were noted except that the animal became very quiet and lost weight, although he ate fairly well. At the time of death, twenty-two days after the beginning of the experiment, the weight of the animal was 920 grammes.

These three observations upon rabbits plainly indicate that even small quantities of indol daily, administered subcutaneously, are capable of initiating profound disturbances of nutrition which end in death in the course of a few weeks. The total quantities of indol required to cause death were in the first case 0.16 gramme, in the second 0.13 gramme, and in the third 0.22 gramme. The loss of weight which followed the administration of the indol was the most obvious and striking feature of its action. It amounted in the first case to twenty-three per cent. of the body weight, in the second to twenty-one per cent., and in the third to thirty-seven per cent. It is impossible to say in how far loss of appetite is responsible for this rather rapid diminution in weight. Another prominent symptom was the prostration and diminished activity observed in all three animals. No observations were made upon the condition of the pupils nor was the temperature noted. The immediate cause of death from chronic indol poisoning is not clear, and deserves to be especially investigated.

The histological changes observed in the organs of these animals will be elsewhere described. It is sufficient to mention here that the chief alterations were found in the liver, the capillaries of the lobules being much congested, and the liver cells being the seat of degeneration and pigmentation.

(*To be concluded.*)

Therapeutical Notes.

Beta-Naphthol as a Tæniafuge.—Colonne d'Istria (*Gazzetta degli ospedali e delle cliniche,* May 17th) extols the superiority of β-naphthol over all other tæniafuges. He prescribes it to the amount of ninety grains, in divided doses of fifteen grains each, taken at intervals of two hours.

The Parotid Gland as a Drug.—On the strength of an influence which R. Bell (cited in the *Klinisch-therapeutische Wochenschrift* for May 29th) thinks he has shown experimentally to be exerted by the parotid glands on the ovaries, that observer has used the dried parotids of sheep in a number of cases of ovarian disease. He reports sixty cases of enlargement and painful affections of the ovary in which this treatment resulted in a perfect cure. The dried gland is given in doses of five grains three or four times a day.

A Prescription for Children with Tapeworm.—Guida (*Wiener medizinische Blätter*, May 26th) recommends the following:

℞	Tamarind pulp	450 grains;
	Powdered kamala	90 "
	Lemon juice	a sufficiency.

M. The whole to be taken at one dose.

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THE HEALTH OF OUR TROOPS IN CUBA.

The unreasoning impatience of a large portion of the people of the country over what they have considered unnecessary delay in the conduct of the war with Spain has thus far, happily, not led the government into any rashness that has resulted in more sickness among the troops than was to be expected under the best of conditions. A well-known English writer on American affairs, Mr. Henry Norman, has given it out as his opinion that not even in the matter of camp discomforts has there been anything that a soldier would be justified in complaining of. Without great loss we have accomplished some things that European observers professed to be sure could not be done. Unless we adopt the theory that the American is an animal *sui generis,* not to be judged of altogether by the considerations that apply to the rest of mankind—and it must be allowed that there is some plausibility in such a supposition—we shall have to conclude that the task of equipping the volunteers, of provisioning, sheltering, and transporting the army, and, above all, of attending to the sanitation involved with it all has been better attended to than even our own people have generally supposed. All honor, then, to our organizers, and especially to the medical corps of the army and navy.

We have now for several weeks had in Cuba an army of invasion consisting to a considerable extent of men quite unaccustomed till within the last three months to the life of a soldier—many of them, indeed, men whose life has been largely devoted to the promotion of their own personal comfort. After scant training they have been called upon for immediate service, including some hard fighting, in a hot, damp, unwholesome island. Not only have they responded with all the bravery that veterans are accustomed to display, but thus far they have withstood the conditions that everybody realized would imperil their health seriously. Our West Indian squadrons have been singularly favored by Providence in the matter of weather, and perhaps our land forces have had the benefit of some exceptionally benign influences. It is to be hoped, of course, that this state of things will continue, but is it to be expected?

We do not profess to have any military knowledge of the situation in Cuba, but we may venture to express the hope that with the fall of Santiago, which at this writing we are in daily expectation of hearing announced, it may be found practicable to postpone further land operations in Cuba until autumn, leaving perhaps a garrison of "immunes" to hold whatever may have come into our possession at the time the city falls. The blockade may, it seems reasonable to suppose, so cripple the enemy during the few weeks that must yet elapse before the neighborhood of Havana can be deemed wholesome for our troops that the ultimate result of our operations in Cuba can not fail to be the complete occupation of the island, in case peace is not previously reached.

THE EVOLUTION OF THE ARMY SURGEON.

In relation to the forthcoming changes in the medical service of the British army, Dr. Peter Alexander Young gives a history in the *Edinburgh Medical Journal* for July of the army medical staff. In 1680 the regular army of Great Britain consisted of but four regiments. Tangiers was at that time in the occupation of Britain, and when these regiments were sent there they were accompanied by surgeons. During the reign of James II, we are told, it was by no means uncommon for medical officers to hold double commissions—purchasing their commissions as ensigns, and receiving, in addition to their regimental pay, half a crown (about sixty cents) a day extra for hospital service. The first mention of a surgeon-general at the head of the army medical service appears in the year 1685. During the reign of William III several distinguished names are found at the head of the army medical department, among whom may be mentioned Sir Patrick Dun, founder of the Patrick Dun Hospital in Dublin, Sir Thomas Molyneux, Thomas Proby, and Radcliffe, the latter of whom attended William III and received a fee of £1,700 and the offer of a baronetcy, which latter he declined. In George I's reign the ordnance department, the ancestor of the royal corps of artillery, had a surgeon and a surgeon's mate attached to it. The army was increased in the reign of George II, and the staff of each regiment consisted then of a chaplain, a surgeon, an adjutant, and a quartermaster.

During the campaign of 1743, Lord Stair, in command of the British army, and the commander of the French army arranged between them that the hospitals should be mutually protected, which arrangement was faithfully adhered to by both sides, thus foreshadowing that great advance in the humanizing of warfare, the Geneva convention. At Dettingen the hospitals were chiefly regimental, but the addition of general hospitals in rear was the first starting point for the modern staff system which has been found necessary for the adequate medical service of an army in the field, the old regimental system being totally inadequate for the varying strain thrown upon it. Dr. Francis Home, Sir John Pringle, and Sir Hans Sloane, the latter the founder of the museum in London bearing his name, were names associated with the army as surgeons during this period. The first properly equipped hospitals for the forces were introduced by Middleton in 1748, the patients being provided with separate beds, clean linen, and trained nurses. In 1751 the medical officers wore the uniform of the corps to which they belonged. No degree or college certificate was necessary in the latter part of the eighteenth century for holding a medical appointment in the army, the certificate of a teacher being all that was required, and John Hunter is stated to have said that "it was not necessary for a man to be a surgeon to practise in the army." The departments of medicine and surgery were then distinct, and the physicians to the army were highly educated university graduates holding a much higher status and receiving better pay than the regimental surgeons. The title of surgeon-major made its first appearance in 1787. John Hunter was deputy surgeon-general in 1786, and in 1791 became surgeon-general and inspector of regimental infirmaries.

We are told that Dr. Jackson, who was nominated by the Duke of York physician to the forces, and who had served with distinction in America and in the Peninsular war, particularly urged the claim of the medical department of the army to a share of the military honors and distinctions on the grounds that "it shared in the fatigues and dangers of war, and in just return it is entitled to a share of its advantages." He further says: "If a medical officer be professionally skillful and morally correct, he is entitled, as he is eminently useful in his vocation, to a respectful place of rank in the military fabric; the medical officer claims to himself the rank of a gentleman, and the respect which is due to a man of science. Rank is everywhere the gift of power. If the officers of the medical staff were advanced by a just and legitimate rule of gradation, the staff surgeons would class with captains, the physicians with lieutenant-colonels, and the physicians-in-chief with generals. *The rank accorded to the medical officer does not injure or even interfere with the military. Rank is of no intrinsic value to the man of science, but the opinion connected with rank makes an impression on the soldier which aids materially in giving force to medical authority, and consequently to medical utility.*"

The relative rank of medical officers was determined in 1793, the assistant surgeons ranking with lieutenants, and the surgeons with captains. Staff surgeons did duty in general hospitals in the rear, while the army surgeons followed in rear of the fighting line, the wounded being removed under the quartermaster's supervision by the pioneers and bandsmen.

At the commencement of the present century difficulty began to be experienced in filling the medical staff, and as an inducement a higher rate of pay was granted by the authorities. During the Peninsular war Sir James M'Grigor, a distinguished medical officer, induced the Duke of Wellington, for the first time in the history of the English army, to mention in the *Gazette* the services of the medical officers.

It was the Crimean war which led to the recognition of the need of a properly trained corps, the bandsmen's services as bearers proving entirely inadequate, and the work of the department breaking down fearfully in consequence. At this time more than one medical officer took combatant rank, and afterward commanded his regiment, setting an example so splendidly followed by Colonel Wood in the present war. We are told that Assistant Surgeon Wilson, of the Seventh Hussars, "with the greatest gallantry and coolness, assembled a few men of the Guards and led them to the charge, and utterly routed and dispersed the Russians threatening the Duke of Cambridge's life, whose horse was killed under him. At the close of the day Mr. Wilson was called to the front of his regiment and publicly thanked for saving, in all probability, the duke's life."

A medical staff corps with a distinctive uniform was formed at the end of the Crimean war. At that time the want of prestige resulting from the absence of definite military rank and titles was keenly felt and commented on by a royal commission, while the medical corporations of Great Britain and Ireland placed their claims for such recognition on record. Still, however, the absurd "non-combatant" idea was strong enough to prevent any substantial concessions in that direction. Prejudice dies hard. In 1860 the first entrance examination in England was held for admission to the army medical service. In 1878 another committee appointed by Lord Cranbrook pronounced in favor of giving a new title to this service—*e. g.*, "Royal Army Surgeons," or "Royal Medical Staff"—and recommended among other things that honor and good-service pensions should be bestowed on the same scale as was awarded to combatants, and that the "Queen's honorary physicians and surgeons" should have their names in the *Army List* immediately after those of her Majesty's aides-de-camp, and they held that the medical officers should be associated with the combatant rather than with the administrative services. But, as we said before, prejudice dies hard, and army surgeons were still to be spoken of by those in authority as civilians. In 1874 the regimental service was abolished, and all medical officers were appointed to the army medical department, and only attached for duty to regiments, wearing a departmental uniform in place of a regimental one. This change was called for by the need of greater elasticity. It frequently happened that while one regiment had little for its regimental surgeon to do, another, by reason of being split up in detachments or for other causes, was medically underserved, and yet no use could be made of the surplus from other regiments. The hospital corps, or, as it was later styled, the army medical corps, was officered for purposes of discipline and administration by "combatant" officers. Subsequently, while still retaining the surgeons as departmental officers without military rank or titles, the "combatant" officers in charge of the corps were done away and the surgeons set to exercise all their regimental duties. Then it was that the clamor and protest against the neglect of their claims for proper recognition became loud and general. The medical press championed their cause, and the medical schools put pressure on intending candidates for the service to refrain from joining. Still prejudice held its ground and continued to speak contemptuously of medical officers as "non-combatants," and the friction increased until ultimately a deadlock ensued, which has at length happily resulted in the full recognition of the doctors' claims for the definite military status rendered essential to the proper performance of their multifarious duties, by the promised warrant constituting the Royal Army Medical Corps to which medical officers in the British service will in future be regularly commissioned as regimental officers. We congratulate our military medical brethren across the water on their victory, and hope that the recognition at last bestowed upon their distinctly military character in the older country will soon displace the "non-combatant" prejudice in a country where military caste means so much, and will deal a death-blow to any vestige of it in this country, where it ought never, in view of our traditions, to have existed.

MINOR PARAGRAPHS.

THE ABUSE OF SALT.

We have often had it in mind to utter a protest against the excessive use of salt in American cookery. Indeed, one can hardly ever dine at a restaurant or hotel without being forcibly reminded of the need of such a protest; but, like all constantly recurring irritations, it is apt to be forgotten as soon as the access is over. The following from the *Journal of Hygiene* (*Charlotte Medical Journal,* April, 1898) is, however, so much to the point and so entirely what we would ourselves have said that we make no apology for reproducing it: "The use of salt as a condiment is so general and so universally believed in as necessary that we rarely hear a word against its excessive use, but there are a multitude of persons who eat far too much salt; eat it on everything—on meat, fish, potatoes, melons, in butter, on tomatoes, turnips and squashes, in bread, and on a host of foods too numerous to mention. To so great an extent is it used that no food is relished which has not a salty taste, and this hides more or less the real taste, which is often very delicate. Now, the amount of salt required in the system is comparatively small, and if the diet has been rightly compounded, very little is necessary. Some go so far as to discard its use altogether, but whether this is wise or not we will not here consider. What are some of the evils of the excessive use of salt? They are to paralyze the nerves of taste, or to pervert them so they can not enjoy anything which has not a salty flavor, and in addition there is a direct tax on both the skin and the kidneys in removing it from the blood. Whether the skin is harmed by this tax we do not know. Possibly it is not greatly injured, yet we know that few people possess a healthy skin; but it is now pretty well settled that an excessive use of salt does overtax the kidneys in its removal, and that the great number of cases of derangement and disease of these organs is due to this use. It takes only a little time to learn to enjoy many kinds of food without salt, and we advise our readers and others to look into this matter and to try to diminish the use of this condiment as far as possible. We believe they will be better for it."

THE DOCTOR'S BICYCLE IN AUGSBURG.

The *Deutsche Medicinal-Zeitung* states that in Augsburg special street rights, amounting, we presume, to the right of way and some latitude in the matter of speed, have been given to physicians riding bicycles. In place of the number plate, the physician's bicycle bears a plate of the same size displaying a red cross on a white field, whereby it may be distinguished from all other vehicles of the sort. It is said that several advantages have already resulted from this arrangement.

EUTHANASIA ON THE SCAFFOLD.

It is not uncommon to learn of American occurrences from European sources. If there is anything grotesque in the alleged events, that feature is sure not to be curtailed in such accounts. The *Klinisch-therapeutische Wochenschrift* for April 17th gives the story of a murderer's execution in Minneapolis. It is stated that the condemned man had formerly been a respected citizen, and consequently had many influential friends. They conceived the idea of rendering his death on the scaffold not only painless but unattended by apprehension. They hypnotized the man repeatedly and filled his mind with the suggestion that by means of a pair of wings with which he was to be endowed he could fly away from the scaffold. At the time of the execution this mummery was gone through with: The man was hypnotized and a pair of goose wings was attached to him. The noose having been adjusted, he was told to inflate his lungs and raise his arms for flight. At the moment of his doing so the drop fell, and, in consequence of the tension of his cervical muscles, strangulation was avoided and breaking of the neck secured. Our German contemporary is careful to remark: *Se non è vero, è ben trovato.* Can our Minneapolis colleagues shed any light on this story?

FLORENCE'S TEST FOR SEMEN.

Professor Florence, of Lyons, has made a discovery which he thinks may prove to be of considerable medico-legal importance, namely, that the addition of a strong aqueous solution of iodine (1.65 part of iodine, 2.54 parts of potassium iodide, and enough distilled water to make 30 parts) to human semen gives rise to the immediate formation of dusky-brown microscopic crystals, partly long rhombic tables and partly fine needles. C. Posner (*Berliner klinische Wochenschrift,* 1897, No. 28; *Centralblatt für innere Medicin,* 1898, No. 18) has succeeded not only in eliciting this reaction, but in determining that it is due to the combination of iodine with spermine. Hence it results that the reaction may be produced with any fluid containing spermine, and therefore is not absolutely a test for semen, although it is a valuable import as a corroborative test. This is Posner's opinion, but, inasmuch as suspected seminal stains are practically never due to ovarian juice or other non-seminal fluids containing spermine, we are inclined to think that the Florence test will prove to be more valuable than he is ready to admit.

A MYTHICAL CHARGE OF IDIOCY RESENTED.

In pursuance of our search for American news from European sources we find in a recent number of *Lyon médical* a summary of an article that appeared not long ago in *Médecine moderne* descriptive of the official inspection of the heads of Boston public-school children as to the matter of lousiness. It seems that the mother of one of these children, who should have felt gratified that her child was found free from lice, was grievously misled by the wording of the inspector's report, that "he had found nothing in the head," and betook herself to the teacher in a rage, complaining that her child had been pronounced idiotic.

BISMUTH POISONING FROM THE USE OF AIROL.

Clemmer (*Korrespondenzblatt für schweizer Aerzte,* 1897, No. 16; *Centralblatt für Chirurgie,* April 23, 1898) reports a case in which he injected into a psoas abscess rather more than an ounce of a ten-per-cent. emulsion of airol with equal parts of glycerin and olive oil. In the course of three days striking symptoms of bismuth poisoning appeared—nausea, stomatitis, a black coloration of the oral mucous membrane, etc.—which did not subside until the abscess was opened freely and the airol allowed to escape. He concludes that airol is only relatively harmless and that it should not be used with glycerin, in which it dissolves.

A SERIOUS OBJECTION TO XYLONITE HAIR COMBS.

The *Indian Medical Record* for May 1st reprints from the *Daily Telegraph* a letter which, it says, exactly bears out a recent article of its own. The letter is from a young woman who had been using xylonite combs to keep her hair back. She says that on an occasion when she was kneeling in front of an ordinary sitting-room fire, the heat ignited her comb within five minutes. Her brother threw a rug over her, and thus saved her from being severely burned. There was some difficulty in disentangling the remnants of the comb, which had burned rapidly, destroying all the hair near it and also burning the skin itself.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 9, 1898:

DISEASES.	Week ending July 2.		Week ending July 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	16	8	16	11
Scarlet fever	146	16	91	10
Cerebro-spinal meningitis	0	7	0	7
Measles	243	15	166	19
Diphtheria	160	25	158	46
Croup	6	4	7	4
Tuberculosis	185	138	100	157

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending July 9, 1898:

Small-pox—United States.

Mobile, Ala	June 23–July 1	2 cases.
Beebe, Ark.	June 23–30	1 case.
Hot Springs, Ark	June 23–30	2 cases.
Chicora, Miss.	July 1	Cases reported.
Wayne County near Shubuta, Miss.	July 1	2 cases.
Rochester, N. Y	June 29	3 "
Reported present at Dansville, Dunkirk, Fredonia, and Geneva, N. Y.	June 29	

Small-pox—Foreign.

Antwerp, Belgium	June 4–11	3 cases,	2 deaths.
Brussels, Belgium	June 4–11		1 death.
Hong Kong, China	May 1–7	2 "	4 deaths.
Calcutta, India	May 14–21		1 death.
Madras, India	May 14–20		1 "
Moscow, Russia	June 4–11	8 "	1 "
Odessa, Russia	June 11–18		1 "
St. Petersburg, Russia	June 4–11	14 "	3 deaths.
Warsaw, Russia	June 4–11		8 "
Montevideo, Uruguay	May 1–7	1 case,	1 death.

Yellow Fever—United States.

Last case at McHenry, Miss., discharged July 8th.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	May 13–20	43 cases,	33 deaths.
Rio de Janeiro, Brazil	May 20–27	39 "	38 "

Cholera—Foreign.

Calcutta, India	May 7–21		17 deaths.

Plague—Foreign.

Hong Kong, China	May 1–7	164 cases,	131 deaths.
Hong Kong, China	May 7–14	179 "	136 "
Bombay, India	May 24–31		84 "
Nagasaki, Japan	May 14–23	1 case.	

The Influence of the Weather on the Mental State.—The *Yale Medical Journal* for June, 1898, comments on an article on the above subject by Dr. Edwin G. Dexter, in the *Pædogogical Seminary* for April, as follows: The writer of this article, Edwin G. Dexter, who is professor of psychology and physiology in the Colorado State Normal School, opens up a new branch of research which, while treated primarily from the standpoint of education and criminology, has a very decided bearing upon the study of medicine and disease. The author, who has closely compared the mental states of children, as shown in the public-school reports of conduct, punishments, etc., with the prevailing weather, comes to the conclusion that while the actual time of the year has little or no effect, abnormal conditions of barometric pressure, especially excessive humidity, have a very marked influence upon the mental state of the child, rendering it irritable and inattentive to its work. The same thing has been shown to exist in the records of criminology. We are well aware how in certain periods of unusual heat and humidity the suicide returns mount far beyond the average. This is a practically unexplored field, and we are pleased to be able to congratulate ourselves that it seems in a very fair way to remain so no longer. In one of the largest banks in Europe it is a rule of the institution that on certain days, which we may best characterize as "muggy," no intricate calculations are to be done, for the reason that practice has shown the impossibility of accuracy under these conditions. The weather is such a familiar part of our environment that, as the old saying goes, we have come to regard it with contempt. In the light of these recent researches of Professor Dexter, we shall probably in the next few years modify our opinions on this matter, and treat that apparently commonplace surrounding of ours with the attention its importance warrants.

The Smegma Bacillus.—Dr. J. L. Miller (*Medicine*, July) thus summarizes a paper on the smegma bacillus: 1. Over the entire surface of the body and exposed mucous membrane, and especially on the genitalia, bacilli are found which resemble morphologically and in tinctorial qualities the *Bacillus tuberculosis*. 2. From the external genitalia they frequently gain access to the urine, especially in women, and may be a source of error in the examination of the urine for tubercle bacilli. 3. The smegma bacillus presents wide variations in size and form, thus rendering morphological differentiation frequently impossible. 4. While most smegma bacilli are more readily decolorized by any of the solutions commonly employed, occasionally they possess equal or even greater resistance than the tubercle bacillus. 5. Methods of decolorization where acids are employed alone are especially fallacious; acid alcohol or dilute alcohols, unless long continued, are equally unreliable. Better, but not free from error, is the use of absolute alcohol for at least five minutes; in ammoniacal urine, however, such prolonged use of alcohol may also remove the stain from the tubercle bacillus. 6. Attempts to remove the fat or fatty acids from the bacilli by ether, chloroform, or other solvents fail to furnish us with a means of differentiation. 7. We must rely on means of excluding the smegma bacillus from the urine. It has never been demonstrated in the bladder, and apparently seldom invades the deep urethra; therefore, by cleansing the external meatus and withdrawing the urine with a catheter we can exclude this possible source of error.

The Treatment of Laryngeal Chorea.—M. Weil (*Gazette hebdomadaire de médecine et de chirurgie*, June 23d) reported to the Imperio-Royal Society of Physicians of Vienna the case of a young girl who had suffered for many years from laryngeal chorea characterized by attacks of barking cough. Examination disclosing the existence at the entrance to the fossæ of Rosenmüller of two points, the irritation of which determined crises of coughing, the author cauterized them with trichloracetic acid, which cured the patient.

Necrosis of the Liver in Typhoid Fever.—M. Engelhardt (*Gazette hebdomadaire de médecine et de chirurgie*, June 23d) reported to the Medical Society of Cologne the case of a man twenty-seven years of age who died from typhoid fever. The agglutinative reaction confirmed the diagnosis during life, and the lesions of Peyer's patches were found post mortem. The autopsy also showed a large number of grayish patches in the liver, which examination proved to be foci of necrosis filled with typhoid bacilli.

Serum Therapy in Mushroom Poisoning.—M. Claisse (*Gazette hebdomadaire de médecine et de chirurgie*, June 23d) states that the toxic effects of mushrooms are due principally to two substances—namely, muscarine, which rapidly determines violent but rarely fatal gastro-intestinal disorders, and phalline, contained especially in the *Amaris phalloides*, which is more terrible, the first symptoms not usually appearing for from twelve to thirty-six hours, but being of a choleraic nature and ending often in collapse and death. Comparing the tardy action of this vegetable poison to the microbic toxines, M. Claisse applied serum therapy, which had already given remarkable results in other non-microbic poisonings, as the venoms, ricine, and abrine, to poisoning by mushrooms, and presented to the *Société de biologie* the results of his first experiments. The guinea-pig and especially the rabbit are very susceptible to phalline. In these two animals the poison is inactive when taken by the mouth, but kills in minute doses when introduced intravenously or subcutaneously. The author found that tolerance was easily established. Having regard to the weight of the animal, it can quickly be brought to sustain very large doses.

The Northern Tri-State Medical Association.—The next annual meeting will be held in Elkhart, Indiana, on Tuesday, July 19th, under the presidency of Dr. Hal C. Wyman. Papers will be read by Dr. J. H. Carstens, Dr. W. C. Stevens, Dr. W. P. Manton, Dr. H. O. Walker, Dr. C. D. Aaron, and Dr. L. E. Mairs, of Detroit; Dr. W. H. Sawyer and Dr. Bion Whelon, of Hillsdale, Indiana; Dr. C. N. Smith and Dr. John North, of Toledo; Dr. W. E. Quine, Dr. J. B. Murphy, and Dr. J. H. Etheridge, of Chicago; Dr. W. N. Wishard, of Indianapolis; Dr. W. J. Fairfield, of Anderson, Indiana; Dr. R. R. Alwood, of Montpelier, Ohio; Dr. G. W. McCaskey, Dr. K. K. Wheelock, and Dr. B. Van Sweringen, of Fort Wayne, Indiana; and Dr. Norman Teal, of Kendallville, Indiana.

The Health of the City of New York.—On July 12th Dr. Roger S. Tracy, the registrar of records, submitted the following report to the board of health:

"I have the honor to report that the health of the city during the first six months of the current year has been excellent. A comparison of the deaths in the boroughs of Manhattan and the Bronx with the deaths for the corresponding period of 1897 gives the following results: The total deaths in 1898 were 19,113, against 19,509 in 1897, showing a decrease of 396 deaths and a death-rate of 16.66 in 1898, on an estimated population of 2,045,830, against 19.60 in 1897, on an estimated population of 1,990,562, and being lower than the number of deaths in the corresponding months of any previous year since 1886.

"The deaths of children under five years of age, perhaps the best test of sanitary conditions, numbered 7,041 in 1898, as compared with 7,238 in 1897, a decrease of 197, notwithstanding the increase of population.

"The deaths and death-rates from the principal contagious and infectious diseases for a period of ten years are given in the following table:

Deaths.

	1889.	1890.	1891.	1992.	1893.	1894.	1895.	1896.	1897.	1898.
Diphtheria and croup...	1,542	1,014	965	1,151	1,281	1,771	1,146	1,056	980	548
Measles..................	395	451	480	621	197	495	480	580	204	358
Scarlet fever............	1,126	251	748	785	430	389	369	277	300	407
Small-pox................	1	2	2	36	48	116	8	1	21	.....
Typhoid fever............	117	96	98	122	136	93	91	83	86	72
Typhus fever.............	.....	.....	.....	40	193	.....	.....	.....	.....	.....
Total....................	3,181	1,814	2,293	2,755	2,285	2,864	2,094	1,997	1,591	1,385

Death-rate per 1,000.

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Diphtheria and croup...	1.97	1.26	1.16	1.35	1.46	1.96	1.22	1.09	.98	.53
Measles..................	.50	.56	.58	.73	.22	.55	.51	.60	.21	.35
Scarlet fever............	1.44	.31	.90	.92	.49	.43	.39	.29	.30	.40
Small-pox................	.001	.002	.002	.04	.05	.13	.009	.001	.02	.....
Typhoid fever............	.15	.12	.12	.14	.16	.10	.10	.09	.09	.07
Typhus fever.............	.....	.....	.....	.05	.22	.....	.....	.....	.....	.....
Total....................	4.00	2.25	2.76	3.23	2.60	3.17	2.23	2.07	1.60	1.35

"It will be noticed that the decrease in deaths from diphtheria and croup alone in 1898, as compared with 1897, amounts to 432, nearly forty-five per cent., the total number of deaths from these diseases being the lowest, not only relatively but absolutely, since 1872, twenty-six years ago, a decrease which can not be attributed to the waning of a cycle of morbidity, but can be accounted for only by the improvement in the methods of sanitary control, of which the chief are the use of antitoxine and the medical inspection of schools."

The Meeting of the Schools.—According to the *American Journal of Surgery and Gynæcology* for June, the joint meeting of the regulars, homœopaths, and eclectics at Topeka, Kansas, was a complete success and a similar meeting is to be held next year.

Lieutenant-Colonel Nicholas Senn to the Front.—According to the *Journal of the American Medical Association* for July 9th, Dr. Senn has been assigned to the post of chief of the operating staff with the Fifth Army Corps now at Santiago.

The Buffalo Academy of Medicine.—At a special meeting, held on Monday, July 11th, Mr. Jokichi Takamine, of Tokyo, Japan, was to present a paper on The Production of Diastase and of an Alcoholic Ferment from Fungi.

Lord Lister and the Freedom of the City of Edinburgh.—We learn from the *Edinburgh Medical Journal* for July that the "freedom of the city of Edinburgh" was, with imposing ceremonial, presented to Lord Wolseley and Lord Lister on June 15th. The president and fellows of the Royal College of Surgeons held a reception in Lord Lister's honor on June 16th. Lord Lister was received with the utmost enthusiasm.

The Red Cross Brotherhood of Nations.—According to the Philadelphia *Medical Journal* for July 9th, the Red Cross Society of Paris, France, has opened a subscription list on behalf of the wounded of both the American and Spanish armies, and has itself headed the list with $10,000. The Italian Red Cross has offered its assistance and *matériel* to both the American and Spanish Red Cross branches.

Change of Address.—Dr. J. A. Lockard, to Gothenburg, Nebraska.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 26 to July 5, 1898:*

FLAGG, CHARLES E. B., Captain and Assistant Surgeon, is ordered from Columbus Barracks, Ohio, to duty in the general hospital at Fort McPherson, Georgia.

GREENLEAF, HENRY S., Acting Assistant Surgeon, is ordered to report in person to the major-general commanding the army for duty.

HARTNETT, EUGENE H., Acting Assistant Surgeon, is ordered from Washington to duty in the general hospital at Fort Monroe, Virginia.

HAYWARD, EDWIN P., Acting Assistant Surgeon, is ordered to duty in the Leiter General Hospital, Chickamauga National Park, Georgia.

JONES, R. FLEMING, Acting Assistant Surgeon, is relieved from duty at Fort Bliss, Texas, and ordered to Tampa, Florida.

KEMP, FRANKLIN M., First Lieutenant and Assistant Surgeon, is ordered to San Francisco for duty with the expedition to the Philippine Islands.

SMITH, THOMAS S., Acting Assistant Surgeon, is relieved from duty on the hospital ship *Relief* and ordered to Fort Slocum, N. Y., for duty.

WATERHOUSE, S. MELVILLE, Acting Assistant Surgeon, is ordered to accompany the artillery battalion from Washington Barracks, D. C., to San Francisco.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 11, 1898:*

GRAF, A. F., Assistant Surgeon. Ordered to the *Yale*.

HUNTINGTON, S. O., Assistant Surgeon. Detached from the marine rendezvous at Boston and ordered to the Naval Hospital, Norfolk.

MARCOUR, R. C., Assistant Surgeon. Ordered to the naval station at Key West.

ODELL, T. G., Assistant Surgeon. Ordered to the *Vermont*.

PAYNE, J. H., Assistant Surgeon. Ordered to the marine rendezvous at Boston.

PERSONS, R. C., Surgeon. Ordered to the Navy Department.

Society Meetings for the Coming Week:

MONDAY, *July 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *July 19th:* American Otological Society (first day—New London, Connecticut); New York Academy of Medicine (Section in General Medicine);

Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Kings and Otsego (annual — Cooperstown), N. Y.; Baltimore Academy of Medicine.

Wednesday, *July 20th:* American Ophthalmological Society (first day—New London, Connecticut); American Otological Society (second day); New Jersey Academy of Medicine (Newark).

Thursday, *July 21st:* American Ophthalmological Society (second day); Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Births, Marriages, and Deaths.

Married.

Amsden—Page.—In Concord, New Hampshire, on Saturday, July 2d, Dr. Henry M. Amsden, of Attleboro, Massachusetts, and Miss Grace Farnum Page.

Muir—McPherson.—In New York, on Saturday, July 2d, Dr. Joseph Muir and Miss Ella Coleman McPherson.

Died.

Collins.—In Tottenville, N. Y., on Monday, July 11th, Henry Collins, son of Dr. Martin L. Collins, of Brookfield, Connecticut, and brother of Dr. Joseph Collins, of New York, in the twenty-third year of his age.

Knowlton.—In Northampton, Massachusetts, on Tuesday, July 5th, Dr. Charles Lorenzo Knowlton.

Seaman.—In Seneca Falls, N. Y., on Tuesday, July 12th, Dr. F. G. Seaman.

Vernon.—In New York, on Friday, July 8th, Frances Olive, wife of Dr. Harwood Vernon.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 11, 1898.

The President, Dr. Walter B. Johnson, in the Chair.

Ruptured Ectopic-gestation Sac.—Dr. Brooks H. Wells presented a ruptured ectopic-gestation sac removed recently by him. The patient was a young woman who had married and had had one child five years ago; since then she had been perfectly well until she had had a miscarriage seven months ago. At that time she had come to the speaker, who had curetted, and had found her ovaries and tubes apparently normal. She had an extremely movable uterus which always tended to drop back into an exaggerated retroflexion; and when it was in that position the woman complained of pain. The uterus was lifted up and kept forward with a pessary. About March 20th the woman became pregnant, and, being very nervous about herself, and wanting particularly to have a child, came to the speaker about every ten days for an examination of the uterus. During all this time she was apparently perfectly well. About two weeks ago she complained of a little pinching pain, and thought that the pessary had slipped. The pain was not severe and otherwise she was well. The speaker examined her and had found the uterus in good position. He was able to palpate the ovaries and tubes fairly well and thought they were normal. He noticed that one horn of the uterus was developed more than the other, so that the fundus, instead of making a uniform enlargement, was enlarged on one side more than on the other. May 2d, about 1 o'clock a. m., she turned over in bed, and suddenly felt an agonizing pain. That was the first severe pain she had had. Hot-water bags and doses of whisky and water not giving relief, a physician in the neighborhood was summoned. He said she had a typical attack of colic, and had given her a hypodermic of morphine, which did not quiet her, but after another dose she became quiet. Dr. Wells saw her at about twelve o'clock noon; at that time she had a rapid, soft pulse of about 120. He diagnosticated an intraperitoneal hæmorrhage, and insisted on an operation, which he performed two hours and a half later. At that time she was absolutely pulseless and could not feel when her hands or limbs were touched. She felt an excruciating pain, as if she were being crushed with a vise across her chest. Ether was administered, the abdomen was opened, the bleeding points were secured, and the peritoneal cavity was flushed out with a hot saline solution. The tube was hanging loose, the proximal end being torn off from the uterus. Projecting from the right cornu was the chorion, which he exhibited. The uterus was stitched up, the wound in the abdomen closed, and the patient put back to bed. During this time she received hypodermics of strychnine and hot saline solutions by the rectum. Just before the operation Dr. Goffe suggested immediate transfusion, and made an incision in her arm, but did not succeed in getting more than an ounce or two in. About nine or ten o'clock that evening the patient began to have a pulse at the wrist; when it could be counted it was about 158. Since that time she had made an uneventful recovery. She had now a normal temperature and a pulse of 100, and was practically out of danger. The fœtus that had been in the uterus had stayed there, and so far had not given any signs of coming away; it was probable, however, that the woman would miscarry, because it seemed impossible that the ovum could remain alive after such a serious blood loss. It had been said recently by a very good authority that every case of extra-uterine gestation gave the symptoms of severe pains for some time before the rupture. This patient had had no marked pain, no bad symptoms until she had had a little pinching that had made her think her uterus was turned backward. Another point of interest was the fact that both tubes and ovaries were absolutely normal. Cases of extra-uterine pregnancy were more dangerous the nearer the sac was to the uterine tissue. When it was at the junction of the tube and uterus, the hæmorrhage was usually so severe that the patient was killed before anything could be done for her.

Primary Rupture of an Ectopic-gestation Sac.—Dr. William H. Stewart reported two cases.

Case I.—Mrs. F., aged thirty-five years. Family and previous history negative. Had had no regular menstruation since her last child was born, fifteen months before; had had a slight flow in November, followed by a show in December. On January 15th, while at housework, she was seized with severe abdominal pain, followed by collapse; stimulants were administered with good reaction. For the next week she was in bed and was suffering from slight pain. At the end of that period she was allowed to be out of bed and again resumed household duties; she felt fairly well except for weakness. On January 28th she was again taken with severe pain in the abdomen with symptoms of collapse; no flow. The speaker saw her first on January 29th; her condition was then extremely precarious, she being practically bloodless, with a temperature of 102.4° F.; pulse, 140. Stimulants, saline solution per rectum, and strychnine were administered, and on the morning of January 30th her condition was somewhat improved; temperature, 102° F.; pulse, 120. Vaginal examination disclosed a marked bulging of the posterior *cul-de-sac.* Under aseptic precautions a hypodermic needle was introduced into the *cul-de-sac* and evacuated blood. Dr. H. C. Coe was called in consultation and verified the diagnosis of ruptured ectopic-gestation sac. The patient was removed as soon as possible to the Astor Hospital and was operated on at 10 P. M. On opening the peritonæum the abdomen was found filled with blood clots; these were quickly turned out and the left tube was found to have ruptured. It was tied off and removed; no hæmorrhage took place at the time of the operation. The right tube and ovary were in good condition. The abdomen was thoroughly washed out with saline solution and the wound closed with silkworm sutures. Hot salines with strychnine were administered before and after the operation. There was considerable reaction the next day, but she gradually improved and was discharged on February 22d, cured.

CASE II.—Mrs. G., aged thirty years. Family and previous history negative. Had not menstruated for two months; there had been no other symptoms of pregnancy. On a Saturday, while in Brooklyn, she had a sudden flow, which was over in a minute; no pain, except a slight soreness in the back. On the following Tuesday morning she had slight colicky pain in the abdomen and some flow, which lasted about an hour. At 9 P. M. the same day she had a repetition of the symptoms, but they disappeared in a short time. There was no severe pain in the abdomen until 1 P. M., Wednesday. It was then accompanied with excessive hæmorrhage. The speaker had seen her first on Wednesday at about 4 P. M. She was practically exsanguinated by that time. Hot salines per rectum, strychnine, digitalis, etc., gave no result. She died at about 5 P. M. The autopsy revealed a ruptured tubal-gestation sac on left side.

Although these cases were not exactly similar to that of Dr. Wells's patient, the speaker thought they were of interest as showing the variance of symptoms existing in the same condition, especially in regard to the amount of pain and hæmorrhage, one patient having had a great amount of pain and no hæmorrhage, the other having had excessive hæmorrhage and slight pain.

The PRESIDENT asked Dr. Wells why it was that the transfusion of the salt solution through the veins had been a failure.

Dr. WELLS said that it could not be made to run in. The water had had a head of five feet; that was ordinarily supposed to be enough to make it run into a collapsed vein.

The PRESIDENT said that at the time some of the members were in Charity Hospital Dr. Howe had made a number of experimental efforts in the way of transfusion, and he had never had any trouble in getting the fluid to run in with just such an apparatus as had been described.

Dr. WELLS said that his personal experience had been that when a case needed transfusion he had obtained just as good results by the injection of a hot salt solution per rectum, and nearly as quick, as by the direct introduction of the fluid into the vein or under the skin. Of course, in those cases where the abdomen was opened the hot salt solution could be poured directly into the abdominal cavity. He had noticed in a number of cases that he got an effect on the pulse certainly within five or six minutes after the injection of a large amount of a hot saline solution into the abdomen. It might be due to the stimulation of the hot water and the turning of the patient upside down, but practically the results were good.

Dr. PHILIP ARTHUR MALLESON said that there was another class of cases that had not been spoken of that were not improved by hot saline infusions in the rectum. It had been his privilege to see one of these cases in which there had been no response to the rectal injection of saline solution. Then, with an ordinary penknife the vein of the arm could be opened and with a cannula the fluid could be introduced into the vein. It was in these cases that, just as soon as the saline solution was diffused through the system, the pulse of 210 went down, and in a quicker time than one could count it on the watch there was a beneficial result. His attention had been especially drawn to that subject because in his own house he had had a patient die by hæmorrhage, and if he had stood that day where he stood now, her life would have been saved. He had made it a matter of special study and had done venous infusion when he had an opportunity to watch its effects.

Cancer of the Breast in a Man.—Dr. RAMON GUITÉRAS presented a patient afflicted with cancer of the breast. He was an Italian laborer, fifty years of age. The history was rather scant, because he was a very ignorant man and spoke a dialect that none of the nurses or inmates of the hospital understood. The history that had been obtained was that for about fifteen years he had had a growth on his right nipple, and when he entered the hospital this growth was about three inches in length and an inch and a half in width, and presented an ulcerating surface. It followed the course of the pectoralis major muscle, and was evidently a cancer of the breast. It was operated on by the usual incision, and it was found that the pectoralis major muscle was also involved. The pectoralis major muscle was removed, the pectoralis minor muscle was cut through, and the glands were dissected out. The microscopical examination confirmed the diagnosis. There was another interesting point in this man's case, that the arm of the right side had been very much larger than the arm of the left at the time of the operation. That had gone down in great measure, however, the shoulders being about even. The enlargement had seemed to be in the forearm, and was probably due to the interference of the circulation of the lymphatics. He reported this case not because of anything very wonderful in the case itself, but on account of the rarity of cancer of the breast in the male. Warren, in his statistics, stated that it occurred only in one per cent. of the cases. Dietrich, in a table of a hundred and ten cases, found it occurred three times.

Dr. ADOLPH RUPP said that he had seen only one case of cancer of the breast in a man. The patient was a tailor, and it was supposed that the cancer had been provoked in this region by the habit of rubbing the iron against the right side of the chest. When first seen the tumor had not been of quite the size of a horse-chestnut, and the patient, not believing that it was a cancerous growth, had deferred being operated upon until infiltration had extended beyond the therapeutical capacity of an operation. The patient had been operated on a number of times, and had finally succumbed to the disease and chronic septicæmia.

A Rectal Irrigating Tube.—Dr. Guitéras showed a rectal tube made something after the pattern of Kemp's tube, but a little larger and a little longer. It was a hard-rubber rectal irrigating tube. There was no opening in the end; the opening for the inflow was in the concavity and the opening for the outflow on the other side. A great many of these tubes had the fault that the outflow was not sufficiently large to allow the water to escape, and there was a good deal of damming of the water in the intestine that was very uncomfortable for the patient. His object in making the tube curved was to obviate the complaints made on his using the straight tube—for instance, for irrigation in cases of acute prostatitis the patient complained that the tube went into the prostate and hurt it. Again, if the tube was pushed back it went into the cæcum. A tube like the one presented conformed to the curves of the pelvis, and did not go into anything excepting the rectum, where it was intended to go. In order to make this tube and secure the curve, he had injected a moderate amount of fluid into the rectum of the cadaver, had frozen the body, and had made a vertical section antero-posteriorly, going through the perinæum and the diaphragm, and laying the body open. He had then taken a pliable uterine probe and molded it to the form of the cæcum and rectum, and from that form had had this tube made. It was really an anatomical tube. He had had it made especially, not so much for a rectal irrigator as for an irrigator which would send the fluid to the seminal vesicles and the prostate. He also thought it might be a good tube to use in cases of uterine trouble, either inflammation of the uterus itself or inflammation of the tubes and ovaries, because it could be pushed up so as to lie near the uterus. He thought it would be interesting, not only for those doing genito-urinary work, but also for the gynæcologist.

(*To be concluded.*)

Book Notices.

BOOKS, ETC., RECEIVED.

A System of Practical Medicine. By American Authors. Edited by Alfred Lee Loomis, M. D., LL. D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College, etc. Volume IV. Diseases of the Nervous System and Mind—Vasomotor and Trophic Disorders—Diseases of the Muscles—Osteomalacia——Rhachitis—Rheumatism — Arthritis—Gout — Lithæmia — Obesity — Scurvy — Addison's Disease. Illustrated. Lea Brothers & Co., 1898. Pp. 5 to 1120.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année, 1897. Par Bourneville. Avec la collaboration de MM. Dardel, Jacomet, Mettetal, Noir (J.), Philippe, Rellay, Schwartz, Tissier et Wuillamier. Volume XVIII. Avec 18 figures dans le texte et 20 planches. Paris: Félix Alcan, 1898. Publications du *Progrès médical.* Pp. lxxxiv–228.

Chirurgie de l'intestin. Par M. Jeannel, Professeur de clinique chirurgicale à la Faculté de médecine de Toulouse. Avec 363 figures dans le texte. Paris: Institut de bibliographie scientifique, 1898. Pp. xi–409.

Monthly Bulletin of the Bureau of the American Republics. June, 1898. Volume V. No. 12.

Report of the Commissioner of Education for the Year 1896–'97. Volume I, containing Part I.

Twenty-fourth Annual Report of the Secretary of the State Board of Health of the State of Michigan. For the Fiscal Year ending June 30, 1896.

Proceedings and Addresses of the Sanitary Convention held in Detroit, December 9 and 10, 1897.

Blood Chart. Designed by J. C. Da Costa, Jr., M. D. Philadelphia: J. B. Lippincott Company.

Auto-intoxication in its Relations to the Diseases of the Nervous System. By Daniel R. Brower, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Some Observations on the Treatment of Tabes Dorsalis. By Daniel R. Brower, M. D. [Reprinted from the *Journal of the American Medical Association.*]

A Second Contribution to the Treatment of Cancer by Injections of Alcohol. By Edwin J. Kuh, M. D., of Chicago. [Reprinted from the *Philadelphia Medical Journal.*]

Septic Perforation of the Right Internal Carotid Artery. Autopsy Five Months after Death. By A. Jacobi, M. D., and James Ewing, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Report of a Case of Acute Double Hydrocele due to Secondary Syphilis. By Howard Paxton Collings, M. D., of Hot Springs, Arkansas. [Reprinted from the *Hot Springs Medical Journal.*]

L'Ichthyol. Les lymphangites de l'enfance et leurs conséquences. Par le Dr. Moncorvo, de Rio-de-Janeiro. [Extrait de la *Revue médicale.*]

Sur le traitement de la chylurie par l'ichthyol. Par le Dr. Moncorvo. [Extrait du *Bulletin général de thérapeutique.*]

Das Ichthyol in seiner Verwendbarkeit für die Schiffs- und Tropen-Praxis. Von Dr. Leo Leistikow, Hamburg. [Sonder-abdruck aus *Archiv für Schiffs- und Tropen-Hygiene.*]

Ueber die Anwendung des Ichthyols bei Augenkrankheiten. Von Dr. M. Eberson, in Tarnów. [Separat-abdruck aus der *Klinisch-therapeutische Wochenschrift.*]

Miscellany.

A New Medical Journal.—We have received the first number of the *Memphis Lancet,* which made its appearance with the present month. It contains original articles on Surgical Shock, by Dr. W. L. Estes; A Report of Three Cases of Unusual Interest, by Dr. R. B. Maury; The Treatment of Chronic Nasopharyngitis, by Dr. Lewis S. Somers; An Obstetrical Outfit, by Dr. Henry E. Tuley; The Nervous Symptoms of Pernicious Anæmia, by Dr. Charles W. Burr; and Three Cases of Croupous Pneumonia with Early Crisis—One of Apyretic Typhoid Infection, by Dr. H. A. Hare. There is an editorial on The Progress of Medicine in Memphis; Reports of the Memphis Medical Society, the Denver Meeting of the American Medical Association, and the Memphis Pathological Society; an abstract of the Progress of Medicine; Therapeutic Notes; and News and Notes. The literary contents are of good quality, and the mechanical workmanship excellent.

The Deanship of the Johns Hospital Medical School.—We learn from the *Philadelphia Medical Journal* for July 2d that Dr. William Osler will succeed Dr. William H. Welch as Dean of the Johns Hopkins Medical School in October next.

A Cambridge (England) Degree for a Boston Physician.—We learn from the *Medical Record* for July 2d that Dr. Henry P. Bowditch, of Boston, is to receive the honorary degree of D. Sc. from the University of Cambridge, when he is present at the meeting of the International Zoological Conference in that city in August. The other recipients of the honor will be Dr. Camillo Golgi, of Pavia; Dr. Willy Kühne, of Heidelberg; Dr. Hugo Kronecker, of Berne; and Sir William Turner, president of the British Medical Council.

Professor Adami and the Faculty of Medicine of Cornell University.—We understand that the chair of pathology in the newly organized faculty of medicine of Cornell University was offered to Professor J. G. Adami, of McGill University, Montreal, but was not accepted by him.

Croup Simulated by Infection with the Micrococcus Tetragonus.—Dr. Odilon Martin (*Indépendance médicale,* June 22d) reports a case closely resembling croup, in which examination of two specimens of expectorated mucus showed: 1. Abundant leptothrix; 2, cocci equally numerous, isolated, or grouped in twos and fours, or massed; 3, a few chains. There were no rods. The two specimens were sown and both gave in abundance splendid pure cultures of *Micrococcus tetragonus* with nothing else.

The Camphor Habit.—The *Western Druggist* for June asserts, on the authority of a London physician quoted from the *Monthly Review,* that among the well-to-do young women of that city there are many given to the camphor habit. The habit is begun with the view of producing a clear creamy complexion; but the drug produces also a mild form of exhilaration and stupefaction which ultimately enslaves the victim, and causes a dreamy, dazed, and listless air, with a constant desire to sleep or rest.

Diseases of the Lacrymal Passages.—Dr. Leartus Connor (*Journal of the American Medical Association,* July 2d), in a paper on Diseases of the Lacrymal Passages; their Causes and Management, which was read before the Monroe County Medical Society, says:

1. Among the predisposing causes of diseases of the lacrymal passages are such defects of structure as flattening of the bony canal or other irregularities, and defects of refraction.

2. Syphilis, gout, phthisis, scrofula, or any of the infectious diseases may cause lacrymal disorder.

3. Among the local causes are conjunctivitis at the upper end of the lacrymal passage, and nasal disease at the other end, the morbid process in either instance spreading to the canal nearest.

4. The management of any case will never overlook the bearings of any constitutional disease; especially does antispecific treatment furnish gratifying results.

5. All defects of the refraction should be corrected under a mydriatic, and muscular equilibrium assured.

6. Diseases of the conjunctiva and eyelids, as well as all nasal disease, should be removed.

7. The treatment of the lacrymal passages with aseptic solutions through small syringes, or the forced washing by Gould's method, and the systematic external use of hot water, contribute to better results in all forms of these disorders.

8. The puncta should be rendered pervious, and their position against the eyeball assured by local treatment if possible or, this failing, by operation, so that the ends of the canaliculi may be fully within the lacrymal lake.

9. Strictures should be located by probes and either dilated or divided by instruments, the extent of the operations depending upon the nature of each special case.

10. Cases treated early in the disease give uniformly good results; those attended with large destruction of tissue are less hopeful, the epiphora often remaining in spite of treatment, but they are protected against the danger of future attacks of dacryocystitis.

The Canadian Journal of Medicine and Surgery for July.—This is a gala number offering a welcome to the International Association of Railroad Surgeons, which met at Toronto from the 6th to the 8th of this month. Dr. Ezra Hurlburt Stafford contributes some verses of welcome beneath a colored device representing the Canadian flag and the Stars and Stripes being drawn closer together by their silken cords in the talons of the American eagle, who shows an amicable self-restraint from predatory instincts in respect of the Canadian beaver and the dove of peace immediately below him. So mote it be!

An American Member of the Moscow Society of Neurology and Mental Science.—Dr. B. Sachs has been elected a foreign member of the Moscow Society of Neurology and Mental Science.

Chinese Soldiers for the United States Army.—According to the *Medical Record* for July 2d, a Chinese physician, Dr. Joseph F. Chan, has asked permission to enlist about two hundred Chinamen in San Francisco to form a Chinese regiment as a nucleus for recruiting from among the two million Chinese in the Philippines for service there under the Stars and Stripes.

The Relative Spheres of Politzerization and Eustachian Catheterism.—Dr. Edwin Pynchon (*Columbus Medical Journal,* June 21st), in an article on The Technique of Tympanic Inflation, arrives at the following conclusions: Tympanic inflation is indicated in all catarrhal conditions of the tube, or stoppage thereof, whereby the ventilation and drainage of the middle ear are impaired. Politzerization is the preferable method: (*a*) In non-inflammatory conditions wherein the tube is sufficiently patent. (*b*) In the treatment of children. (*c*) When nasal deformities render the use of the catheter difficult. The catheter is required: (*a*) When politzerization is not successfully accomplished. (*b*)

For purposes of diagnosis. (*c*) When it is important that only one ear shall be inflated. (*d*) When using the continuous air current. The continuous air current is preferable: (*a*) When tubal catarrh is pronounced. (*b*) When politzerization produces discomfort. (*c*) In acute inflammatory conditions. The intermitting air current is of particular value as a means of causing passive motion whenever there is a diminished ossicular mobility, and should be as strong and as rapid as can be comfortably borne by the patient.

Psychological Phonetics of Laughing.—The *Riforma medica* for May 28th quotes the *Journal d'hygiène* for April 21st as authority for the following: Persons who laugh ha! ha! are frank, loyal, love uproar and action, and are always of a versatile and mutable character; those that laugh in "A" are of a phlegmatic and melancholic temperament; children, simple-minded folk, and those of servile, devout, timid, and irresolute character laugh in "E"; a laugh in "O" indicates generosity and ardor; while those who laugh "hoo! hoo!" are to be avoided as cynical.

The Color of Negro Infants.—*Pædiatrics* for July 1st states, on the authority of Dr. Farabery, that the negro baby at the time of its birth is exactly the same color as its white brother, and it shows signs of color only after an interval usually of several days but often extending to many weeks. It further adds that an eminent French physician, who studied the subject at a Soudanese village on exhibition in Paris, recorded as the result of his observations that the negro baby comes into the world a tender pink in color; on the second day it is lilac; ten days afterward it is the color of tanned leather, and at fifteen days it is chocolate. The coloring matter in the case of the negro lies between the layers of the epidermis. This pigment is semifluid, or in the form of fine granulations; in the Indian it is red, and in the Mongolian yellow. It is influenced not only by sun and by climate, but by certain maladies, and the negro changes in tint just as the white person does.

To these observations we may add two other facts—namely, that the least tinge of colored blood, however fair the person otherwise be, shows itself in more or less lividity of the lunula of the nail, and that the scrotum of the male negro is always very dark, though he be in other respects exceptionally fair.

The Causes and Treatment of Habitual Constipation in Infancy.—At the New York Academy of Medicine, Dr. Thomas S. Southworth (*Pædiatrics,* July 1st) said that from being regarded as a disease *per se,* amenable only to drugs, constipation had come to be looked upon as due to various functional disturbances of the organism. Much had been written from a theoretical standpoint regarding the peculiar anatomical conditions found in the sigmoid flexure, but his own observations on this point had led him to the opinion that their bearing upon the occurrence of constipation had been greatly exaggerated. Among the prominent causes of infantile constipation he enumerated deficient muscular power, disturbed peristalsis, and altered consistence of the fæcal masses. To these must be added the absence of voluntary effort in the infant. The speaker said that constipation in most fairly nourished infants yielded readily to a simple treatment which was largely dietetic. The fæcal masses themselves should be inspected, dissolved, and broken up by the physician, and in some cases even subjected to chemical analysis. There should be analyses made more extensively of the healthy, normal stools in the different periods of infancy so as to establish the variations within the limits of health. It had been shown that the milk of the nursing mother could be materially modified. The percentage of fat and the total quantity of the breast milk were the chief factors to be considered in connection with the subject of constipation. Too high a proteid percentage apparently produced looseness of the bowel and colic. The quantity of the mammary secretion could be increased by giving the mother more fluid food, such as cow's milk, cocoa, thin gruels made from cornmeal and well-cooked flour. The extracts of malt increased the quantity of fat. Regurgitation by the infant of small quantities of milk after nursing usually indicated that the fat percentage had been increased too far. If the constipation was coincident with stationary weight, supplementary feedings were indicated. The stools would be found to be made up of small, firm scybala which, when broken up, would prove to contain no curds, and would seem to be well digested. A constipated child might show a fair gain in weight. Good results sometimes followed the addition of cream to the dietary given before each nursing, when the stools were dry and hard. Regulation of the mother's bowels should be undertaken, and it occasionally assisted in remedying infantile constipation. The commonest errors in diet leading to constipation were the giving of insufficient fat or proteid, or an excess of proteid. This insufficiency might depend upon excessive or insufficient dilution with water. Many children who thrived to all appearances on commercial condensed milk were constipated in spite of the large quantity of cane sugar present, because, as usually diluted, the fat and proteids were very low and the unabsorbed residue very small. The deficiency in the proteids resulted in a poor development of the muscles of the abdominal wall and of the intestine. To increase the amount of condensed milk was to increase proportionately the amount of cane sugar, which was not always advisable. The alternative was to change the food or to add a teaspoonful of cream for each teaspoonful of condensed milk. The same difficulty might arise where plain milk was given much diluted with water, and might be remedied by increasing the quantity of milk, by adding cream, or by the use of "top milk." The addition of both fats and proteids proved the most serviceable in the larger number of cases. One part of condensed milk represented only two parts and a half of ordinary milk. An error met with very commonly in artificial feeding was that of giving plain milk too little diluted. If dyspepsia did not ensue, there were usually colic and constipation, the stools being hard and, when broken up, showing undigested casein. The proper dilution of the milk and the addition of cream would usually remedy the constipation. The use of well-cooked oatmeal gruel or jelly might sometimes be of service as a diluent for the milk. Certain non-alcoholic preparations of malt might occasionally be beneficial. The juice of half an orange might sometimes be given, twice a day, in the intervals of feeding, although it occasionally gave rise to troublesome urticaria.

Two special types of constipation remained to be considered. The first of these was the rhachitic, in which the diet must be regulated and the starchy elements reduced; the second was that form of chronic intestinal indigestion characterized by large, light-colored stools of the consistence of putty. The influence of habit in securing regularity of evacuation from the bowel had long been recognized, but was often not sufficiently appreciated. It had been found that if very young infants were placed over a warm chamber vessel at regular intervals after feeding they would very quickly be induced to have regular evacuations. It was important that children old enough to sit at stool should be provided with a support for the feet, otherwise the abdominal muscles could not be properly brought into play. Abdominal massage would be found peculiarly useful in training the bowel to act at definite periods. The child should be laid on the back and the warmed hand introduced from below upward underneath some light covering. The tips of the fingers should then be carried from the ileo-cæcal region in small circles up to the transverse colon, then across and down along the descending colon to the region of the cæcum, and then the process should be repeated, beginning at the same point as before. If the fingers were warm and the pressure was very light the child was not apt to cry. Five or ten minutes of such massage once or twice a day would usually be sufficient. No lubricant should be used, as it was desirable that the tissues underneath should be moved. At the conclusion of the *séance* the child should be placed upon the chamber vessel. When there was crying with defæcation, and sometimes in its absence, anal fissures should be sought for.

Serum Therapy in Influenza.—Carrieu and Pelon (*Gazzetta degli ospedali e delle cliniche,* May 19th) reported to the French Congress of Internal Medicine the case of a soldier attacked with severe influenza which was complicated by symptoms of meningitis and pleuropneumonia. Streptococci in abundance being found in the sputum, four injections of Marmorek's serum, each of twenty cubic centimetres, were given, with the result of speedily subduing the fever against which both quinine and antipyrine had proved inefficacious.

Prostatic Therapy.—Oraison (*Gazzetta degli ospedali e delle cliniche,* May 19th) treated seven prostatic patients, all with retention, by prostatic extract, and obtained five cures, one amelioration, and one failure. The dried and powdered gland in pills was given to the extent of from three to twelve grains daily, and the glycerin extract in doses of from a hundred and fifty to four hundred and fifty minims.

The Advantages of Chromic Acid for Intranasal Cauterization. — H. Lavrand (*Journal des sciences médicales de Lille,* June 18th) concludes that the application of chromic acid fused on a stylet is the best means of intranasal cauterization, since it does not tend to form adhesions. It can be used with advantage to ulcerated points, and to the seat of adhesions after they have been broken down, to prevent their recurrence.

An Instrument for Developing the Mammæ.—Dr. Dumas (*Journal de médecine de Paris,* June 19th) described to the *Société obstétricale et gynécologique* of Paris an instrument which he says has rendered him great service in four classes of cases: 1. Intractable vomiting of pregnancy. 2. Debility of puberty in young girls. 3. Chlorosis. 4. Undeveloped breasts. The instrument consists of a hollow hemisphere to inclose the breast, with an aspirating bulb. The sphere is applied so as to surround the breast before rising in the morning, and aspiration is effected by means of the bulb. The aspiration should cease as soon as it begins to cause pain. The apparatus is then left in place from twenty to thirty minutes. The treatment lasts from three weeks to six months, according to the nature of the case. Many cases of decided benefit in each of the four classes were referred to.

Skin-grafting in Bulk.—According to the *Medical Press and Circular* (*Canadian Journal of Medicine and Surgery,* June), a woman in Sydney, New South Wales, recently brought an action against a physician for removing fifty-two square inches of skin from her to graft upon another patient who had been burned. As, however, she had been a consenting party she lost her case. But fifty-two square inches! One can only fancy that coming from the home of the eucalyptus, where a whole grove of that tree can be cut down for firewood and the grove will renew itself every three years.

Serum Therapy in Certain Forms of Rheumatic Iritis.—M. Boucheron (*Gazette hebdomadaire de médecine et de chirurgie,* June 16th) believes that Marmorek's serum in small and repeated doses (half a cubic centimetre daily at first, rising to one cubic centimetre or more) seems to arrest the rheumatic process after one of the three to six successive advances which together constitute acute rheumatic iritis. In chronic and long-standing rheumatic iritis with organized adhesions, sclerosis, or atrophy of the iris, the normal course of cyclic evolution does not occur, and the influence of any therapeutic agent is therefore less easy of demonstration. In cases of relapsing acute or chronic iritis, the serum produces some amelioration of the visual function as a consequence of the more rapid resorption of exudates by cessation of the rheumatism of the ciliary muscle or otherwise. The antistreptococcic serum acts not only as a specific against the streptococci, but also in the same manner as an indifferent serum; that is to say, in small doses it determines a stimulus of the nervous system (exhausting it, however, in large ones) and is a remarkable tonic.

The Serum Cure of Tuberculosis.—Dr. Duchateau (*Nord médical,* June 15th) has reported to the *Société anatomo-clinique* of Lille two cases of pulmonary tuberculosis cured by serum. The first case was that of a young man, thirty-two years of age, whose left apex was attacked by tuberculous broncho-pneumonia. The right apex next became affected. After trying various modes of treatment without avail, the author resorted to injections of one cubic centimetre of Maragliano's serum, given on alternate days. As the fever continued, ten cubic centimetres were given in one dose ten days later, and then one cubic centimetre every alternate day. Improvement began from this time. The second case was that of a lady thirty-one years of age in whom tuberculosis appeared subsequent to a period of overwork. Injections of one cubic centimetre on alternate days were practised upon her with immediate and progressive improvement. As Dr. Duret pointed out, however, these cases require more extended observation before they can properly be described as cures.

A Hint to Medical Witnesses.—Dr. G. V. Poore (*Clinical Journal,* June 15th) gives some very pertinent advice as to the question of professional reticence in the witness box. He says that a medical witness has no right to speak of what passes in the sick-room to anybody except in the witness box; then he is bound to, and the judge will tell him that he is bound to. But Dr. Poore gives this piece of advice: never to utter professional secrets without appealing to the judge. It is perfectly well known what the result will be—they will have to be told. But it is a wise course to make it appear to the public that the witness divulges these professional secrets only under judicial compulsion. He has taken that course more than once himself.

In one case of a report made in an insurance case, which rather called in question the character of a man for temperance, there was possibly a libelous statement, which was made confidentially. The author said it was a confidential document made to the directors, and to them only. The judge told him that he must state it, as Dr. Poore expected he would; but this made it appear that the evidence was given only under judicial compulsion. The priest in Roman Catholic countries is allowed to escape from this compulsion. What is said to him under seal of confession need not be divulged.

The Stages and Forms of Syphilis.—Professor J. G. Adami (*Montreal Medical Journal,* June), in an article on the above subject, thus sums up his conclusions:

I have, I believe, mentioned the main manifestations of syphilis as they occur in the infant and in the adult, and it will be seen, in the first place, that the lesions occurring in the congenital and the acquired disease are identical, and brought about by the same process or processes. That whether we have to deal with the disease in the secondary or in the tertiary stage, the same processes are at work. That, if we except those cases as truly tertiary in which we have to deal merely with the fibroid remains of obsolete gummata, and again those cases in which there is perihepatitis (which perihepatitis appears to be a complication rather than the genuine and direct result of syphilis), then we are bound to admit that the study of the liver alone would indicate that no sharp boundary line can be made out between secondary and tertiary syphilis. No more can we make out such a boundary between secondary and tertiary tuberculosis.

While I and all others must admit the utility of recognizing these two stages, from an anatomical and histological standpoint one is forced to acknowledge that progressive syphilis is characterized by the same succession of phenomena whether it be studied but a few months or long years after the primary infection. Anatomically and histologically there is no valid distinction to be drawn between secondary and tertiary syphilis.

It may be asked whether such a conclusion is not wholly at variance with clinical opinion and experience. Upon the face of it, it is—but if the subject be looked into carefully, I think that such a view will reconcile not a few of the divergencies existing among syphilologists. We have those (and they are the majority) who state that tertiary syphilis is non-infectious, and those who bring forward clear examples of the production of infection five or ten years after primary inoculation of the disease. This difference can be reconciled if we agree upon the following points:

1. That nowadays, under proper treatment, syphilis, if not a self-limiting disease, is at least a disease which can be healed, so that many of the lesions recognized as being tertiary syphilis are truly the indications of the old healed syphilis, and not signs of progressive or latent disease.

2. If the disease has not completely died out and remains latent, the resistance of the tissues of the organism is such that in the majority of cases it does not tend to light up again; there is so considerable a local reaction that the infection, and consequently the spread of the process, tend to remain strictly localized, and the germs (which are probably of bacillary nature) do not become disseminated through the blood. Thus neither the blood nor the secretions contain the virus.

3. In a very small number of cases the reaction on the part of the tissues may be so lessened, and the virus retain or gain so high a virulence, that either it causes ulceration, or in other ways becomes disseminated and capable of causing infection even late in the tertiary stage.

Creosote Valerianate in the Treatment of Tuberculosis.—Zinn (*Therapeutische Monatshefte,* March, 1898) reports that since the publication of Grawitz's article, in July, 1896, there have been treated in Gerhardt's clinic eighty more cases of tuberculosis with the valerianate of creosote. As a rule, the remedy was given in capsules each containing three minims and a third, one or more capsules three times a day. In several cases the medicament was continued for several months. It was used in all forms of tuberculosis, and it was especially noted that there was in no case disturbance of the gastro-intestinal canal. It is accepted, he says, that, of all the many remedies which have been recommended for tuberculosis, beechwood creosote alone retains a prominent place, notwithstanding its use has so often been productive of disagreeable effects. The valerianate of creosote is therefore worthy of special mention because of its freedom from these disturbing influences. Particularly in the early stages of tuberculosis will it be found of great service; it fulfills all the requirements of a reliable preparation which can be taken and well borne for long periods.

The Hot-air Treatment of Joints.—Dr. Frank E. Peckham, of Providence (*Atlantic Medical Weekly,* May 7th) says that for the last two or three years various attempts have been made to construct a suitable apparatus for the proper application of this method of treatment.

The apparatus which he has been using consists of a cylindrical oven lined with asbestos, on the bottom of which rests a radiator for equally distributing the heat. Above the radiator swings a hammock upon which is placed the limb for the bath.

At one end sleeves of various shapes are attached to take in or cover any part of the body. The other end of the oven is detachable, so that in case of overheating it can be quickly removed, thus instantly lowering the temperature. There are, however, two dampers which regulate the heat so that this procedure would be rarely necessary.

In this oven wood alcohol is used to generate the heat, which is carried in by means of a funnel.

In preparing a patient for the bath, the part to be treated is thoroughly covered with a double thickness of Turkish towel or blanket. This protects the skin from too intense heat radiation and also absorbs the profuse perspiration. In case of a foot being treated, the toes and heel are most susceptible to the heat and have to be specially protected. When the heat is turned on, the sensation of the patient must be the sole guide as to the temperature, always stopping short of any discomfort. If the heat causes pain, the temperature must be quickly lowered by means of the dampers.

In his cases he has continued the bath about an hour unless there was some special contraindication. So high a temperature can not be obtained in the first bath as is possible after two or three have been given, and there is a great difference as regards the degree of heat tolerated by different patients. In two of his cases the temperature was uncomfortable above 200°, while one young woman was perfectly comfortable with the arm in the oven above the elbow at 410°. He thinks most people would stand a temperature of 300° or 350°. At about twenty-minute intervals the part is wiped thoroughly dry to avoid any possibility of a superficial burn.

The frequency with which the baths are given depends somewhat upon the patient, but more especially upon the disease. Generally speaking, in any acute and painful affection, they should be given every day or every other day, while in the chronic cases they should be given less frequently.

In acute sprains of joints hot air seems to be at its best. Kirby and O'Malley, of Philadelphia, have reported a number of sprains treated in this manner with uniformly good results. The treatment of sprains, particularly of the ankle, has been completely changed in the last few years, fixation with plaster of Paris giving way to friction and massage, and latterly excellent results have been obtained with adhesive-plaster strapping and allowing the patient to walk. Dry heat is apparently another improvement. The ankle is subjected to the air bath, pushed to the tolerance of the patient. This should completely relieve all pain, when a firm bandage of stockinet or other suitable material should be applied, thus giving support and enabling the patient to walk. In the cases with large effusion it might require from two to four daily baths to reduce it sufficiently for a bandage to be applied and the patient allowed to walk.

In chronic joint diseases it is not of so much value, yet it is being tried. Here so many baths have to be given that it causes loss of weight and strength. In rheumatoid arthritis the general opinion is that it is positively contraindicated. The author has used it in one such case. The disease was of several years' standing and, as usual, had progressively advanced under all kinds of treatment. At the time the baths were begun there had been not more than two or three hours' sleep nightly for six months or more, on account of the "grinding pain" which all the patients describe. The knees were the particular joints giving the most trouble, the patient not being able to support the body on them and being confined to the lounge the day of the first bath.

The treatment was given in the evenings, and after the first one the patient slept well all night and continued to do so for some time. Four or five weekly were given, and for two weeks there was a decided improvement, but after that the patient was perceptibly weakened and at the end, although each bath would relieve pain for the time being, it would then return worse than ever. Twenty or thirty baths were given in all.

In acute articular rheumatism the result is excellent. A young man of twenty-two was convalescing from typhoid fever when acute articular rheumatism began in both elbows and wrists. Medicinal treatment was given, at first including all of the usual remedies: sodium salicylate, salol, colchicum, and potassium iodide. The joints became much swollen, and the pain was very severe, the weight of the arm lying on the bed being uncomfortable. Even opiates failed to give relief for any length of time, and the young man was screaming with pain a good portion of the time.

At this stage of the disease things were getting serious and the use of hot air was begun. All other treatment was omitted. The left arm, which was the most painful, was put into the cylinder and in five minutes the patient was asleep; during the hour the author had to continually awaken him to know whether or not he was being burned. This was the first quiet sleep in over a week. The following day the other arm was "baked." In all, seven baths were given, when the joints were normal in size, they could be freely used by the patient, and the disease, which had been so intractable to medicine, had vanished.

This method of treatment renders the joints very flexible, so there is not that tendency to contractures which is often troublesome.

In stiff and contracted joints, where bony ankylosis has not taken place, hot air is of great value. It softens the adhesions, and manipulations immediately after each bath gradually restore motion. A young woman had rheumatism in the right arm ten years ago. The elbow and wrist were apparently involved. There was a dislocation of the wrist and the elbow was fixed at an angle of about 170°. Twice ether was given and adhesions were thoroughly broken up, but the joints would stiffen again immediately. Hot-air baths were then begun, and after thirty had been given, followed immediately by manipulation, flexion to nearly a right angle was possible. The average temperature employed in this case was 375°.

In open ulcerations, when due to infection, whether with the bacillus of tuberculosis or any other, heat should kill the bacilli and so promote rapid healing.

Lumbago should be immediately benefited by this treatment. It has also been of great value in the author's hands in the treatment of flat feet. The extreme heat renders the feet much more flexible and thus enables the patient to do the exercises better, and where the tendo Achillis is contracted, as it is very apt to be, it can be forcibly stretched by the hands of the operator and without the use of a Shaffer shoe.

The intense heat thus applied to any localized region causes a profuse perspiration of the part inclosed. There is present a marked hyperæmia, the skin presenting a mottled appearance, and the patients describe a feeling of numbness. There is also general perspiration. The temperature of the body is slightly elevated and the pulse and respiration are somewhat increased.

Diphtheria on a Baby Farm in Philadelphia.—Some time ago a death occurred under very peculiar circumstances in a baby farm. Two weeks later another death occurred, and it was learned that no medical attendance had been at hand. On inquiry of the mother, representatives of the coroner's office were told that death had resulted from a cold. Dr. Cattell, the coroner's physician, was assigned to investigate the case and the autopsy proved that death had been due to diphtheria. It is also stated that another infant and two adults complained of suffering from colds, but were not seriously ill. Cultures were made from the throat of each by the board of health, and it was found that all three specimens contained diphtheria bacilli.

Curetting of the Uterus in Perimetric Affections.—Dr. J. A. Ouimet (*Clinique*, June) thus sums up his conclusions from a study of this subject: 1. Curetting can not be adopted as a routine treatment for circumuterine affections, fibromata, or cancer; but it is of great service in a certain number of cases. As regards perimetric affections, curetting gives very good results, and has a really curative action in cases of catarrhal salpingitis, as well as in certain cases of hydrosalpinx. Its curative action appears to the author to extend to cases of circumuterine inflammation in which congestive determination plays the greatest part. But in all circumuterine affections accompanied by profound and serious lesions, circumscribed or diffuse, of the perimetric tissues or organs, curetting has only given palliative results, or none at all. Even from this latter class, however, the lesson may at least be learned that curetting, cautiously practised and without drawing down the uterus, if it does not give as good results as has been asserted, is nevertheless not so dangerous a procedure as some have made out. 2. Curetting gives good results in those cases of fibroma in which hæmorrhage is the predominant symptom. Large fibromas, exhausting by their volume or producing grave symptoms by compression, are not amenable to this treatment, for then hæmorrhage, if it exists, is relegated to the second category; and it is precisely against this symptom that curetting is directed. As to the diminution of the tumor, it has been several times noticed at the end of this treatment. 3. In cancer of the uterus, when the neoplasm has involved the tissues too widely to permit of a radical operation, and yet has not invaded the rectovaginal and vesicovaginal walls, curetting followed by cauterization would seem to constitute the best palliative treatment to arrest, at least for some time, hæmorrhage, pain, and fœtid discharge.

Landry's Paralysis.—Dr. C. K. Mills and Dr. W. G. Spiller (*Journal of Nervous and Mental Disease*, June), from a study of their own recorded case and of the literature of the subject, arrive at the following conclusions: 1. There is a form of ascending, flaccid paralysis, with little disturbance of sensation, with normal electrical reactions, and without involvement of the sphincters, and this is of rapid course, usually terminating in death. 2. Other cases differ from this type by one or more atypical signs, and transitional forms occur which make the diagnosis between Landry's paralysis, polyneuritis, and myelitis difficult. 3. It is possible that in some cases no lesions exist; but many of the reports of such cases date from a time when the methods of examination were very imperfect; or it may be that in these cases the lesions are in an early stage of development, the patient succumbing to toxæmia before demonstrable changes in the nervous system take place. 4. Landry's paralysis may be due to myelitis alone. 5. In Landry's paralysis polyneuritis may be present, but changes in the cell bodies of the anterior horns will also usually be found in such cases by Nissl's stain, and it is sometimes difficult to say whether the cellular changes are primary or secondary. 6. It is probable, in some cases at least, that the entire peripheral motor neurone is attacked at the same time by the poison of the disease.

Hypertrophic Nodular Gliosis.—Dr. Joseph Sailer (*Journal of Nervous and Mental Disease*, June) sums up his paper on this subject, which contains a *résumé* of published cases, as follows: The following conclusions seem to be warranted: 1. There is a morbid process characterized by a hyperplasia of the neuroglia cells and fibres that leads to gradual atrophy of the nerve fibres and the ganglion cells, and is associated with circumvascular changes of doubtful nature. 2. The first manifestations occur in early life, often a few weeks after birth, and anomalies or congenital tumors are sometimes found in the same cases. 3. All subjects of this disease are epileptics, and many of them idiots. 4. The cause is unknown, but the disease probably begins before birth and after the seventh month of fœtal existence, and is of the same nature as gliomatosis.

A Phonographic Record of the Cardiac Sounds.—We learn from the *Riforma medica* for June 11th that Professor G. Rummo, whose efforts had been directed toward the adaptation of the telephone to making permanent records of cardiac and other vital sounds, and who wrote thereon to Thomas Edison, has received a reply from him stating that he also is working along that line, but that it will be some time before the apparatus is finished.

The Appraisement of the Value of Prohibitive Legislation as a Means of enforcing Moral Restraint.—The *Medical Record* for May 21st quotes the following from the London *Spectator:*

"*Prohibition in Norway.*—The *Times* of April 13th published a valuable account of the working of prohibitory liquor laws in Norway. The people there are genuinely alarmed at the spread of liquor drinking, and, after trying the Gothenburg system, which purified the pothouses, eighteen towns resolved to prohibit the sale of liquors altogether. They did prohibit it, closing every spirit shop, with the result that drunkenness immediately and decidedly increased. Not only was a strong kind of port wine drunk in quantities, but illicit stills were set up in most back kitchens, and the people drank the raw spirits with lamentable results. Even the children were found intoxicated, and the arrests for drunkenness increased by from thirty to eighty per cent. Prohibition, in fact, totally failed, as it always will fail where it is not supported by a popular conviction that it is criminal to drink alcohol. There it succeeds, and then it is also totally unnecessary. It is always forgotten that the population of any town or village can prohibit the sale of liquors at once and finally by the simplest of expedients—viz., not buying them. The dramshops will not give away one drop. Drink is not sold because it is seen, but because it is wished for."

That is only just what might be expected. The possibility of making people moral by act of parliament has long since been exploded. London itself shows a marked instance of the failure of a kindred folly. Before the days when the ill-advised, if well-intentioned, purists closed the Argyll Rooms, Cremorne Gardens, and other well-known haunts of the *demimonde*, the streets of London were at least reputable enough for a man to walk with his wife, sister, or daughter from the theatre door to a restaurant for supper, or to walk all the way home if they felt so disposed. Ever since the women were shut out of public resorts that were stamped with their superscription, and where none need see them save those who went to seek them, the sexual vice, like a river diverted from its course, has flowed over the whole surrounding country, till the principal streets of London late at night are the standing disgrace of the civilized world. Within quite a recent date the same thing is threatening New York. Until recently it was exceptional for a man to be accosted by a woman in this city. She showed herself, and if he wished, he sought her. At home she was unmolested, and thither they repaired. Now, owing to the attempt to stamp out so-called disorderly houses, the woman, fearing that the man will not seek her, seeks him, and they go together to a hotel. And thus the evil will eventually be driven into the public streets in such force as to render all attempts to control it futile, as has happened in London.

Original Communications.

EXERCISE AND DISEASES.

By E. PALIER, M.D.

Physical exercise, when judiciously used, is a most valuable prophylactic and therapeutic agent; when misused, it is productive of great harm.

I propose to briefly discuss in the following lines the causative relation of exercise to some diseases and its therapeutic use. Let us first consider exercise in relation to heart diseases.

Dr. Morgan,[*] who is widely quoted, states that out of two hundred and fifty college athletes he failed to discover a single case of cardiac disease. From this, however, we can not draw the conclusion that great muscular exertion does not lead to cardiac affections. Trustworthy observers are emphatic in their statement that severe muscular exertion frequently causes cardiac diseases.

Dr. Herschell states [†] that he has lately seen a great number of cases of cardiac trouble caused by cycling. Curshman, Leyden, and Oertel believe that grave cardiac affections may be caused by excessive muscular exertion. Loomis [‡] is also of the same view.

Personally, I have seen grave cardiac trouble caused by exertion. I have under observation now a patient with extreme cardiac dilatation caused undoubtedly by great exertion, the patient being forty-eight years old; he comes from a healthy, long-lived family, and had never had any serious ailment before—no rheumatic affection.

The cardiac diseases most likely to be caused by overexertion are cardiac hypertrophy, dilatation, and aortic insufficiency; and these are most liable to occur after middle age.[#]

The pathogeny of the cardiac affections caused, in some cases, by excessive muscular exertion can be explained as follows: During exercise the cardiac blood pressure is neutralized by the vascular dilatation of the cutaneous blood-vessels; after middle age, however, the arteries become less yielding and accommodating, the blood pressure in the heart is liable to be increased, and this is apt to result detrimentally. Diet undoubtedly plays also an important rôle. According to Reymond,[△] vegetables may produce calcareous degeneration of the arteries, cases of which he found among the vegetarian sects. Walter and Salkowsky [◊] hold that there is a greater increase in the acid formation during muscular exertion in the herbivora than in the carnivora. Du Bois-Reymond is of the opinion that lactic acid is formed in the muscles during exertion, and that it is greater in the herbivora. Now, according to Richardson,[*] the cardiac trouble in rheumatism is due to the pernicious action on the heart of the lactic acid. Foster states [†] that dilute lactic acid leads to the expansion of the frog's heart. After middle age, therefore, when the vascular elasticity is diminished, the cardiac blood pressure is increased by severe muscular exertion, and if the diet is such as to lead to an increase of lactic-acid formation, the heart is hereby additionally weakened, and the cardiac affections thus caused by excessive muscular exertion can be rationally explained.

When we come to the treatment of cardiac organic lesions, it would seem unnecessary to say that all exertion, mental as well as physical, must be avoided. The fact is that patients affected with cardiac diseases get out of breath on slight exertion, and it is indeed hard to see how mountain-climbing and other such exercise can with safety be recommended in cardiac maladies.

Exercise in such cases must certainly be restricted, and only as much allowed as to give the patient the benefit of fresh air and healthy tissue oxygenation.

The relation of gout to exercise is very close. It is generally supposed that an excess of animal diet is the main causative factor of gout. Large flesh eaters are, however, very often exempt from gout.[‡] The Faroese and Icelanders, though living almost exclusively on animal diet, are not subject to gout more than the vegetarian races. On the other hand, we know that beers, sweet wines, and fermented liquors in general, are potent factors in the causation of gout. Now the malted and fermented liquors contain some proteids and a great deal of carbohydrates in the form of sugar. In gout there is an excess of uric acid, in the form of urates, in the system; and uric acid, according to Foster, is in man not increased on an animal diet, but is increased on a mixed diet, which causes a diminished tissue metabolism.

Now the energy given off during muscular exercise is derived chiefly from the fats and the carbohydrates, especially the latter, for many observers agree [#] that the nitrogenous metabolism is not increased by muscular exercise, but, on the contrary, is in many cases diminished directly afterward, and becomes again normal only several days later.

Hence, those partaking of a generous mixed diet, with the addition of the fermented and malted liquors, must exercise a great deal as a prophylactic against gout. When one is already affected by this malady, excessive muscular exertion is liable to provoke an acute attack, and moderate exercise is best. Thus Lagrange * relates a case of gout in an athlete which was always aggravated by violent muscular exertion. The frequency of gout after middle age is easily explained by the fact that the inclination to muscular exertion is diminished with advancing age, while the desire for food and drink, especially the latter, may remain great.

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[*] *University Oars.*

[†] *Congrès internationale d'hygiène et démographie*, vol. vi, 1896.

[‡] Loomis. *Practice of Medicine.*

[#] Pepper's *System of Medicine*, vol. iii.

[‖] Foster's *Physiology.*

[△] Quoted by Arnould. *Nouveaux éléments d'hygiène.* Diet.

[◊] *Loc. cit. Congrès internationale d'hygiène et démographie*, vol. vi, 1896.

[*] *Twentieth Century Practice of Medicine*, vol. ii. Rheumatism.

[†] Foster's *Physiology*, § 162.

[‡] Parkes's *Elements of Hygiene.*

[#] Lagrange, *Physical Exercise;* Foster, and also *Congrès internationale d'hygiène.*

Exercise and Rheumatism.—Though the trend of opinion at present is to favor the microbic theory of rheumatism,† yet there can be no question that great muscular exertion, with exposure to sudden changes of temperature, is one of the exciting factors of this ailment; hence its frequency among washerwomen, blacksmiths, coachmen, etc. Whether the presence of lactic or sarcolactic acid is one of the contributing causes of rheumatism, or it is merely a coincidence, would be unprofitable to discuss here; the fact, however, remains that there is an increased acid formation in the system in this malady, and the rheumatic cutaneous affections characterized by great itching, and decidedly benefited by the alkaline treatment, can thus be explained. Now, the authorities stating that there is an increase of lactic-acid formation in the system on muscular exertion, especially in the herbivora, are so eminent and trustworthy that their statement can hardly be doubted. Every one has probably observed that after severe muscular exertion one feels stiffness and pain over the body resembling a rheumatoid affection, which, however, passes off after some rest. Muscular exertion in rheumatism, especially with cardiac complications, must be restricted. In the acute form the patient, of course, is too weak, and refrains from making any movements on account of the pain that is thereby aggravated. But even in chronic rheumatoid arthritis great muscular exertion is contraindicated.

The following case, I think, may prove of sufficient interest:

Mr. C., aged twenty-three years; born in New York; comes from a healthy family; had gonorrhœa two years ago, without any bladder complications; is addicted to alcoholic stimulants; is an engineer by occupation, working in an ice factory. He came to me about a year ago with an inflamed, swollen, and painful foot and ankle joint; no heart symptoms. I prescribed for him sodium salicylate, with acetate of potassium. He improved and disappeared, but has turned up again lately, with same foot in the previous condition, but, in addition, with a cardiac systolic blowing murmur at the apex, with slight general anasarca, and urine loaded with albumin.

Digitalis combined with sweet spirit of nitre and acetate of potassium was given to him. He improved, and against my advice went again to work, fearing to lose his place. He was brought home the same day in a cab, the affected joint very painful, and unable to walk. Sodium salicylate was given him for the pain, and the digitalis replaced by strophanthus. After several days another examination of the urine showed but a trace of albumin, the systolic murmur, however, remaining the same. Could not be kept at home again, went to work, and after several days became worse, and so it occurs periodically. It is an example of a man digging his own grave.

Exercise and Gastro-intestinal Disorders.—In exercise we have a valuable prophylactic and therapeutic agent for all subacute and chronic gastro-intestinal ailments. It is well known that sedentary occupations are potent factors in the causation of dyspepsia and constipation, and hence the frequency of these ailments among women, clerks, tailors, etc.

Proper diet, according to the individual idiosyncrasy, and exercise in fresh air will accomplish in chronic disorders of the alimentary canal better and more lasting results than all the drugs of the pharmacopœia.

The following case is an example:

Mr. R., aged twenty-five years, an operative, working in an overcrowded shop, came under my observation in August, 1895. He was emaciated, weak, had nausea with retching, a weak, small pulse, a coated tongue, his bowels irregular, and a distended stomach, giving a succussion sound on palpation. He had been suffering in this way for about six months before I saw him. Sweet spirit of nitre and aromatic spirit of ammonia were given him to be taken before meals, and a peptic mixture after meals. This treatment would relieve him for a month or two, only temporarily, and he had to call for treatment about every two months for a year and a half. Finally, I prevailed on him to change his sedentary occupation for one where there was exercise in fresh air. I did not see him any more for over six months, when I happened to meet him in a restaurant and saw him eat a large steak with great relish. He was greatly improved in appearance, and told me that he was perfectly well, that he was no longer at his former occupation, and was taking plenty of exercise in fresh air.

Personally I have frequently derived great benefit from a walk in fresh air in gastro-intestinal disorders after drugs had failed.

In acute enteritis, however, absolute rest and restricted diet are essential.

Acute diarrhœas I have found to be invariably aggravated by physical exertion.

In piles, moderate exercise is beneficial; excessive exertion invariably aggravates the affection. The following case is an illustration:

Mr. K., aged twenty-four years; druggist; has been suffering from piles and constipation for a long period. Several months ago he began to ride a bicycle, and felt improved while riding moderately. Once he took a very long ride, came home exhausted, had great pain and itching in anus and rectum, was in bed for a few days, and has since then given up bicycle-riding altogether.

Another instance:

Mrs. H., aged twenty-two years; recently married; had been up to her marriage a seamstress; has been suffering from piles for several years; feels greatly improved when exercising moderately; feels decidedly worse when taking a long, exhausting walk.

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* *Loc. cit.*

† Gerhard. *Congress für innere Medicin*, vol. xiv, p. 170, 1896. Also Jaccoud. *L'Indépendance médicale*, vol. iii, p. 9, 1897.

In fact, patients afflicted with piles have their malady greatly aggravated by severe muscular exertion. This can be explained by the fact that there is generally a sluggish activity of the liver and, consequently, of the portal circulation, in patients affected with piles. Now, during exercise there is an increase in the general blood circulation, but the portal circulation is unable to accommodate itself to the great increase of work; the blood is therefore dammed back,. and accumulates in the most dependent portions, the anus and rectum, and hence the throbbing and itching in these parts, and occasionally even abdominal pains, which sufferers from piles experience on severe prolonged muscular exertion. In moderate exercise, on the other hand, the liver accommodates itself to the increased work, and patients are thereby greatly benefited.

We shall consider next the relation of exercise to pulmonary tuberculosis. Jäger states that consumption is less common among gymnasts than among non-gymnasts. That outdoor exercise, with proper diet and hygienic conditions, is a good prophylactic against tuberculosis is superfluous to say.

There can be no question, however, that overexertion, especially under antihygienic conditions, is a potent factor predisposing to the malady in question.

Thus, it is well known that tuberculosis is very common among laborers, not only among those following a sedentary occupation, but even among those workmen whose occupations are muscular, such as blacksmiths, carpenters, etc. When we come to the army, we find that tuberculosis is very prevalent there. Now only picked men are taken into the army, who undergo a course of physical training, and we should expect, *a priori,* that consumption in the army should be very rare. This proves to us that it is not sufficient to have the girth of one's chest developed only, but other hygienic conditions must not be neglected.*

The following case will illustrate the point:

Mr. N., aged thirty-four years; foreigner; carpenter; had been remarkable for his great strength and muscularity up to five years ago, when, according to his story, owing to overwork, he began to fail in strength; had within the last few years several attacks of hæmoptysis, and is suffering now from cough, night sweats, consolidated areas at the apex of the lungs, with fine râles in some areas, and with tubercle bacilli in his expectoration. Family history negative. Now, he has a mighty chest, which expands several inches on inspiration, and there has been certainly no lack of physical development in this case; and this is only an instance of many showing that physical development alone is valueless as a prophylactic against tuberculosis if other conditions are neglected.

The exercise of tuberculous patients must be restricted, and on no account should they exercise during a febrile movement, for they get out of breath and feel greatly exhausted. Some time ago I read in a medical journal an article entitled Roughing it in Tuberculosis, where a physician of long practice claims that a tuberculous patient recovered by performing hard, fatiguing, outdoor labor, by sleeping in frosty weather with windows open, etc.

That tuberculous patients are benefited by fresh air is superfluous to mention; but it is probably within the experience of many physicians that these patients are practically unable to perform any fatiguing work on account of the prostration which follows. Strange to say, some physicians, however, do not think so, but believe that by physical exertion the patient will be benefited.

The following case is an example:

Mr. B., aged twenty years; teacher; family history negative. In 1893 he began to lose flesh; had cough with expectoration; gastro-intestinal disturbances, with physical signs of morbid processes in the lungs. He went to a reputable physician and was advised to practise gymnastics. The patient procured dumb-bells, weights, and the whole paraphernalia, and began to exercise. When I came I found him lying on the floor exhausted, with a hoarse voice, and suffering from an obstinate diarrhœa. The poor patient never touched his gymnastic outfit any more. He subsequently left for Colorado, and, according to a late report, he is doing well there.

Incipient pulmonary tuberculosis is frequently confounded with, and sometimes it is indeed difficult to distinguish it from, chronic gastro-intestinal trouble.

There may be in the latter cough, reflex in nature, and even night sweats, with emaciation and weakness, and if we take in consideration the fact that some patients' lungs, especially those of sedentary habits, are ill developed, and many of them can never be made to draw a deep breath, as it has repeatedly occurred in the writer's practice, a correct diagnosis is sometimes in such cases most difficult. Such non-tuberculous patients are greatly benefited by active outdoor exercise, and hence probably the erroneous conclusions with regard to the roughing-it treatment in tuberculous patients, who must abstain from severe muscular as well as mental exertion, and also from exposure to sudden changes in temperature.

With regard to exercise in cholera, Jäger claims * that an attack of Asiatic cholera can be aborted by violent muscular exertion, as it causes a reflux from the intestines to the skin.

We can not entertain, however, such an idea in the light of the modern conception of the pathogenesis of this malady. Patients affected by cholera must certainly be kept in absolute rest; the whole population, in fact, of a locality visited by cholera must abstain from great muscular exertion causing fatigue and exhaustion.

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* *Vide* A Study of Diet and Nutrition in Relation to Contagious Diseases. *Medical Record,* July 10, 1897, by the author.

* *Loc. cit.* Arnould. *Nouveaux éléments d'hygiène.*

The instructions given to the people by the sanitary commission of Paris during the cholera epidemic in 1883 were to the effect that great muscular exertion should be avoided, and, in fact, anything tending to fatigue and exhaustion.

In the army, long fatiguing marches are considered as a predisposing cause to cholera * during epidemics.

The same, in fact, holds good with regard to all contagious diseases.

I know of several cases where fatigue due to great exertion was undoubtedly the main predisposing cause of simple and gonorrhœal urethritis. For example, a young man had had previously several connections with a prostitute without any ill effects. One day he had to meet a note, exerted himself greatly during the day in running around to find several people, and in the evening, when he had his last connection, he was greatly fatigued. Several days later gonorrhœal urethritis appeared in his case, while some of his friends who knew the same woman immediately after him escaped without any untoward effects.

I know of several such instances, and I think that fatigue due to overexertion is in all probability the main predisposing cause in these instances. The frequency of venereal infection in drunkards is in all probability due to their exhausted condition and lack of resisting power.

Let us now consider exercise in relation to a very frequent ailment with which the practitioner meets perhaps more frequently than with any other—namely, hysteria.

In spite of the fact that volumes have been written about this ailment, the term "hysteria" remains as vague and indefinite and the affection itself as obscure as before. To analyze the various forms of hysteria with regard to treatment would require a separate extensive article.

Hysteria, as is well known, is most frequently associated with neurasthenia.† Hysteria may also be caused by abnormal emotions.‡ Neglecting the various other forms of hysteria, such, for instance, as are due to imitation, malingering, organic affections, etc., I will limit myself to the consideration of two varieties of the affection—viz., the one commonly associated with neurasthenia, and the other caused by abnormal emotions—as these forms, I think, are most frequently met with by the general practitioner.

Now, judicious physical exercise promotes not only muscular growth and development, but it has a beneficial effect on the cerebro-spinal axis as well, promoting its healthy nutritive metabolism, and training it to perform its functions efficiently. Muscular contractions and, consequently, movements are determined by nervous impulses proceeding from the central nervous system; consequently, in muscular exercise involving all, or nearly all, parts of the body, nearly the whole cerebro-spinal axis is involved, and it thus gets used to afferent impressions and to the transmission of efferent coordinate impulses. The sensations of pain, of temperature, and of touch are decidedly diminished in those whose bodies are hardened by rough physical work. Thus, for instance, an athlete will stand without much pain blows which would be excruciating to those who have not been so trained. This is not due to the fact that the end organs alone have lost by constant bruising and knocking their sensibility, as is explained by some, but, to a great extent, to the fact that the central nervous system has been accustomed to external impressions. It is well known how those who are hardened by physical work bear easily minor surgical operations, even on parts of the body which are not exposed, or even when the incisions are carried below the cutaneous tissue.

The sensations of touch and temperature are diminished, probably owing to cutaneous hardening, for the sensation of touch can by education, when the skin remains soft and tender, be made very acute, as is well known to all.

When the body has not been trained by judicious physical exercise, the cerebro-spinal axis is affected as well as the other tissues, and not only is its nutritive metabolism faulty, but its functions are likewise perverted. This condition may be brought about either by too great muscular exertion, or, which is far more common, by irritating indoor occupations of a sedentary nature. If to these conditions are added psychical elements, such as worry, anxiety, etc., we have all the disturbing elements combined together to produce their pernicious effects. In such a condition the cerebro-spinal axis may be either too sluggish in transmitting stimuli, or abnormally active, and the discharge of energy is apt to come off in puffs or spasms. Again, not the whole cerebro-spinal axis must necessarily be affected alike. Some centres may be abnormally active, while others may respond very sluggishly to stimuli, and some, again, may, in some instances, be quite normal. The cerebro-spinal axis, as is well known, consists of numerous centres, and, though they are connected with one another by nerve fibres, yet they need not necessarily be affected all alike. Thus the hysteria of great men is well known.

Again, some organs may be affected, while others are normal; some parts may be anæsthetic, and others hyperæsthetic, etc.

Keeping these brief general considerations in view, we can with greater facility enter into the discussion of the two forms of hysteria mentioned above with regard to their treatment.

The following case will illustrate an aggravated form of neurasthenic hysteria:

Mrs. S., aged forty-eight years; housekeeper; menstruating still; born in Russia, and comes from a healthy family. She had never had any serious ailment; gave birth to six children without any trouble; never had any

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* Quoted by Parkes. *British and Foreign Medico-Chirurgical Review*, July, 1848, pp. 85–87.

† H. C. Wood. Pepper's *System of Medicine*, vol. v. Neurasthenia.

‡ *Œuvres de Charcot*, vol. iii, p. 20.

uterine complaint. Her first husband died about thirteen years ago; married subsequently a second time, not very happily.

About eight years ago her ailment in question set in; began to suffer from general weakness, loss of appetite, coated tongue, constipation, headaches, flushes of heat and chills, globus hystericus—thinking a tumor was obstructing her throat—and shifting pains over the body.

Several years ago her affection became aggravated; she was lying in bed and she thought she was going to die. Her pulse and temperature remained normal. A little later she became paralyzed in the right leg, which she was unable to move; there was some anæsthesia and analgesia in that limb. This lasted for about four weeks, when she completely recovered the use of the affected limb. After she had been confined to bed for several months she somewhat recovered. She is up now, feeling sometimes a little better, sometimes worse, but never perfectly well.

Such cases in various degrees and forms are met with daily by the practitioner. They are the most intractable, the most ungrateful cases. Drugs do very little good in such maladies, even as a palliative, for frequently the patient will complain of feeling worse after she has taken several doses of a harmless medicine.

Recently I was called in haste to see a patient somewhat similarly affected who considered herself dangerously ill. Several days previously, however, she had consulted one of the most eminent physicians in the city, who prescribed for her and advised her to stay in a cool room. She thought she contracted some severe inflammation of the lungs, and was afraid to breathe, whereas there was nothing of the kind.

In the case of S., described above, the malady is not due to great physical overexertion, for she never overexerted herself very much, and this is precisely the same with other cases of this group.

There has been a lack in these patients of judicious bodily and mental training. Their bodies have not been hardened to external impressions, and consequently every sensation is felt acutely by them and passes into pain.

Let any healthy man direct his attention to a healthy part of his body for a while, and he will experience an annoying sensation, sometimes amounting to pain. Our bodies are full of sensations owing to temperature, contact with foreign bodies, etc. When the cerebrospinal axis is in an irritable condition, the slight sensations are liable to become painful. In the case detailed above there is a psychical disturbing element in addition, owing to the patient's unhappy married life. In many of the cases of this group no such psychical cause can be ascertained, the causes being mainly physical, unless we give much weight to the petty worries and frights which occur in every one's life.

In some of these cases the neurasthenia is well marked, in others it is very slight. All of these cases are more or less susceptible to emotions; they are liable to faint at the sight of blood, at the sight of a fight, and are good subjects for hypnotism.

Now, the prophylaxis against such affections suggests itself—namely, judicious bodily and mental development for boys and girls—and in this way the cerebrospinal axis is trained to cope with physical and psychical impressions.

It is hardly necessary to say that physical or mental overexertion, and especially if both are combined, will produce in many instances precisely the condition which we wish to avoid. When we come, however, to the therapy of the group of cases discussed above we meet, as a rule, with greater disappointment, particularly in patients past middle age, who form the great contingent of these cases, who are too old to be easily amenable to training.

Drugs, as it has been said above, do, as a rule, very little good in these cases; sometimes they serve as a palliative in temporarily correcting gastro-intestinal disorders, when these are present, but frequently they fail even in this. Strychnine is generally administered to such patients. Theoretically, strychnine is contraindicated, because it lessens the resistance to the transmission of energy in the spinal cord,* and increases its reflex excitability,† conditions which in many such cases we wish to avoid. Practically, I have seen the drug in many instances make the patients feel worse.

Small doses of arsenic and quinine, when the stomach is in good order, seem to be well borne by the patient, but with indifferent results.

Now, S. Weir Mitchell recommends absolute rest in neurasthenia. This is the treatment in the affection due to overexertion. But the cases referred to above have never greatly overexerted themselves; they are not remarkable for great activity, physical or mental, and they, as a rule, betake themselves to bed, without having to be told to do so, as soon as their ailment becomes aggravated.

They can not be kept in bed permanently, for their illness has no definite duration, and if they get slightly improved while being at rest, after some time become worse again.

Systematic gradually increased physical exercise is theoretically the most efficient treatment in these cases. I say theoretically, because practically a complete cure is very seldom effected in patients past middle life. Their ailment is chronic, and, as improvement is at best very slow, they, as a rule, change physicians frequently.

In young patients, however, a cure can be effected by this method of treatment. Electricity, in the shape of the interrupted current, and massage do them good, probably more on account of causing muscular contractions, and thus making their bodies in a reflex manner perform the work which they are either too weak or unwilling to perform voluntarily, than on account of any intrinsic virtue there may be in these agents. But passive exercise can never replace active exercise. Gradual systematic physical exercise I have seen giving very gratifying results in young patients of this kind. This is especially indicated in those patients who are flabby, muscularly ill developed, afraid of pain, trembling at the sight of a surgical instrument; in fact, individuals so constituted furnish the greatest number of cases affected by the form of hysteria under consideration.

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* Foster's *Physiology*.

† Biddle's *Materia Medica*.

There are, however, forms of hysteria where, if the body is affected at all, it is in consequence of mental disturbances, and treatment to be successful must be directed mainly to the mind.

It is within the experience of every one that abnormal emotions, grief, anxiety, etc., cause frequently disturbances of circulation, digestion, etc. It is hardly necessary to say that so long as the mental disturbances remain, treatment directed to the improvement of the bodily disturbances will produce little effect.

According to Lloyd, hysteria in general is due to an abnormal state of consciousness. The fact is that body and mind are so closely connected together that the one can not be affected without involving more or less the other.

The point that must be determined, however, is which has been primarily and mostly affected, and the treatment must be directed accordingly.

The following case is an example:

Mr. B., aged twenty-four years; physically well developed; a tall, fine specimen of manhood; came under my observation September 5, 1897. About eight weeks previously, according to his statement, he had been rejected in love by his best girl. He was since then greatly depressed in spirits—attempted suicide. He had some gastro-intestinal disturbances, very frequent micturition, which was very annoying to him; increased patellar reflex, and complained of insomnia. Strychnine was given to him on the supposition that his urinary trouble was due to lack of tonicity of the bladder, and its inability to thoroughly empty its contents. This, however, greatly aggravated his affection. After he had passed urine, a catheter was introduced into the bladder, and it was found empty. This proved that his frequent micturition was due to abnormal irritability. Belladonna was therefore given to him with small doses of quinine and arsenic. But above all, and mainly, he was advised to frequent balls and other places of amusement as much as possible, and to take an active part in them. Novel reading, according to his own statement, made him worse; it was consequently forbidden. After eight weeks of this treatment the patient declared that he was his former self again, and further treatment was unnecessary.

Several such obstinate cases have been followed by most gratifying results under such treatment. It might be argued that such cases do not properly belong to hysteria. But they certainly do not belong to any form of insanity, for the patients are perfectly rational, and their grievance is real, for it is quite natural to be affected more or less by such a disappointment. In girls the hysteric manifestations may under such circumstances be well marked.

The definition of hysteria, according to Mills,* is a functional disturbance of the cerebro-spinal axis. In the case quoted above there was a functional disturbance of the cerebro-spinal axis due to abnormal emotions.

Isolation in these cases must be avoided, and even travel frequently does very little good, as the patients, coming in constant contact with strangers, feel keenly their isolation and lack of sympathy, and by contrast are constantly reminded of their former happy dreams, and the crushing blow which their ego finally received.

It is active exercise in congenial company that is most likely to exert a very beneficial effect in such cases. This will in many instances produce sleep where hypnotics have failed. he only point, however, is to gain the patients' confidence and make them obey the instructions, otherwise treatment can have no effect.

In some European communities where superstition is very prevalent, a peculiar form of hysteria is met with which is seldom, if ever, encountered in commonwealths advanced in civilization.

There is a strong belief in those communities in the transmigration and transfiguration of the soul, and that the souls of dead sinners do not find a resting place in heaven and must undergo a term of purgation on earth before they can be admitted to heaven. These souls prefer to select their temporary abode in the bodies of human beings, and especially in those of young ladies.

Now it sometimes occurs that a young girl imagines that the soul of some dead sinner who was known in the locality while alive, took possession of her body, strangling her, and tearing her to pieces. The first attack generally occurs after the patient has gone through some excitement or received a severe blow, as the belief is that the soul of the dead sinner that is prowling around in the neighborhood seizes just such propitious moments to steal into the body of the chosen victim. Somehow or other the soul is, as a rule, that of a male sinner.

The patients are taken to one physician after another without any effect.

Finally, they are taken to some celebrated saint, who amid most solemn and impressive surroundings, with cabalistic incantations, by coaxing and by threats, makes the refractory soul reluctantly leave the body of his chosen victim to find a habitation in some animal.

The reputed cures ascribed to Lourdes are similar in nature.

Thus in some forms of hysteria the mental disturbances are of primary importance.

Unfortunately, however, in numerous instances the physician can not gain full control over superstitious patients, and cures are thus ascribed to miracles, whereas in reality there is nothing miraculous about them.

Thus it can be seen that in exercise we have a valuable prophylactic and therapeutic agent, which must be used judiciously and with great discrimination. It can be used freely, with great benefit, in ailments due to functional disturbances; it must be restricted in organic diseases, and entirely avoided in acute febrile affections.

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* Mills. Pepper's *System of Medicine*, vol. v. Hysteria.

191 Henry Street.

SUMMER DIARRHŒA.

By WILLIAM LELAND STOWELL, M. D.,
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Solomon said: "To everything there is a season, and a time to every purpose under the sun: a time to heal and a time to speak," etc. This is the beginning of the diarrhœa season, and the fitting time to speak of successful healing treatment.

Summer diarrhœa, or gastro-intestinal catarrh, or mycotic diarrhœa, may be due to any one of about forty bacteria which have been isolated. If a given germ always produced a certain set of symptoms and we could recognize them, our treatment might not be quite so empirical as now. We don't know what the conditions are in which the germs flourish except in a few instances. The results we do know. The gastric juice is a powerful germicide and abundantly able to destroy the invading army of germs unless they are in overwhelming numbers or the digestive fluid is very scanty. Owing to excessive summer heat or sudden change to cold, or nervous perturbations, this physiological antiseptic may be enfeebled. The same physiological conditions may interfere with the formation and elimination of bile, the intestinal antiseptic and fat emulsifier.

The cause of trouble may be a food proper in itself, but given in too great quantity or too often, as milk that has commenced to ferment or fruit that is beginning to decay.

If there is much gastric disturbance in a child, the intestine is similarly affected, probably later the colon. Gastro-intestinal catarrh is therefore one disease, not two. The symptoms are restlessness, pain, vomiting of stomach contents with mucus, and frequent stools containing the same. If the offending cause is still in the digestive tract, sweep it and its products out with one dose of castor oil. In a child more than a year old add tinctura opii camphorata or tincture of opium. Next change the diet for twenty-four or forty-eight hours, if not longer, no matter how well it agreed before.

To a baby give egg albumin and sweetened water, or beef juice, not beef tea. Another of my favorites is wine whey, made by adding a glass of sherry to half a pint of hot milk. The sweetened whey may be taken cold without limit. It is refreshing, nutritious, and slightly stimulating. If desired, the whey can be prepared with essence of pepsin. In fact, the peptonoids given with water are very helpful. In the hospital (Infants' Hospital, Randall's Island) this is a routine treatment at times. Mutton broth should be mentioned too.

Often the stools are very green, and the accompanying mucus also. This shows that the bilirubin has been changed to biliverdin, from what cause is disputed. We know, however, that the best treatment is mercury with an alkali. Give ten grains of hydrarg. cum creta at one dose, or a tenth of a grain of calomel and half a grain of bicarbonate of sodium every half hour for ten doses. The calomel may increase the greenness of the stools for a time, but they will become less frequent and return to normal color soon.

If mucus is very abundant and surrounds small flocculent masses or curds, the chief trouble is in the colon. If there are streaks of blood also, the rectum is involved—a colitis and proctitis. Babies with this form of diarrhœa have griping and tenesmus, with occasional prolapse of the rectum. It is my habit to have all such hospital cases given frequent intestinal irrigations of warm salt solution, one drachm to the pint. There is nothing better than the salt, though it may seem more elegant to use one of the numerous germicide and antiseptic preparations, of which there are so many.

In cholera infantum the copious saline injections not only lessen the frequency of stools, but, being readily absorbed, help to replace the great loss of fluid. The collapse is overcome, and the weak, fluttering pulse becomes stronger.

If it becomes necessary to keep the young infant off from milk for a considerable time, we must choose carefully from the numerous infant foods. Malted milk and Mellin's food are easily tolerated in an enfeebled digestive tract. It must be remembered that these two foods are almost devoid of fat, and if they are to be used long cream must be added.

The manufacturers of food products seem to be giving more attention to the subject of nutrition than the majority of physicians do. Nearly all of these foods have virtues which appear in their advertisements, and all have deficiencies which are not so apparent. Babies need fats, proteids, and carbohydrates just as adults do, but in varying proportions.

The infant needs to get his heat chiefly from soluble carbohydrates—*i. e.*, sugar—not insoluble starch, which he must first convert into a sugar. The fuel of a baby should come to him ready for use, as sugar, for he is not able to split his own kindling—*i. e.*, starch—until six or eight months of age.

If a child a year or more old, who could digest some starch, fails to do so temporarily, he may have one of the malt preparations after his meal of bread, cracker, or baked potato. In the same circumstances we may use a proprietary food, even though it does contain unconverted starch. The addition of maltzyme or other malts will quickly make the change. Hudson's whole-meal food and Carnrick's soluble food I find the best. The babies like them, and the offensive stools come back to normal characteristics under such feeding.

Milk is after all the only ideal food, and all these others are makeshifts for temporary use. Milk must be the main reliance if we would avoid rickets, scurvy, and faulty development in general.

Very rich mother's milk contains four per cent. of fat, seven per cent. of sugar, and two per cent. of proteid or casein. Remember that cow's milk has the same fat, with less sugar, but with twice the quantity of casein, Gravity cream contains sixteen per cent. of fat, which can be readily brought to four per cent. by dilution with three parts of sugar water. The sugar water consists of two ounces of either milk sugar or cane sugar to a pint of water. This is an approximation to mother's milk which any one can easily prepare. It is wise sometimes to replace one part of sugar water by one of lime-water. More accurate percentage modification may be worked out by the methods of Coit, Baner, Rotch, or Holt.

Finally, as to a few drugs. They will be needed, as the food ideal in theory is not always so in practice.

For a simple diarrhœa in a baby give bismuth with equal parts of chalk mixture and mucilage of gum arabic.

To older children a little opiate is not harmful—*e. g.*, chalk mixture, mucilage of gum arabic, aromatic syrup of rhubarb, and paregoric, of each, half an ounce. Give a teaspoonful after every stool.

When fermentation is marked, give salol and bismuth. Resorcin and naphthaline are often efficient, but I find myself using salol all the time. Creosote is another good remedy, and subgallate of bismuth also, each easily administered in combination with liquid peptonoids, to check diarrhœa and to stop vomiting.

The best results are obtained by giving to the digestive tract complete rest, next change of food, then irrigation.

28 West Thirty-sixth Street.

AN EXPERIMENTAL STUDY OF
THE TOXIC PROPERTIES OF INDOL.

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(*Concluded from page 93.*)

Before considering the influence of the experimental administration of indol on the human subject it may be well to state that a small ringtail monkey, weighing about fourteen hundred grammes, received five cubic centimetres of a 0.1-per-cent. solution of indol daily for two months without any apparent effect. Later experiments with larger quantities of indol showed the animal to be far less susceptible than rabbits of equal weight.

C. EXPERIMENTAL INDOL POISONING IN MAN.

Interesting and suggestive as are the results of indol poisoning in dogs, rabbits, etc., they nevertheless fail to afford a satisfactory basis for an understanding of the influence of this substance upon the human organism. Yet it is with its effect upon the human organism that we are chiefly concerned. There are two ways in which the effect of indol upon the human animal may be investigated. One of these is the careful observation of clinical conditions that are characterized by the presence of a markedly excessive excretion of an indoxyl compound. This method has been much employed by clinicians in the study of nutritive derangements. It is open to the very obvious objection that it is hardly possible to study with satisfaction the influence of a single factor in the production of disease where other factors of perhaps equal significance are not only operative, but operative in a more or less variable way. The history of oxaluria and of the symptomatology which has been affixed to it is an instructive illustration of the pitfalls that lie in the course of the observer who relies wholly on the clinical method of studying the pathological factors in nutritive disorders.

The second method that is open to the investigator

Observation No. 1.

Date.	Quantity of indol taken.	Symptoms.	Indoxyl reaction.	Preformed sulphates.	Ethereal sulphates.	Ratio.
December 28th...	0.1 gramme at middle of day.	Toward evening "dull feeling" in front of head; feels slightly giddy. Sensation at times as of slight headache, but can hardly call the feeling a pain.	Faint.	1.24 gramme.	0.150 gramme.	8.13
December 29th...	0.3 gramme indol during day in doses of 0.1 gramme.	Slight frontal headache most of day; some sensation of "lightness" in head at times. No other symptoms.	Increased.	1.80 gramme.	0.318 gramme.	5.66
December 30th...	0.5 gramme indol during day.	At 2 A. M. was awakened by very severe colic. Then had large watery movement, followed by relief of colic. During the day felt entirely well. No perceptible effect from indol, except that toward evening there was some unsteadiness in the legs and stiffness in the muscles on walking upstairs.				
December 31st....	No indol	Felt perfectly well during morning. Knee-jerks seem increased as compared with December 27th. Pupils normal; no contraction.				
January 1st......	0.4 gramme indol in the morning.	Sensation of "lightness" in head; no headache. Otherwise, entirely well.				

possesses the great advantage of enabling him to vary one factor at a time in the experiments which he institutes. This method consists in administering to human subjects the substance the influence of which it is desired to determine. If, then, such conditions as food and drink, exercise, mental work, the use of tobacco, etc., be kept reasonably constant, it is safe to assume that unusual symptoms varying concomitantly with the administration of the substance under investigation are dependent on this substance.

This is the course that was pursued in the case of our study of the properties of indol. Three healthy men were induced to take indol in increasing doses, the various hygienic conditions referred to above being kept nearly constant from day to day for a period previous to the administration of the indol as well as during this period. The indol was given in gelatin capsules containing a tenth of a gramme each. In order to minimize digestive derangement from the irritant action of the indol it was administered immediately after meals.

The first observation relates to a man thirty-two years of age, weighing a hundred and fifty pounds, and in exceptionally robust health. The preceding table gives the main data pertaining to the experiment.

The second observation relates to a vigorous medical student, twenty-five years of age, weighing about a hundred and sixty pounds.

The doses given in this case were very large.

Observation No. 2.

DATE.	Quantity of indol taken.	Symptoms.
January 30th....	1 gramme in divided doses.	No symptoms whatever.
January 31st.....	1.2 gramme in divided doses.	Intestinal flatulence during morning. No other symptoms until evening. Then incapacity for mental work; can not memorize. No symptoms during the day.
February 1st.....	2 grammes in divided doses.	Slept only a short time during the night. Restless and very active mentally. Such sleep as was obtained was interrupted by vivid dreams.
February 2d......	0.6 gramme in divided doses.	Headache on rising. Soon passed away. No other symptoms.
February 3d......	1 gramme in divided doses.	Sleep much disturbed by dreams.
February 4th.....	1 gramme in divided doses.	Insomnia.

There can be little doubt that the insomnia in this subject was due to the action of the indol taken, as he is an exceptionally deep sleeper, and his habits of life were unchanged during the period of the experiment. The amounts of indol taken were so large as to deprive the effects observed of much of their interest, it being questionable whether such large quantities are ever formed in the human intestine, except perhaps where the gut is occluded.

The table at the foot of this page shows the changes in the indoxyl reaction and in the ethereal sulphates which were occasioned by the administration of indol.

The third observation was made upon a medical student twenty-six years of age, in good health, but not especially robust, and weighing at the time a hundred and thirty pounds. He was told to keep a record of the pulse, temperature, and respiration, morning and afternoon, and to note any definite symptoms that might arise. The observation upon this person is made up of three different trials, as will be seen by the table on the next page, which takes note of the leading features of the experiment.

The chief effect recorded in the first observation is the occurrence of slight frontal headache and a sensation of "light-headedness" or giddiness. An interesting feature was the occurrence of colic followed by diarrhœa. This being a very exceptional occurrence in the subject of the observation, it can hardly be questioned that it was dependent upon the rather large doses of indol taken during the day. The occurrence of diarrhœa corresponds with the fact that diarrhœa has been observed, as already mentioned, after the administration of indol to dogs. It is noteworthy that although the subject received 0.5 gramme of indol (a large dose) on the following day, he felt entirely well with the exception of a little unsteadiness in the legs and stiffness in walking upstairs. It occurs to one that the effects of indol may have been minimized through the apparently thorough emptying of the colon which occurred.

The main features of the third observation resemble those of the first. The symptoms were, however, a little more pronounced, although the quantity of indol was smaller. During the first trial frontal headache or a "sensation of fullness in the forehead" was present the greater part of the time. A sensation of dizziness was also noted at one time. Toward the end of the observation the knee-jerks seemed increased as compared with previous days. As soon as the indol was stopped the symptoms wore away, and there was no recurrence of similar disturbances until after the beginning of the second trial, five days after the completion of the first. Then, after the administration of rather

DATE.		Indoxyl reaction.	Preformed sulphates.	Combined sulphates.	Ratio.
January 29th............	Previous to administration of indol.	Well marked.	2.44 grammes.	0.21 gramme.	11.64
January 30th............	" " "	Well marked.	2.39 grammes.	0.238 gramme.	10.02
January 31st............	During administration of indol.	Very strong—black.	1.345 gramme.	0.608 gramme.	1.76
February 1st............	" " "	Very strong—black.	0.915 gramme.	0.686 gramme.	1.33
February 2d............	" " "	Very strong—black.	0.603 gramme.	0.732 gramme.	0.823
February 3d............	" " "	Very strong—black.	1.159 gramme.	0.484 gramme.	2.39
February 4th............	" " "	Very strong—black.	1.235 gramme.	0.726 gramme.	1.70
February 5th............	" " "	Very strong—black.	0.769 gramme.	0.692 gramme.	1.11
February 6th............	Indol stopped.	Slight.	1.973 gramme.	0.263 gramme.	7.50

Observation No. 3 (First Trial).

DATE.	Quantity of indol taken.	Symptoms.	Indoxyl reaction.	Preformed sulphates.	Combined sulphates.	Ratio.
December 2d.....	0.025 gramme after lunch.	No symptoms.	Negative.	1.832 gramme.	0.289 gramme.	6.34
December 3d.....	0.050 gramme after lunch.	Little effect. A little unsteady in legs. Bad taste in mouth on rising. A little nervous toward evening. "Slight fullness" in forehead during afternoon. No symptoms after dinner.	Strong.	1.664 gramme.	0.296 gramme.	5.62
December 4th....	0.2 gramme during day.	Dreams more distinct than usual. No unsteadiness on feet. No perceptible derangement. Dull sensation in head, perhaps from dissecting longer than usual. Knee-jerks seem increased.	Strong.	1.287 gramme.	0.467 gramme.	2.76
December 5th....	0.2 gramme during day.	Dull sensation in head lasting all day. Slight dizziness during evening. Knee-jerks increased as compared with previous days.	Very strong.	1.988 gramme.	0.426 gramme.	4.69
December 6th ..	Indol stopped.	Head feels well.	Slight.	2.012 grammes.	0.188 gramme.	10.69

Observation No. 3 (Second Trial).

December 10th...	0.2 gramme indol during day.	Feeling well. A little "fullness" in forehead and slight nausea.	Negative.	1.695 gramme.	0.247 gramme.	6.81
December 11th...	0.1 gramme at breakfast, 0.2 gramme at lunch, 0.2 gramme at dinner.	Headache continued through the night. Relief after rising, but "heavy feeling" continues. During afternoon felt very tired. Dull frontal headache returned. Headache continued during evening. Slight cramplike pains in legs during walking.	Very strong.	1.845 gramme.	0.4404 gramme.	4.19
December 12th...	Indol stopped.	Headache continues. Bad taste in mouth. By 5 P. M. feeling as well as ever.	Very strong.	1.524 gramme.	0.555 gramme.	2.75
December 13th...	No indol.	No symptoms.	Negative.	1.686 gramme.	0.330 gramme.	5.11

Observation No. 3 (Third Trial).

December 14th...	0.1 gramme at 7.45 P. M.	Feeling well during day.	Negative.	1.652 gramme.	0.352 gramme.	4.69
December 15th...	0.3 gramme during day; 0.1 gramme at each meal.	As usual during morning. After dinner, during afternoon, felt tired. Slight pain and stiffness in shoulders, lasting only a short time. During evening, dull feeling in head, hardly headache.	Medium.	1.337 gramme.	0.405 gramme.	3.30
December 16th...	0.2 gramme during day.	Bad taste in mouth. Sleep much disturbed by dreams. Feels "tired all over." This lasted through afternoon. A little stiffness in shoulders after sitting. Slight pain in front of thighs.	Very strong.	2.223 grammes.	0.396 gramme.	5.62
December 17th...	0.2 gramme during day.	Bad taste in mouth. Disturbed sleep. A little weakness in legs. Dull feeling in head. After breakfast felt tired all over. Could not study. Dull feeling in head continued; no ache. During afternoon felt tired; weak in knees. Slight pains in head lasting a few seconds. At night, severe frontal headache, coming on gradually since dinner. Can eat, but is not hungry.	Strong.	1.601 gramme.	0.339 gramme.	4.72
December 18th...	0.2 gramme during day.	Sleep disturbed. Bad taste in mouth. Headache lasted through night. Improvement on rising, but head still dull. Tired all day. Dull sensation in head.	Strong.	1.596 gramme.	0.390 gramme.	4.09
December 19th...	0.2 gramme during day.	Sleep less disturbed than previously. (Walked a little longer than usual on previous evening.) "Dull, tired feeling" continues.	....	1.913 gramme.	0.460 gramme.	4.16
December 20th...	0.2 gramme during day.	Slept well. Head feels tired and dull. Unpleasant frontal sensation all day.	....	1.676 gramme.	0.381 gramme.	4.40

large quantities of indol, the original symptoms, especially frontal headache, returned. The headache and prostration were in fact so marked that it was considered best to discontinue the experiment. As in the first trial, the discontinuance of the indol was quickly followed by an entire subsidence of symptoms. The aim of the third trial was to give quantities of indol which, while occasioning definite symptoms, should not cause such pronounced derangements as to make the continuance of the experiment over a longer period of time impossible. The period covered by this trial was eight days. Although marked headache was present only once during the period, a sensation of discomfort in the frontal region was an almost continuous feature of the experiment. The characteristic feature, however, of the trial was a decided sense of fatigue. The subject of the experiments summed up his experience by saying that the first and second trials gave him headache, while the third trial gave rise to lassitude and inability to work.

In all three cases the influence of the administration of indol upon the indoxyl reaction and upon the combined or ethereal sulphates was pronounced, as may be seen by the tables.

A feature of the third observation which is of some interest is that previous to the use of indol the urine failed to give any indoxyl reaction, but gave it strongly after the indol was begun, only to lose it when the indol was discontinued.

In the second case, in which very large quantities of indol were given, the intensity of the indoxyl reaction was very unusual, and the increase in the ethereal sulphates was greater than I have ever observed in natural pathological conditions.

The Clinical Conditions in which the Indoxyl of the Urine is increased and their Relation to Excessive Indol Production.—We come now to the most difficult and important part of our subject, the interpretation of the clinical significance of excessive indol production in the intestine and of its excessive absorption as indicated by the presence of a strong indoxyl reaction in the urine.

One of the obvious difficulties with which one is met on the onset in any attempt to determine the significance of excessive indol absorption lies in our inability to set up a satisfactory standard for deciding what is to be looked upon as a normal indoxyl reaction. We know there are many individuals in good health whose urine yields a certain amount of indigo blue, and we must recognize that the presence of an indoxyl compound in the urine is a normal characteristic, although in many normal individuals the reaction is commonly entirely wanting. There are, on the other hand, a good many persons who complain of various trivial disturbances, such as headache, depression of spirits, fugitive muscle pains or muscular rheumatism, and various neurasthenic symptoms, whose urines almost regularly yield an indoxyl reaction that is much stronger than is usual in health. It often happens that these symptoms grow less or disappear under influences that coincidently reduce or stop the excretion of indoxyl. Observing this concomitant variation, one is led to speculate as to the relation which the phenomena bear to one another; or, to put it more definitely, to ask whether it is correct to refer any or all of a certain group of symptoms to the excessive absorption of indol. In some respects the conditions of the problem resemble the oxaluria question. In both cases a normal but not necessary constituent of the urine is apparently excreted in excess, especially in persons presenting certain nervous disturbances, and in both cases the symptoms are apt to retrogress when the excessive excretion stops. In both cases we have to recognize the fact that this relationship, which suggests cause and effect, may be one of mere coincidence. In regard to both questions we have to confess that actual proofs of the suspected relation of cause and effect are wanting, and that the symptoms which one is inclined to attribute to a particular agency may be dependent on one or more unknown influences. In the case of indol, the experimental observations just recorded aid us in forming a conception of what symptoms may be attributable to excessive indol absorption. The first and third observations make it in the highest degree probable that frontal headache, as well as cephalic sensations not strictly to be called headache, may be produced through the agency of indol. It is, of course, conceivable that the occurrence of these symptoms was a coincidence, but, as the correspondence between the head symptoms and the administration of the indol was exceedingly close, the likelihood of mere coincidence, in the case of persons seldom troubled with headache, seems very small—too small to consider seriously. An interesting feature of the headache in the third subject was the improvement which on several occasions followed out-of-door exercise.

We may, therefore, regard headache, especially frontal headache, as one of the conditions referable to indol, but when we come to consider how frequently indol is the chief or sole cause of such headache it is necessary to proceed with the greatest caution. Such experience as I have had in the study of headache leads me to think that most frontal headaches depend upon other causes, and it is only in the cases (which I believe to be few) where the appearance and departure of headache correspond with distinct and wide fluctuations in the indoxyl of the urine that such a causation is to be suspected. Even here it is likely that the suspicion is justifiable only when the reaction is strongly marked. It seems to me likely that sensations of discomfort in the head, hardly amounting to headache, may more often be the result of excessive indol absorption than actual headache, and that the cephalic sensations of constipation may be, in part at least, thus explained. The very pronounced sense of fatigue developed in the third subject suggests that the long-continued excessive absorption of indol from the intestine may sometimes be responsible for lassitude and a sense of fatigue disproportionate to the amount of mental and muscular energy expended. The very large proportion of strong indoxyl reactions observed among neurasthenic persons lends some clinical support to this view.* It seems to me that the evidence, though not conclusive, strongly favors the view that the long-continued overproduction and absorption of indol is a factor at least in rendering some persons more readily fatigued than normal individuals.

An interesting question which suggests itself is whether indol is capable of increasing the excitability of the lower reflex arc in man. In this connection the positive increase in the tendon reflexes noted in rabbits and dogs is suggestive. The observation that the knee-jerks were increased in two of our human subjects is hardly more than suggestive, because the supposed increase may have been wholly a coincidence. More carefully controlled observations in relation to this point are much to be desired. The question whether excessive indol production and absorption in epileptics is capable of influencing the occurrence of seizures is one of much interest. It appears to me that it would be possible to determine positively whether epileptic persons suspected of being influenced in regard to their seizures by intestinal toxæmias are or are not influenced by the administration of indol.

The second observation upon the human subject—namely, that in which a large quantity of indol (two grammes) was taken in less than forty-eight hours without giving rise to any symptoms except flatulence and incapacity for mental work—is most suggestive when considered in connection with the effects produced in the other cases. There can be no doubt that the indol taken by the subject of this experiment was absorbed from the intestine to a considerable extent, for the reaction given by the urine was exceptionally strong. The fact that such slight symptoms were produced indicates a much smaller susceptibility to the action of indol than was observed in the other cases, and emphasizes the fact that this susceptibility is a highly individual thing. Two elements can be distinguished as entering into this susceptibility. One is the character of the nervous system, the other is the ability of the organism to transform indol into less toxic substances—this transformation perhaps occurring chiefly in the liver. It would be most instructive to select subjects for experiment with reference to these two elements. On the one hand, persons with irritable nervous systems should be compared with persons who react slowly and moderately to external stimuli; on the other hand, normal subjects should be contrasted with patients suffering from extensive damage to the parenchyma of the liver, as in cirrhosis, and in fatty or amyloid liver.

It need hardly be said that the facts collected in this paper constitute no more than the introduction to a satisfactory knowledge of the toxic properties of indol. They have been presented this evening partly for the sake of the facts themselves, and partly to emphasize the importance of studying the products of bacterial activity which are suspected of a toxic agency in the human organism upon the human organism itself when that is practicable.

In summing up, we might answer as follows the question propounded in the beginning of this paper, What detrimental effects, if any, does the excessive formation and absorption of indol entail upon the human organism? The effects of indol upon the human subject, taken in conjunction with a study of the clinical conditions in which the indoxyl reaction is markedly increased, justify us in believing that prolonged and excessive indol absorption is capable of causing headache, especially frontal headache, abnormal cephalic sensations, and indisposition for mental and physical exertion. The latter condition, if prolonged, may perhaps form the basis of a neurasthenic state. Although this is as far as we can safely go with our present knowledge, it is not at all unlikely that further investigation will enable us to detect other effects of excessive indol absorption. That the individual susceptibility varies much seems clear from the results of experiment, and it is likely that this difference in susceptibility relates both to the intensity and to the character of the influence which is exerted. There is no doubt that some robust persons may habitually excrete a large amount of indoxyl-potassium sulphate without showing definite evidence of derangement of health, but these cases are certainly exceptional. While, therefore, we can not regard indol as an indifferent substance in the human organism, we can not regard it as ordinarily exerting highly toxic effects, even when it is absorbed in unusually large amounts. This conclusion accords with what one might on *a priori* grounds expect in the case of a normal decomposition product of proteid food.

The Pennsylvania Medical Board.—At the meeting recently held in Stroudsburg it was decided to hold the next session in Philadelphia on December 12th.

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* With a view to examining the clinical evidence of a relationship between neurasthenic states and the excessive absorption of indol, I have tabulated all the cases of which I have records, of patients whose chief complaint is the readiness with which physical or mental fatigue or both may develop. In the cases selected, a chronic disposition to easily induced fatigue has been the leading clinical characteristic, and all cases have been excluded in which debility was due to discoverable organic conditions, or in which dyspeptic derangements have been a prominent feature. A list was then made of all cases, of whatever character clinically, in which a strong indican reaction was a feature of the condition. Cases showing only moderately strong reactions were excluded. It was found of 32 cases, in which the clinical characters were those of neurasthenia, that 21 showed a strong indican reaction, and 11 gave either no reaction or only a slight reaction. Fourteen cases, other than neurasthenic in character, gave a strong indican reaction: one case of myxœdema, two of muscular rheumatism, one of acute intestinal obstruction, one of pseudo-hypertrophic paralysis, three of epilepsy, one of urticaria, one of leucæmia, one of tetany, one of arthritis deformans, and one of chronic nephritis. The impossibility of setting up an absolute clinical standard of neurasthenia diminishes the value of these results, but they seem of sufficient interest to mention.

CONTINUED IRRIGATIONS OF THE UTERUS *VERSUS* HYSTERECTOMY FOR ACUTE PUERPERAL SEPTIC METRITIS,

WITH REPORT OF SEVERAL SUCCESSFUL CASES.

By HORACE MANSEAU, M. D.,
MONTREAL.

The following remarks and observations are for the purpose of giving an illustration of a most effectual method of treatment in septic puerperal complications. At the same time they may serve to suggest conservatism with regard to hysterectomy as a last resort in apparently the same pathological conditions. A communication on the subject from the pen of Dr. Hiram N. Vineberg, in the *New York Medical Journal* for April 2d, impressed on my mind the importance of advocating uterine irrigations. From the doctor's report of eight successful cases of hysterectomy for acute puerperal septic metritis we infer that success has followed in every intervention; still, it may be possible that he meant to speak of successful instances only—otherwise, more than eight cases which have been the reverse of successful might have been found, even in the notebooks of those operators he mentions, and all this without bearing in mind the deplorable result of a woman losing her sex.

The removal of the appendix or of the Falloppian pus tubes seems to be at present best and most conservative surgery. It is not so clear that infected mastoid cells must also be removed. Here, the surgeon feels content with opening the apophysis in order to be able to wash out most successfully the deadly micro-organisms. The accoucheur, while dealing with the same enemy, might also be gratified with the same brilliant result if he only followed the same line of treatment. Open and wash out well and you will not have to amputate. Every text-book, every professor of surgery, is now preaching the necessity of drainage. It is for drainage purposes that the abdomen, the chest, and the head are opened. To drain and wash what? The mischievous streptococcus, staphylococcus, and their dreadful associates. My custom has been for years past to wash out the uterus, and to keep washing it out, at the first rise of temperature. It being unnecessary to call attention to what a serious puerperal trouble sepsis is in ninety-eight per cent. of cases, I will simply remark that the uterine cavity is an extremely favorable ground for the development of septic pathogenic germs. It appears to be a perfect culture medium not disposed to drain. The os naturally contracting, will, as well as the sphincter vaginæ, become a partly closed barrier to the rapid exclusion of pathogenic bacteria. Scrape and wash out and drain and kill by means of antiseptics. "Remove with the sharp curette as much grayish-white fragments of tissues" as you might, it does not matter how much. What we must do is to keep on removing the same continually forming noxious substance. Dr. Vineberg's case conclusively shows that this can not be done with the sharp or any other curette. Taking for granted that septicæmia is due to a retained piece of placental tissue, the curette, it is useless to say, must be resorted to, preferring the dull one, sure that it will accomplish the same result, and, unlike the sharp curette, it will not reopen a partly obturated surface or produce laceration in the midst of sepsis. The continued irrigation is to complete the curette's work, and cases that it will not cure will not be saved through hysterectomy.

I now come to my own striking observations, taking the notes *verbatim* from my notebook. First case, dating back in 1885:

Mrs. M., the wife of a well-to-do merchant of Duluth, Minnesota, aged twenty-eight years, the very picture of health, gave birth to her third female child; its weight was about nine pounds and a half; labor lasted six hours and was in every respect a normal one. The expulsion of the placenta was complete and followed within half an hour. The fourchette was torn, but the perinæum remained intact. Everything normal at the end of the second day. Patient was not seen on the third day. On the fourth, at 4 P. M., she was suffering with cephalalgia; had a chill; pulse, 126; temperature, 103.5° F. Ordered vaginal douche, 1-to-6,000 corrosive sublimate, every three or four hours. On the 5th, at 9 A. M., the same condition. At 4 P. M, symptoms aggravated; pulse, 135; temperature, 104.5°. Had another chill, no fœtor, but profuse flakes like mucopus discharging from the vagina. Ordered uterus to be washed out once in three hours for twenty-four hours. On the 6th, at 5 P. M., no improvement; rigor lasting an hour; pulse very rapid and yielding; profuse sweating; furred tongue; milk fast leaving the breast. Noticing a slight fall of the temperature after each intra-uterine douche, I requested my patient to undergo continued irrigation. On the 6th, at 8 P. M., I began continuous water irrigation for twelve hours, at the rate of seven or eight gallons an hour. On the 7th, at 8 A. M., temperature fell to 100° F.; pulse, 115; felt much relieved. Being then quite sure that I had the case under control, I stopped irrigation. Five hours later patient was seen, and to my horror the temperature had gone up again higher than ever. Half discouraged myself, I urged the husband to prompt his wife in submission to the same treatment; they had failed to see all the benefit derived and reluctantly I was allowed to proceed. On the 8th, at 3 P. M., irrigation was again started and kept up by myself till next day at 12 P. M., when temperature was down to 99.5° F.; pulse, 110. After giving directions to continue for three hours longer I left to take a rest. At 5 o'clock P. M. I returned to find that on the previous day a certain midwife, living in a small town a hundred miles distant, had been wired for, the said midwife enjoying quite a local reputation among her people. Of course, she had taken possession of the fort. "The patient is now in a dry bed and feels much better already. It was an ordinary case, such as is often seen; no one need worry," was her dictum.

I took the husband apart, warned him most earnestly, and left the house. The poor husband was not to blame, for the midwife had been brought in through his brother-in-law (a Swedish minister of the Gospel). I felt sufficiently sure of the result to predict that in twelve hours more the poor mother might be beyond redemption, for the temperature was already rising. On the 10th, at 4 P. M., the discouraged husband came, requesting me to go and see his dying wife, as he said. As he had some knowledge of physiology, and knew something of a normal pulse, in answer to my question how it was, "So fast," said he, "that I can not count it." The temperature was now 106.5° F.; pulse about 180; respiration very rapid; abdomen tympanitic and painful; patient delirious. The genital tract was bathed in pus; several chills had occurred. Without losing time a consultation was called with Dr. Walback, a veteran practitioner of consummate ability. Together we decided to resume at once the intra-uterine irrigation. It is unnecessary to say that heart stimulation and careful nursing were used to the best of our ability. For some hours the irrigations did not seem to have the same effect as previously; so, believing that the stream might fail to wash out the whole uterine surface, the ordinary S-like syringe was replaced by a male catheter, No. 12, and the stream was gradually increased from about seven to twelve gallons an hour. Owing to the contraction of the os, the catheter entered with some difficulty into the uterine cavity. After forty hours' work, the temperature came down to 100° F. During these forty hours we suspended irrigation four times, but never for more than an hour at a time; still, these short rests would invariably send up the temperature from a half to a whole degree. At 1 P. M. on the 12th, rest till 4 P. M.; the temperature rose from normal to 101° F.; a slight chill. Irrigation resumed, and kept up for three days longer, with intermissions never lasting more than three hours.

Would not this most severe case, full of instruction, be nowadays considered a very strong suggestion in favor of hysterectomy? At first the temperature would not decrease unless the irrigations were continued at the rate of seven gallons of water an hour; afterward the amount had to be increased to twelve. If less water was flowing, if interruption was made, the temperature was sure to rise, sometimes with an astonishing rapidity. It was only on the sixteenth day after the confinement, and after ten days of nearly continued irrigation, that convalescence became permanent. Over two thousand two hundred gallons of boiled water passed through the patient's uterine cavity. As the continuation of antiseptic solution for so long would have been injurious, one pint of a solution of one-and-a-half-per-cent. carbolic acid was used to finish irrigation only. Never was there any factor suggesting decomposition in this case. During the first four or five days secretion was very abundant, and apparently composed of flakelike mucopus; afterward, of yellowish-white pus. On the tenth day, at the time when absorption was greatest, the patient was seized with a violent cough and pain in the right chest; so intense was it that we could not proceed with the irrigation until half a grain of morphine had been given hypodermically, and next day breathing could not be heard, for consolidation was complete. I think this is evidence that the patient could not have stood any further absorption of septic substance.

Dr. Riche and Dr. McComb, as well as Dr. Walback, three of the most prominent physicians in Duluth, Minnesota, having seen the case in friendly consultation, were much pleased with the result arrived at.

CASE II.—Mrs. N., confined June 6, 1886, a midwife attending, was seen by me for the first time on the 12th. Temperature, 105°; pulse, 145 to 150, irregular; abdomen painful and tender; tongue coated. An intra-uterine douche was ordered of a gallon of 1-to-6,000 corrosive-sublimate solution every three hours. On the 13th, at 5 P. M., patient had several chills, was delirious, and very weak. Irrigation ordered for thirty-six hours, stopping four times for an hour. The temperature fell to 100° F. As the patient was adverse to my method of continued irrigation, attempts were made several times to do without them; but three or four hours of suspension always resulted in sending up the temperature two or three degrees. Treatment was kept up for six days, resulting in complete recovery.

CASE III.—Mrs. D., confined May 31, 1893, for the sixth time; confinement natural; the os was torn. June 4th, at 5 P. M., the temperature was 103.5°; pulse, 120; cephalalgia. Had several chills. Uterus washed out every two or three hours for six or seven times. On the 5th, at 6 P. M., all symptoms aggravated. Temperature, 104.5° F.; pulse rapid and irregular. Patient felt very weak. I called in a professional nurse and started continued irrigations at 10 P. M., which were suspended three times in thirty hours for an hour at a time. From five to six gallons of water an hour were used first, but, owing to a very slow decrease of temperature, this amount was gradually raised to ten gallons, and kept up till a normal temperature was reached. As previously, intermission for longer than an hour caused the temperature to rise rapidly. The same treatment was kept up for eleven days, with interruption of two or three hours only during the last three or four days. Recovery was complete.

CASE IV.—Mrs. O. was confined in one of the Montreal hospitals, but on the seventh day was removed to a private boarding house. On the ninth I was called in. The patient had had several chills, intense cephalalgia, hardly any discharge. Temperature, 104° F.; pulse very rapid, about 140. No milk in the breasts. She was at once removed to Strong's private hospital. Intra-uterine douche, one gallon of warm corrosive-sublimate solution, 1 to 6,000, once in three hours, was employed, and next morning curettage brought out a quantity of detritus. Intra-uterine douche of one gallon of corrosive-sublimate solution was used every three hours and kept up for twelve hours, but had not the desired effect. On the twelfth day after the confinement I started continuous irrigations at the rate of eight gallons of boiled water an hour. Eight hours later the temperature decreased from 105° F. to 101° F.—one degree for every two hours' douche. A rest of two hours sent up the temperature to 103° F., abdomen tender, and tympanites quite alarming. Irrigation was resumed continuously for three days, when the temperature reached normal. Extreme weakness made it necessary to use ether and digitalis hypodermically. Fifteen days after confinement it was still necessary to irrigate, this being done one or two hours at a time, and at intervals of every six hours. It was only eighteen days after the child's birth that convalescence became permanent. Recovery was complete.

If it was not for the sake of time and space, I could quote three other cases of the most severe form of septicæmia treated with continuous intra-uterine irrigation, with similar success.

In every instance the stream had to be kept flowing until such a time as the uterine cavity had undergone sufficient repair. Only then would improvement become permanent. In every one of the above-mentioned cases recovery was complete. With two exceptions that I lost sight of, all the patients became pregnant again.

Under the influence of continuous irrigation the uterus contracts well and fast. The fissure heals rapidly. Irrigation must be kept up until such time as it is certain that there is no more internal suppuration; otherwise the os, now firmly closed, will retain the discharge, and the temperature will rise again one or two degrees.

All of the above cases were of a most severe character, and left no doubt in my mind that each and every one of them would to the enterprising surgeon of to-day have afforded ample reasons for the removal of the uterus and appendages.

160 St. Denis Street, *May 1, 1898.*

DIPHTHERIA AND ANTITOXINE.*

By DOUGLAS C. MORIARTA, M. D.,
SARATOGA SPRINGS, N. Y.

Mr. President and Gentlemen: In presenting this subject for your discussion a second time I feel that we have all had a very much greater experience with the use of antitoxine in diphtheria than fifteen months ago, when I presented my first paper. At that time I had only nine cases treated with antitoxine to report; from then (November, 1896) until now (April, 1898) there have been two hundred and seven cases in our village, a hundred and eighty-eight treated with antitoxine and nineteen without, as shown by my records as health officer. All of these cases I have seen in my capacity of health officer; some of the number were my own patients, while many were seen in consultation as well.

The question of the value of antitoxine in diphtheria is settled; it is beyond the experimental stage and has come to stay. We have now to determine the best way to reach its full value. That we may appreciate the boon we have, it is perhaps well to review the results of cases collected by the American Pædiatric Society during last year that were treated with antitoxine; also other previous statistics with intubation and tracheotomy without antitoxine. Of several thousand cases of laryngeal diphtheria treated by tracheotomy and intubation, the death-rate was seventy-two and a fraction. Of the cases tabulated of laryngeal diphtheria in which antitoxine was used, 723 out of 1,256 recovered without operation; of the remaining 533 cases in which intubation was done, the death-rate was $25\frac{90}{100}$ per cent. In a second series of 1,704 cases of the same character, 1,036 were not operated on after the use of antitoxine, and gave a death-rate of $27\frac{24}{100}$ per cent.

While it hardly seems possible that we should be able to reverse the results of such a virulent disease as laryngeal diphtheria from a death-rate of 72 and a fraction to a recovery of 72 and a fraction, yet such is the fact beyond question. Plain and satisfactory as these results are to read, yet I believe we feel surer of our ground when we review our own local results during the past year than with any statistics acquired outside of our personal observation. The clinical picture that has been exhibited to many of us during the past year, where the patient was suffering from laryngeal diphtheria with all the characteristic respiratory phenomena—harsh voice, croupy cough, and dyspnœa—and then to see the change in thirty-six hours after the proper injection of antitoxine and find them with all the distressing symptoms markedly improved, is only necessary to be seen several times, when one is convinced of the efficacy of the remedy. This is especially so when we recall the progressive stenosis, dyspnœa, and death which we so often observed before the introduction of antitoxine.

To obtain results from antitoxine, it is necessary to decide promptly concerning its use; it must be used early, and the proper quantity be employed of a reliable manufacture. To determine these points is not always easy, though on the diagnosis and the quantity to be used I feel settled in my own mind. The character of the antitoxine must be determined by its clinical result and the reliability of its maker. I believe it perfectly proper to rely on the clinical phenomena and to use the serum promptly. Once we decide we have a case of diphtheria, or even the probability of its being a case, I would not wait for the verification from the laboratory, but use the serum at once and in full dose. I am aware that there are cases of pseudo-diphtheria which exhibit in the throat a picture very similar to the most virulent lesions; also that there are apparently the virulent Klebs-Loeffler bacilli with limited local manifestations in some particular throat or throats. Again, there are severe constitutional manifestations with but trifling local lesions, and we have also the cases of mixed infection. Authorities are positive that the only way to differentiate the pseudo-bacilli from the virulent Klebs-Loeffler organism is by making the culture and then inoculating an animal and thus determining the virulency of the organism and the attack. This process is absolute and necessary, no doubt, for men doing experimental work, in order that they may be able to put a true value on antitoxine and its strength. These values have been determined over and over again, and the procedure is only practicable if we are to determine concerning some particular product. It is unwise, to my mind, to jeopardize the patient's life by waiting to see the result of the culture before administering the antitoxine.

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* Read before the Medical Society of Saratoga Springs, April 16, 1898.

As I have intimated, some of our most able bacteriologists claim that from the culture they are not able to state positively in reference to the organism until it is used on a control animal. There are few who have the facilities for determining the organism in this positive way; and if a question of doubt arises even after the culture is made, then it is well for us to assume that we have a case of diphtheria when the clinical picture is characteristic. Personally, I have never seen any unpleasant effect from the use of antitoxine. If one is to consider the difference in the prompt curative results of antitoxine used on the first day, and compare them with those of the second or third, I am sure we can honestly take the chances of injecting the serum unnecessarily, rather than to have delayed its use. For we then frequently find that the patient has not done well, or requires a second or third injection, with no marked results, ending up with a severe neuritis, which is the result of the poisonous toxines developed during the delay; these, I believe, would not have been formed if the remedy had been used promptly and in sufficient quantity.

There is another class of cases, of which I have seen quite a number, where the patient has mild diphtheritic symptoms, yet not sufficient to require antitoxine in the minds of many practitioners. Such drag along for several days; in this type the disease is apt to be nasal, and exhibit only a thin, gray membrane with an ichorous discharge; but the Klebs-Loeffler bacilli are shown in culture. These patients grow rapidly better after the use of antitoxine, but are very persistent if that remedy is not used; it is in such cases as these that neuritis and sudden heart failure are most apt to occur.

There are some practitioners with whom I have come in contact that have done a good deal of injury, not only to antitoxine, but to the public. I know at least two deaths during the past year, which I have seen as health officer, which I believe might have been prevented by the proper use of antitoxine. In these cases the physician must have been so prejudiced that he could not tell the truth, as he told the people that he had used it a great many times, and to his knowledge so many deaths had resulted from its use by him and his friends that he would only use it on their solicitation. Inasmuch as the individuals practise only in Saratoga, and one has only reported the cases I mention and the other absolutely none to the board of health, you can readily conclude that their experience with antitoxine or diphtheria is not great, notwithstanding their statements to the contrary.

Again, there are others who read the literature of antitoxine and are thoroughly familiar with it and yet seem skeptical. They only use it, or advise its use, as a last resort, instead of the rational treatment. This class of believers say to the patient: “Well, we will wait until to-night or to-morrow and see how you are”; then, the case standing still, “We will wait again.” Finally, the systemic effect of the toxines assert themselves, the patient is prostrated, and they decide to use it. At this late day there is a possible chance with a full dose, but they never use that; they throw away the patient’s last chance by using a few hundred units instead of the full quantity. Then, if the case goes on and the patient does not recover, antitoxine is censured by them and those who know of its use. If, however, the virulence of the bacilli has been small and the patient is strong, and he or she finally recovers, antitoxine is given the credit of it; and then that method is the standard of that individual’s ideas of the way antitoxine should be used. When such a one meets an intensely virulent case and treats it on these lines, he is, of course, disappointed, and the patient will most surely succumb. Multiple neuritis is a sequela of diphtheria, and as more cases recover under antitoxine than ever before, there are more subjects alive to exhibit this condition. But these men never stop to inform the public that the paralysis is from the action of the poison of diphtheria on the nerve structures, but allow antitoxine to be censured as the cause of the condition, much to the detriment of antitoxine and the public.

In analyzing the two hundred and seven cases I have mentioned, we find they represent all types of the disease, occurring in all sections of the village, among all classes of people, and treated by you, the physicians of our village. Many of them were seen in consultation, and all of you have seen a sufficient number of intensely virulent cases to know that the clinical picture was severe and characteristic. I myself am convinced that they were cases of true diphtheria from the cultures I have made. I have not made cultures in each case, as the board of health does not exact that of me; yet I have made a sufficient number to convince me that we have had an epidemic of true diphtheria. In not one of the doubtful cases, where a culture was made, were we disappointed in finding the Klebs-Loeffler bacilli. In the 207 cases there occurred 16 deaths, and 7 of the 16 did not have antitoxine administered. Of the remaining 9 cases, 7 died within eighteen hours after antitoxine was administered, several in less time; they were unfortunate in not receiving antitoxine earlier in the disease, and were in a moribund condition when the remedy was given. In four cases the antitoxine was used on the third day, one was on the fourth day, one on the fifth, and one on the sixth. One patient died some two weeks after the commencement of the diphtheria of a bronchopneumonia, which was easily traced to the child’s being allowed to run about a cold house; this patient, to my knowledge, was running around a room without a fire the last of November, and five or six days after the injection of the antitoxine, which was not given until the third day. Another died refusing intubation, the child practically choking to death. Of those who died there was one intubated without relief; in this case the patient did not live long enough for the antitoxine to be of service. In at least four of the fatal cases the chances would have been much better had the throat been intubated; in two cases I am sure that intubation would have saved the patients. The others died from the intense effect of the toxines.

It is only in reviewing most carefully these cases that we can fully appreciate antitoxine. In a hundred and eighty-eight cases where antitoxine was used (and as many of you know quite a large percentage of these were laryngeal in character and of a severe type), in several instances the antitoxine was used in desperate cases as a last resort, with recovery, and frequently on the fourth, fifth, or sixth day of the disease, yet in all these there were only nine deaths (or four and a quarter per cent.), and leaving out the moribund cases the fatality falls to one per cent.

It is to this point that I wish to call the attention of those of you who use antitoxine only as a last resort and in small doses, rather than as the rational therapeutic remedy. In seven of the nine fatal cases, the dose was not half the quantity that I should have used or advised. Intubation should be done more generally in laryngeal cases than it is; I do not believe it proper to delay this procedure, as is so often done, until stenosis is marked and the patient exhausted. So many wait until this point is reached, and then wonder at their fatality. This condition will often be averted in laryngeal diphtheria, and intubation rendered unnecessary by the free and early use of antitoxine, as I know several of you here to-night can testify.

Of the nineteen cases mentioned that were treated without antitoxine, seven died, a fatality of thirty-seven per cent. against the four and a quarter per cent. of all cases treated with antitoxine; or, excluding those that were moribund before the use of antitoxine, it is, as I have said, reduced to one per cent. I have reviewed very carefully these nineteen cases, and find that they were scattered along irregularly during the interval since November, 1896; and it is my judgment that they were no more malignant than any other group of nineteen cases selected indiscriminately from the two hundred and seven cases, as I saw them as health officer.

Antitoxine has been advised latterly, and is thought to be efficacious administered by the stomach; of course its action is very much slower and would be impracticable in a virulent case. It may be of use, however, in immunizing children, though I would prefer its use hypodermically. Professor Behring has produced a potent preparation in a dry form and placed it on the market; it has some recommendations, but has not been used extensively, however.

The dose of antitoxine is the most important factor we have to meet, after the decision as to its prompt and early use. I, personally, use 1,000 units with an infant; with a child from two to five years of age I use 2,500 units, ranging from 1,000 to 2,500, according to the character and intensity of the case. If it were one of the severe laryngeal type in a child two years old I use 2,500 units; and in a child from seven to eight and upward I use not less than 2,500, and have in two instances used 3,500. I am sure the best results follow a full initial dose. I have never, however, used the enormous dose of 4,000 or 6,000 units as the initial dose, as is occasionally recommended. If such a quantity were required, I would use 3,000, and in a few hours follow this with the full dose. I have often thought the second dose produced less disturbance than the first. In any of these cases, if there is not an improvement after ten hours, I use a second dose; and if the case is a severe one, I make the second dose the same as the first. In my own cases I have used strychnine, whisky, tincture of muriate of iron, a highly nutritious diet, with peroxide of hydrogen for a gargle or spray full strength for the first twenty-four hours, or until the membrane has been acted on, when I diminish the strength and lengthen the interval. I have seen such a goodly number of desperate cases benefited by the use of antitoxine even late in the disease (the fourth or fifth day), that I believe every patient with diphtheria, laryngeal or other, no matter how late or how severe, should have a full dose of antitoxine.

I wish to emphasize my judgment in the following conclusions:

(*a*) Diphtheria antitoxine *per se* is harmless.

(*b*) Diphtheria antitoxine is practically a specific in diphtheria.

(*c*) Diphtheria antitoxine is the rational treatment for diphtheria.

(*d*) Diphtheria antitoxine must be used early.

(*e*) Diphtheria antitoxine must be used in full dose.

(*f*) It is necessary to have a reliable product.

(*g*) Intubation is an essential associate of antitoxine in laryngeal cases.

(*h*) There is no case so far advanced that antitoxine should not be used.

(*i*) We should not wait for the report of the bacteriologist, but use it promptly on clinical grounds.

(*j*) It must not be the last resort, nor can it be of much service in small doses.

REPORT OF AN OPERATION FOR
THE REMOVAL OF THE STOMACH FOR CARCINOMA.

By WILLIAM H. NOBLE, M.D.,
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Among the recent advances made in surgery none have created a more profound impression than the removal of the stomach. While the case of Czerny's dog was well known, and we were all familiar with partial gastrectomies, the world was amazed when Schlatter reported that he had successfully removed the entire stomach, and that the patient not only lived, but had recovered both her health and strength.

In the case to be reported hereafter, the writer's experience in no sense lessened his belief in the feasibility of this operation, but, on the other hand, served to more fully convince him of its practicability; it, however, has also shown him, in the most unmistakable manner, that it is a procedure to be undertaken only under the most favorable conditions.

William Brown, a mulatto, aged forty-six years, by occupation a laborer, consulted the writer during the last week in May, 1898, for stomach trouble. He had first experienced discomfort after eating about the early part of the preceding February, which was speedily followed by decided pain after taking food, and vomiting became frequent. His family physician, an intelligent man and an accomplished practitioner, concluded that he was the subject of gastritis, possibly associated with an ulcer, and prescribed ordinary remedies, which were taken for a month without benefit. He then sought advice in the clinic for diseases of the stomach at a hospital in a neighboring city, where daily lavage for dilatation of the stomach was advised and was faithfully carried out by his physician until the time when the writer first saw him. This procedure gave some relief to the pain, but in no way lessened the vomiting. He had progressive loss of flesh and strength, and when first seen by me his weight had fallen from a hundred and sixty-six pounds to a hundred and forty-one pounds, and he was very anæmic. Almost all food taken was rejected by the stomach, and the pain, while greatly increased by either eating or drinking, was constant. External examination over the stomach was very unsatisfactory, owing to the extreme rigidity of the muscles, but examination of the stomach contents—a test meal having been given—showed the absence of hydrochloric acid. The vomited matter was also filled with shreds of broken-down tissue, and frequently had in it deposits of coffee-colored material. This, in conjunction with the history of the case, led to a diagnosis of malignant disease of the stomach, probably at the pylorus.

The patient was told the probable nature of his malady, and was advised to return home, since the prospects for relief were so small. He, however, begged that if an operation offered him any chance of recovery extirpation of the stomach should be attempted, not only because life had become unbearable, but also because he had a large family dependent on him for support, and he urged that it was both his right and his duty to submit to any procedure which offered the possibility of restored health. He had been known to me for many years to be a man of the most industrious and exemplary habits, and this, coupled with his manly though piteous appeal, induced me, against my better judgment, to undertake the operation. He was therefore admitted to the wards of the Union Mission Hospital and the operation was performed May 28, 1898.

With one exception, which will be noted, the *technique* followed in the operation was that reported by Dr. Charles Roberts Brigham, of San Francisco. Under ether anæsthesia an incision three inches long was made through the abdominal wall halfway between the ensiform cartilage and the umbilicus. The introduction of the fingers showed that there were no adhesions to the omentum, but revealed a hard mass about three or four inches in diameter in the greater curvature of the stomach. No nodules could be felt in any of the adjacent organs, nor in the greater omentum, and, as the stomach could be moved in all directions without difficulty, it was decided to go ahead with the operation. The incision was extended from the ensiform cartilage to the umbilicus, and the intestines walled off with gauze pads. The process of dividing the greater omentum between catgut ligatures, closely placed, was begun about the median line and carried over to the duodenum. The lesser omentum was then attacked, similarly ligated and divided. As soon as the duodenum was reached it was seized about three fourths of an inch below the pylorus by a long, slender forceps, whose blades were protected by rubber tubing, while a silk ligature was passed around it about half an inch above. The bowel with the pylorus was drawn out of the wound, and the cavity thus formed was packed with gauze to protect the peritonæum from possible soiling. The gut was then divided by scissors between the clamp and the ligature. Both ends were carefully washed with sterile salt solution and wrapped in gauze. The duodenum was dropped back into the abdominal cavity and wrapped in the nest of gauze packing, while the free end of the stomach was handed to an assistant.

The reason for this departure from the method of Dr. Brigham, who freed the stomach entirely from both the greater and lesser omenta before severing either the duodenum or œsophagus with such satisfactory results, was the belief that with a free end of the stomach in the hands of an assistant greater facility in manipulation could be attained, and greater space secured in which to continue the subsequent steps in the operation. I am convinced that both results were realized.

The section of the omenta toward the cardiac end of the stomach was now resumed, and had been completed to a point where but two more ligatures in the gastro-splenic omentum would have been required for its separation from the stomach, when the patient collapsed. Every effort made to resuscitate him proved futile. Being assured that the man was dead beyond all hope of recovery, the stomach was severed from the œsophagus at their junction. The œsophagus projected about an inch and a half below its junction with the diaphragm. The cut end of the duodenum was brought into relation with the œsophagus without difficulty and could have been readily sutured to it, or, had time pressed, could have been quickly united to it by a Murphy button, as was done in Brigham's case.

After the stomach had been removed it was found that the growth occupied about a third of its greater curvature, and was more than half an inch thick. When the viscus was cut open the mucous membrane was seen to be eroded over a surface about three inches in diameter, and to the depth of about a fourth of an inch. To macroscopical examination it appeared to be a carcinoma. As yet there has been no microscopical examination made. Examination of the stumps showed that there were several nodules in the extreme left border of the lesser omentum, which had not been appreciated in the first examination. Had the patient not succumbed and the operation been completed, any other good accomplished would have been thus rendered nugatory.

The lesser curvature measured five inches and a half; the greater curvature, ten inches; while the greatest width between the curvatures was three inches; across the pyloric orifice the width was three quarters of an inch, and the cardiac orifice was seven eighths of an inch in diameter. Up to the time of collapse an hour and ten minutes had been consumed in operating.

The operation on the whole is not difficult, especially to those who are accustomed to applying ligatures in deep cavities. Its greatest danger would seem to lie in the limited number of cases in which it can be either justifiably or usefully employed. If we believe that the metastases of carcinoma are transmitted from place to place by means of the lymphatics and veins, a short reference to those channels which are connected with the stomach would seem to show that even at a very early stage of the disease other important structures are liable to become involved. In considering the course of the return blood from the stomach, it is found that that from the fundus and left end of the greater curvature passes through the vena brevia and vena gastro-epiploica sinistra into the splenic, while that from the lesser curvature, the pyloric end, and the right portion of the greater curvature empties by means of the coronary vein into the portal vein. The portal vein is formed by the junction of the splenic and superior mesenteric veins and filters its blood through the liver into the hepatic veins.

The lymph channels of the stomach pursue two courses. Some few pass by free communication through the greater omentum and transverse mesocolon to the receptaculum chyli; but the greater number follow the course of the portal vein and its gastric tributaries up through the lesser omentum, to finally empty into the thoracic duct, their course being interrupted by innumerable small glands, which are very likely to become secondarily involved at a very early period in the disease.

Should the writer have occasion to perform this operation again, he would certainly first buttonhole the greater omentum before proceeding with the further steps of the operation, so that a finger could be passed in for the careful examination of the lesser omentum; for, from an anatomical standpoint, it seems only reasonable to believe that it is this structure which is first likely to be attacked by metastases, and, if so, unless the involvement is very slight, it would be better not to go further.

In the case reported above, though the examination of the organs inside the abdominal cavity is believed to have been thorough, I still failed to feel the secondary growth, lower down, through the greater omentum; nor do I believe that it is likely that a small growth could be felt through it. It is possible that a very slight involvement might be dissected away from the lesser omentum, but the time involved in so doing would be so great that the patient would in all likelihood succumb.

The achievements of modern surgery are so startling that one is almost tempted to wonder if any one viscus is absolutely essential to life; and the facility with which skilled operators perform these feats is so alluring that a just discrimination between operable and non-operable cases grows more difficult each day. In the case recorded above the writer yielded to a plea for relief when the result would seem to indicate that it would have been better had he refrained, especially in view of the patient's general physical condition; and yet he fancies that most cases of cancer of the stomach will have reached a similar condition before they come under the surgeon's observation. This man had been under the care of a particularly good practitioner, and had been examined carefully by one of the most skilled diagnosticians in stomach diseases that we have; yet the true nature of his disease was not discovered until so late a period in its progress. The successful removal of organs like the stomach requires such great vitality to withstand the shock incident to operations so long and so extensive, that for the sake of science, even were there no other considerations, it should make one consider well before beginning an operation which, if once begun, must be carried out to the end.

2101 North Thirteenth Street.

Therapeutical Notes.

Tincture of Iodine in Acute Gastro-enteric Infections.—Grosch (*Berliner klinische Wochenschrift,* 1898, No. 25; *Gazzetta degli ospedali e delle cliniche,* June 28th) uses the following formula in cases of acute infective gastro-enteritis, accompanied by vomiting, purulent dejecta, pains in the head and the limbs, etc.:

℞ Tincture of iodine ..... 15 to 18 drops;
Simple syrup .... 300 grains;
Distilled water to .... 5 ounces.
M.

One tablespoonful every one or two hours, or three times daily, according to the gravity of the disease.

Fluid Extract of the Ciliary Body.—A preparation called *extractum corporis ciliaris liquidum,* made from the ciliary body of the ox, with the addition of a little resorcin as a preservative, is recommended by L. Dor (cited in the *Klinisch-therapeutische Wochenschrift* for May 29th) in certain forms of sympathetic ophthalmia in which the aqueous humor is clouded with albuminous and fibrinous material from defective filtering action on the part of the ciliary body, while at the same time chemical changes take place in the vitreous body whereby it becomes softened, and fibrinous masses are attached to the crystalline lens and the iris. The extract is used both by instillation and by subconjunctival injection. For instillation, a drop of the solution (strength not stated) may be used every two hours.

Prescriptions for the Acute Angina of Infants.—Marfau (*Medico pratico; Clinica moderna,* May 12th) recommends irrigating the pharynx with this solution:

℞	Water	6,750 grains;
	Glycerin	750 "
	Crystallized carbolic acid	15 "
	Oil of thyme	2 drops.

M. If there is an abundant exudate, the throat may be swabbed with the following solution:

℞	Glycerin, Water,	each 100 parts;
	Corrosive sublimate	1 part.

M.

Dried Bronchial Glands as a Preventive of Pulmonary Infection.—According to the *Klinisch-therapeutische Wochenschrift* for May 29th, the dried bronchial glands of the sheep are among the latest therapeutic novelties. One part corresponds to about nine parts of the fresh organ. It is assumed that they aid the natural forces of the organism in the contest with bacilli in the air-passages. The preparation has the trade name of glandulene (in German, *Glandulen*). It is said to have been tried thus far only against tuberculosis, and the reports are spoken of as few and very contradictory. The remedy is in the form of tablets each containing the equivalent of about four grains of fresh gland. From three to five tablets are given three times a day.

A Tæniafuge Mixture.—Van Aubel (*Gazzetta degli ospedali e delle cliniche,* May 19th) suggests the following:

℞	Amorphous salicylic acid	6 grains;
	Ethereal oil of male fern	9 minims;
	Essence of cinnamon	10 drops;
	Gum arabic	2 drachms;
	Distilled water	3 fluidounces;
	Simple syrup	1½ fluidounce.

M.

To be taken fasting in the morning in two divided doses at an interval of an hour.

The Treatment of Hæmoptysis.—The *Clinica moderna* for June 8th gives the following:

℞	Fluid extract of hydrastis canadensis, Tincture of hydrastis canadensis,	each.. ½ ounce;
	Codeine	3 to 4½ grains.

M.

Twenty to fifty drops to be taken three times a day.

Dry Treatment of Infantile Eczema.—Dr. Comby (*Gazette hebdomadaire de médecine et de chirurgie,* June 23d) uses the following:

℞	Amidon, Talc, Lycopodium, Subnitrate of bismuth,	of each, 300 grains;
	Salicylic acid	15 "
	Menthol	½ grain.

Dermatol, aristol, etc., may be employed in the same way.

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THE CORNELL UNIVERSITY MEDICAL SCHOOL.

The first session of this new school in the city of New York, it is announced, will open on Tuesday, October 4th, in buildings that have been obtained for temporary use pending the construction of new ones. They are the building of the Loomis Laboratory and the building heretofore occupied by the Bellevue Hospital Medical College. The school is fortunate in starting with the possession of tried and perfected quarters. It is still more fortunate in having its faculty made up almost entirely of men who are already known as experienced and capable teachers. Practically, it enters upon its career with resources on a par with those of the leading medical schools of the country.

There appear to be some noteworthy peculiarities about its course of instruction. In the first place, women are to be accepted as students, but they must take the first two years of their course in Ithaca, the seat of the university, where a home for them is provided in the Sage College for Women. This strikes us as a particularly prudent provision. We are not aware that medical "co-education" has yet been tried on a large scale in the United States or, indeed, in any English-speaking community. If it involves features that are likely to prove objectionable on the score of being *contra bonos mores*—and we are not prepared to say that it does—certainly they will be materially mitigated by restricting the association of young men and women in the lecture-rooms and laboratories to the last two years of their course, when they have in great measure risen above whatever temptation they may have felt in their callower years to look upon things medical with any approach to levity.

The men, too, may take the first half of the medical course in Ithaca, where instruction in the first and second years' courses is to be given by a special faculty; but they are not obliged to do so. Probably those who avail themselves of this privilege will be largely the students or graduates of the academic department. In the Ithaca branch of the school, therefore, there will be "co-education" under conditions different from those prevailing in the New York branch, so that, taking the two together, the experiment is likely to be worked out thoroughly.

Finally, Cornell University is to some extent a State institution, and every member of the State assembly is entitled to have as a representative of his district a student in any school of the university, and that student is to have all the benefits of the course without payment of the fees that other students have to pay. As there are many assembly districts in the State, we are likely to see soon the spectacle of a medical school in New York with a large proportion of its pupils not contributing to its resources. This, however, need not excite curiosity as to the result, except perhaps as to the competition with the other schools, for the funds of Cornell are ample.

ARTIFICIAL TEMPORARY COLOR-BLINDNESS.

In the *Proceedings of the Royal Society* for April 20th there is an interesting abstract of a communication by Mr. George J. Burch, who has experimented on the color-sensations in more than a hundred persons. Mr. Burch finds that by exposing the eye for a sufficient length of time to bright sunlight in the focus of a burning-glass, suitably chosen transparent screens being interposed, it is possible to induce temporary color-blindness over the whole retina. The variety of the color-blindness depends upon the color of the screens employed. In red-blindness scarlet geraniums appear black and roses blue, while yellow flowers seem of various shades of green, and purple ones look violet. In violet-blindness, brought about by using a tank of a solution of ammoniosulphate of copper, violet wools look black and purple flowers crimson, but the green foliage appears of a richer tint than usual. In green-blindness the landscape looks like a picture painted with vermilion, flake-white, and ultramarine, variously blended. In purple-blindness, produced by using a combination of films stained with magenta and aniline violet, the vision is practically monochromatic, only green being perceived. If one eye is rendered purple-blind and the other green-blind, all objects are seen in their natural colors, but with a curiously exaggerated perspective. This the author attributes to the difficulty of fusing the images seen with the two eyes.

Mr. Burch thus describes the general appearance of the spectrum during temporary color-blindness:

"A large spectroscope, in which only about a tenth part of the spectrum is visible at once, is directed to the sun, and the slit opened till the illumination is as intense as can be borne. After the eye has been sufficiently fatigued the results are observed in a single-prism spectroscope in which the entire spectrum is visible. The following parts of the spectrum, namely, the red from A to B, the green from the neighborhood of E, the blue about halfway between F and G, and the violet at and beyond H, produce well-defined and characteristic results, whereas the intermediate portions of the spectrum produce results intermediate in character. That is to say, while exposure to red light causes changes affecting the red, and exposure to green light produces corresponding changes in the green, yellow light, instead of causing corresponding changes in the yellow, affects the whole of the red and the whole of the green, the total change being equal to the sum of the changes due to excitation by red light and by green light separately. The effects produced by each of the four above-mentioned colors differ in degree but not in kind. (1) In each case all direct sensation of the color used for fatiguing the eye is lost. (2) There is produced a positive after-effect of the same color by which the hue of all other colors is modified if they are relatively weak, but which is unnoticed if they are bright. (3) The temporary abolition of any one color-sensation is without effect on the intensity of the remaining color-sensations. (4) Any two or any three of these four color-sensations can be simultaneously or successively exhausted. (5) The positive after-effect of red is very transient; that of green lasts longer and is more noticeable; that of blue is still more powerful and persistent; and that of violet is strongest and lasts a long while. As the positive after-effect subsides the color-sensation returns, but the positive after-effect becomes unnoticeable long before the color-sensation is restored to its full strength. (6) During the process of dazzling the eye the observer is conscious of the progress of the change, but only realizes the extent of his color-blindness on attempting to examine a less brilliantly illuminated spectrum. The positive after-effect does not in these experiments pass through cyclic changes of tint, as after-images appear to do under other conditions."

Mr. Burch next describes the phenomena observed when a spectroscope of wide dispersion is employed. He has succeeded by an exposure of three minutes to light from between H and K in blinding the eye to violet without affecting its perception of blue, the real hue of which is seen unaccompanied by any other color-sensation. He concludes from his experiments that no one color-sensation is related to any other in the sense indicated by Hering, but any one of them may be exhausted without either weakening or strengthening the others. His observations, he thinks, are more in accord with the Young-Helmholtz theory, but they imply the existence of a fourth color-sensation, that of blue.

MINOR PARAGRAPHS.

LARD AS AN ANTIDOTE TO STRYCHNINE.

Dr. W. D. Turner (*Indian Lancet*, June 1st) was led by the accidental observation of the recovery of a dog from strychnine poisoning after eating about four ounces of lard to make a series of experiments on dogs and other animals. He records thirteen experiments in all—three on dogs, three on hens, one on a crow, four on hogs, and two on calves. In all cases, except the first two hogs (which died from two grains each of strychnine, with only six ounces of lard administered as an antidote, the last two, however, recovering from the same dose of strychnine after taking twelves ounces of lard), the animals recovered, although the lard was not administered until after convulsions had well set in.

THE MEDICAL OFFICER IN THE MERCANTILE MARINE.

Dr. E. Michael Holder (*Journal of the Mississippi State Medical Association*, July) sums up an admirable paper on this subject, read before the Mississippi State Medical Association, with the following recommendation: 1. That the appointment at every American port of a shore surgeon or medical superintendent be made to supervise and personally instruct inexperienced ship surgeons in their duties. 2. That the surgeon's log book contain daily entries concerning every sick person on board, together with a record of the treatment. 3. That ships' hospitals be under the surgeon's charge, whether occupied or not. 4. That ships' surgeons have authority to early admit sick members of the crew into the ship's hospital, where diet and medical treatment can alone be satisfactorily carried out, thus giving the patient a fair chance for life. 5. That the surgeons be appointed by a national bureau of public health, so that they may be quite independent of the proprietors of the ship, by the removal of the power of dismissal from the officers of the company. The importance of the last recommendation can not be overestimated. It was recognized by the *Lancet's* special commission of 1888 on the British Emigration Service in the following terms: "If the surgeon on board were quite independent of the proprietors of the ship and owed his appointment to the sanitary authorities, all shipowners would have to observe the same rules and standard of excellence. At present the surgeons are in great need of some form of protection to render them independent of the captains and owners. Such a reform would have for its effect the introduction of a better class of surgeons into the service, and this would be a great advantage to the shipowners. Also, it is urgent that the surgeons on board ships should be instructed to make full reports." The author cites two instances which tend to show how dangerous the present system of leaving the surgeon an employee of the shipowner often is to the public safety. In the first case, a ship's surgeon was terrorized by the fear of losing his position into returning yellow-fever cases as malarial disease at New York, which report was passed by the quarantine officials and the patients landed at Ellis Island. Here, however, the marine-hospital surgeon discovered the facts, and ordered the patients back, placing the ship in quarantine. In the second case, the author states that Dr. C. H. Leet, of Liverpool, England, was discharged from the employ of the Atlantic Steamship Company for reporting by official letter to the directors on the insanitary condition of his ship. There can, we should imagine, be little doubt that as the presence of a medical officer on board merchant ships is required in the public interest, that officer should be protected in the conscientious performance of his official duties against terrorism from interested persons; and the only way to accomplish that result would seem to be to remove him from the control of the shipowners and place him under an external authority.

SMALL-POX IN THE UNITED STATES.

The Marine-Hospital Service health report which we publish in this issue shows an unusual prevalence of small-pox in the States of New York, Ohio, and Tennessee. It has been exceptional, we think, for the disease to show itself to any great extent in hot weather, but it is well to remember that the widespread epidemic of 1870 began in the summer. Doubtless our local boards of health see the propriety of alertness in the matter of preventing the extension of the disease.

AN UNDESERVED CRITICISM.

In our issue for May 21st, under the heading of Physicians Exonerated from a Charge of Incompetency, we quoted from one of the daily papers a statement to the effect that charges of incompetency brought by Dr. James D. Trask against two young hospital surgeons had been disproved. In the *Journal* for July 2d, in an article on Actions for Malpractice, we referred to the alleged charge as having been "recklessly" brought against the two physicians by a brother practitioner. We now learn from Dr. Trask, a well-known and highly esteemed physician of Astoria, that he simply testified as to matters of fact at the coroner's inquest. We were therefore in error in our commentary, and it is only fair to Dr. Trask to say so. We very much regret having implied that he acted "recklessly" in the matter, and wish to add that, so far as we can ascertain, his conduct under most trying circumstances was highly commendable.

THE EXAMINATION MANIA.

Under the heading of An Abuse of the Examination System the *Lancet* for June 4th says: "The absurdity to which the system of examination may be reduced is well illustrated by the following incident: A practitioner thoroughly well qualified and holding also a diploma of public health applied recently for the post of medical officer of health in a northern borough. On appearing before the local council he was desired to answer certain questions bearing exclusively on the causation, development, and treatment of several infectious diseases. Naturally, and we maintain with much propriety, he declined to be thus examined on matters of a purely professional character by a lay committee and referred to his qualifications as affording satisfactory proof of his professional knowledge. It is gratifying to learn that this very rational view commended itself to more than one member of the extemporized 'medical' board, and that those members openly resented its action as a meddlesome impertinence. But the most singular part of the narrative remains to be told. It appears that the prime agent in this intelligent proceeding was himself a medical man though a member of the town council. We are not informed as to the result of this election. If in keeping with the procedure adopted, success in the matter of selection could not be other than accidental. Any examination of candidates in the circumstances was not necessary, since if medical degrees are not sufficient to guarantee the most ordinary technicalities of our profession they have obviously no value. An examination conducted by an ordinary municipal body and under the conditions we have described could not, moreover, constitute a reliable test of knowledge. It is much to be regretted that the sorry part of principal actor in this comedy should have been allotted, as we are led to believe that it has been, to a member of the medical profession."

A VICTIMIZED PHYSIOLOGIST.

One of the Paris medical journals lately published a half-tone reproduction of an instantaneous photograph of a nude woman in the act of emitting a puff of tobacco smoke from the anus. The picture illustrates an article that appears to have been written in good faith. We fear, however, that the author's innocence has been played upon. The feat depicted is not unique or indicative of any physiological peculiarity. Indeed—so we are assured—it is to be witnessed, for a comparatively small pecuniary consideration, in many a brothel in Paris and elsewhere. The wretched creatures who have added it to their *répertoire* are but the exceptions that prove the rule of the purity and sweetness of womankind.

FORCED ARTIFICIAL RESPIRATION WITH THE USE OF O'DWYER'S INTUBATION TUBE.

Löwy, of Budapest (*Deutsche medicinische Wochenschrift*, 1898, No. 19; *Wiener klinische Rundschau*, June 26th), reports six cases in which he has successfully employed the O'Dwyer method of artificial respiration. The larynx is intubated, and air is forced through the tube by means of a bag connected with it.

TARDY ABSCESS OF THE LIVER FOLLOWING DYSENTERY IN A TEMPERATE CLIMATE.

At the Fourth French Congress of Internal Medicine (*Gazette hebdomadaire de médecine et de chirurgie*, April 24th) Boinet, of Marseilles, reported four new cases in which, within a few months or a year after a mild attack of dysentery, a large abscess had formed in the liver. In such abscesses occurring in temperate regions, he says, adhesions are exceptional, although they are frequent in the tropics.

"ELECTRIC SUNSTROKE."

Lavrand (*Journal des sciences médicales de Lille*, May 21st; *Presse médicale*, June 29th) relates the case of an engineer who remained exposed for an hour, at a distance of about three feet, to the rays given out by two connected arcs under a current of fifteen ampères. His situation is described as being in that part of the cone of rays where the light was least, but the chemical activity the greatest. Three hours afterward he felt a tingling in his eyes and soon presented all the symptoms of sunstroke, lacrymation, redness of the skin of the face and of the conjunctivæ, and then very severe supraorbital neuralgia. These symptoms disappeared after the application of compresses wet with a boric-acid solution, leaving only a little roughness of the skin. They are attributed to the chemical rays, and not to the intensity of the heat.

THE OLEANDER AS A DRUG.

In the *Indian Medical Record* for May 1st Assistant Surgeon H. D. Pant, of Gonda, reports a case of poisoning with the leaves of the oleander (*Nerium odorum*). A Mussulman coachman pounded seven leaves of the plant with water and sugar candy, and drank the sherbet, having been advised by a quack to take it as a diuretic for gonorrhœa. Severe vomiting set in, with violent retching and slight pain in the stomach. The pulse was extremely slow, only 36 to the minute, and feeble. The man recovered in the course of a day or two. The author likens the action of oleander on the heart to that of digitalis, and suggests the medicinal use of a mild tincture on account of its rapid action and its sustained effect.

ATHEROMATA ON THE FLEXOR TENDONS OF THE FINGERS.

Trnka, of Prague (*Centralblatt für Chirurgie*, 1898, No. 6; *Wiener klinische Wochenschrift*, May 12th), reports that he has observed six cases in which globular atheromata as large as a hazelnut and of cartilaginous hardness were situated between the skin and the flexor tendons of the fingers. Although firmly attached to the sheath of a tendon, they could always be smoothly dissected away without injury to the sheath.

ALUMINUM BRONZE AS A SUTURE MATERIAL.

Haegler-Passavant, of Basel (*Korrespondenzblatt für schweizer Aertze*, 1897, No. 7; *Centralblatt für Chirurgie*, April 30, 1898), states that Socin's alloy, consisting of ninety-five parts of copper and five of aluminum, forms a wire which is altogether free from the disadvantages of other metallic suture materials. It has the color of copper, is possessed of extraordinary pliancy, so that it is very easily tied in knots, and is very strong even when drawn so fine as to fit the smallest needles. The material is not only readily sterilized, but thought to be in itself unfavorable to the development of germs.

ITEMS.

The Congress for the Study of Tuberculosis.—We learn from the *Gazette hebdomadaire de médecine et de chirurgie* for June 26th that this congress will take place in Paris, at the Faculty of Medicine, from July 27th to August 2d, under the presidency of Professor Nocard. The vice-president will be Dr. Hérard. The questions for consideration are as follows: 1. Sanatoria as a means for the prophylaxis and treatment of tuberculosis. 2. Sera and toxines in the treatment of tuberculosis. 3. The X rays in the diagnosis and treatment of tuberculosis. 4. The struggle against animal tuberculosis by prophylaxis. 5. The struggle against human tuberculosis by the disinfection of the habitations of the tuberculous. 6. The propagation of tuberculosis in the army and its prevention. 7. The treatment of tuberculous joint diseases by bloodless methods. 8. The prophylaxis of tuberculosis by sterilization of milk and flesh foods. 9. The altitude and sea cures of phthisis pulmonum. 10. Various questions at the pleasure of the congress. All communications should be addressed to Dr. L. Henri Petit, secretary general, 18 rue du Pré-aux-Clercs, Paris.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 16, 1898:

DISEASES.	Week ending July 9.		Week ending July 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	16	11	15	4
Scarlet fever	91	10	125	11
Cerebro-spinal meningitis	0	7	0	12
Measles	166	19	154	10
Diphtheria	158	46	172	23
Croup	7	4	8	3
Tuberculosis	100	157	153	134

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and plague were received in the office of the supervising surgeon general during the week ending July 9, 1898:

Small-pox—United States.

Dansville, N. Y.	May 3–July 7	3 cases.
Geneva, N. Y.	May 21–July 7	6 "
Ithaca, N. Y.	May 19–July 7	1 case.
Moravia, N. Y.	May 17–July 7	3 cases.
Locke, N. Y.	July 7	1 case.
Union Springs, N. Y.	May 18–July 7	2 cases.
Westfield, N. Y.	April 28–July 7	3 "
West Sparta, N. Y.	July 7	2 "
Reidsville, N. C.	June 30	1 case.
Van Wort, Ohio	July 8	10 cases.
Hamilton, Tenn.	May 1–31	1 case.
Knox County, Tenn.	May 1–31	21 cases.
Norton, Tenn.	May 1–31	9 "

Small-pox—Foreign.

Antwerp, Belgium	June 4–11	3 cases,	2 deaths.
London, England	June 11–18	1 case.	
London, England	June 18–25		1 death.
Sunderland, England	June 11–18	1 "	
Calcutta, India	May 21		1 "
Moscow, Russia	June 11–18	6 cases,	3 deaths.
St. Petersburg, Russia	June 11–18	4 "	2 "
Warsaw, Russia	June 11–18		7 "

Yellow Fever—Foreign.

Bahia, Brazil	May 2–June 7	6 cases,	3 deaths.
Para, Brazil	Feb. 28–June 15		1 death.
Rio de Janeiro, Brazil	June 4	33 "	26 deaths.
Colon, Colombia	June 6	Sporadic cases.	
Siboney, Cuba	July 11	14 cases (9 United States soldiers and 5 citizens).	
San Salvador	June 4–11	12 cases,	2 deaths.
San Salvador	June 11–18	13 "	3 "

Plague—Foreign.

Bombay, India	June 1–7		44 deaths.
Osaka and Hiogo, Japan	May 21–28	1 case,	1 death.

The Case of Dr. William Maunsell Collins.—There has recently been tried in an English court a charge of murder against an unregistered practitioner for having inflicted injuries resulting in death in an attempt to procure abortion. Dr. William Maunsell Collins was formerly a medical man in high standing, having been a surgeon in the Royal Horse Guards, one of the "crack" household regiments of the British army. Some years ago a charge of forgery was preferred against him by a friend and brother officer, and though for some reason unknown he was not sentenced, his name was struck off the medical register. His degree, however, was left to him, and he still remained an unregistered doctor of medicine of the Queen's University in Ireland, presumably because there is some doubt whether that body possesses the power, which most other similar bodies possess, of revoking his diploma for a conviction of felony. Dr. Collins's patient was a young married woman, a member of fashionable London society, who, finding herself pregnant, and wishing to shirk the troublesome consequences entailed, applied to Dr. Collins. The guilt was proved by implication only. A perforated wound of the uterus was found at the autopsy and indications were present that it was the source of a septic process which resulted in thrombosis of the pulmonary artery and thus caused death. It was shown that she had been under the care of Dr. Collins in a clandestine manner and without the knowledge of her husband. Dr. Collins's assertion was that she was suffering from a uterine displacement, which he had attempted to rectify, and he further admitted to having removed with a blunt curette some retained membranes from a natural abortion. The autopsy evidence showed, however, that there had been no such displacement, and, moreover, that the wound could not have been made with the instrument in question. The prisoner was found guilty, but the jury recommended him to mercy, and presumably in consequence of this recommendation he escaped with a sentence of seven years' penal servitude for "manslaughter," in place of the death penalty, which has inevitably followed on a conviction on a charge of "constructive murder," which means any act resulting in death, whether death be intended or desired or not, done in commission of an act of felony. A new aspect was, however, incidentally put upon the construction of the law by Sir Richard Webster, the highest law officer of the British Crown, who told the jury that a verdict of manslaughter instead of murder might be returned if the act whereupon death resulted, even though performed in the commission of a felony, was not of itself dangerous to life.

A Proposed Memorial of the Late Dr. O'Dwyer.—At the recent meeting of the Section in Diseases of Children of the American Medical Association a special committee, consisting of Dr. Louis Fischer, of New York (chairman), Dr. J. P. Crozer Griffith, of Philadelphia, and F. E. Waxham, of Denver, was appointed "to commemorate the late Joseph O'Dwyer, with suitable powers, etc., to collect such moneys and to act with other bodies for the same purpose."

The Washington State Medical Society.—The officers for the year 1898–'99 are Dr. Henry Wells Dewey, of Tacoma, president, and Dr. Charles McCutcheon, of Tacoma, secretary. The next meeting will be held in Tacoma on the second Tuesday of May, 1899, and the following Wednesday.

An Examination for the Office of Diagnostician.—The Municipal Civil Service Commission of the city of New York, New Criminal Court Building, Centre, Elm, Franklin, and White Streets, gives notice that a competitive examination for the position of diagnostician will be held at its office on Tuesday, July 26th, at 10 A. M. Subjects of examination: Technical knowledge and experience. Persons desiring applications and further information should address, as above, Lee Phillips, secretary.

The New York Post-graduate Medical School and Hospital.—A press dispatch dated Albany, July 13th, states that the State board of charities has adopted the report of a special committee appointed to investigate charges to the effect that money given for the endowment of beds had been misapplied, and that the city of New York had paid for children who had never been in the institution. The report was that the charges were not sustained.

Post-operative Psychoses.—This important subject, which was fully discussed at a recent meeting of the Surgical Society of Paris, is thus summed up by the *Edinburgh Medical Journal* for July, from the *Révue de chirurgie* for April and May:

M. Piequé questioned the accuracy of the common belief that mental symptoms following an operation are related to each other as cause and effect. After major operations upon the uterus and its appendages there may ensue a delirium, which may be due to iodoform or septic intoxication. Mental disturbances are, however, more common after minor gynæcological operations, and are rather to be ascribed to the peculiarities of the patient than to the nature of the operation.

M. Richelot had observed eleven cases in which cerebral disturbances had followed upon operations in the sexual organs. There were two cases of vaginal hysterectomy followed by mania, and ending in recovery. There were three cases in which minor operations were followed by insanity, but in which the patients were really insane before operation, and had disguised their condition. In the remaining six cases the patients were predisposed to mental instability, and the operation only played the part of the exciting cause. The result would probably have been similar had the operation been performed on any other part than on the genital organs.

M. Regnier was of much the same opinion, and maintained that no operation really "gives birth" to insanity. Like the anæsthetic, an operation may reveal certain latent tendencies, but does not create them. In three cases of acute mania following ovariotomy there were marked hereditary or other predisposing causes. In old women, in whom an operation may be followed by symptoms of mental impairment, we are really dealing with patients in whom the nervous system is undergoing senile decay, and the operation merely precipitates the breakdown. It is important that the surgeon should be able to recognize the hysterical or neurasthenic patient, who is remarkable for the disproportion presented between the symptoms complained of and the lesion discovered on examination. Such patients may improve for a time after operation, only to develop fresh psychical troubles at a later period.

M. Monod had observed a fatal case of delirium, following double ovariotomy, which was apparently of uræmic origin, and a second case of mania in a male, after amputation of the thigh during acute septicæmia; also a third, an abdominal hysterectomy for fibroids, the patient developing insanity six months after the operation, apparently as the result of domestic anxieties (loss of husband and fortune).

M. Segond has little faith in the production of mental troubles by gynæcological operations. Of six hundred and forty-two cases of hysterectomy and bilateral ovariotomy, he had only met with four in which the operation was followed by psychoses, and in all of them the patients were predisposed by inheritance or other factors. Whenever there exists a proper indication, the surgeon should not be deterred from operating through fear of any subsequent mental instability.

M. Lucas-Championnière held similar views, and had observed the disappearance of mental symptoms complicating menstrual disturbances by operative treatment directed to the latter.

M. Routier had observed violent delirium following an operation for appendicular peritonitis, which recovered completely at the end of five weeks; also melancholia, some time after instituting drainage of the bladder for enlarged prostate, which disappeared on closing the fistula; also delirium with hypochondriasis, after double castration.

M. Hartmann did not think that the nature of the operation had much influence on any subsequent mental disturbances which might develop; ovarian castration had no special tendencies in this direction. He was inclined to lay stress on the profound mental impressions which may attend any operative interference, and on septic and other intoxications.

M. Potherot maintained that if we exclude the pseudo-mania, or delirium resulting from alcoholism, from the anæsthetic, from iodoform, etc., it will be found that real post-operative mania is very rare; that the subjects of it, while chiefly met with in gynæcological practice, are the victims of sufficient mental predisposition to account for its occurrence.

M. Tuffier referred to the infrequency of post-operative delirium in children. In a boy of twelve, on whom he had operated for the radical cure of inguinal hernia, the mental disturbance was evidently hysterical, and of very short duration. He had observed mania, lasting for thirty days, after clearing out the mastoid antrum in a woman whose mother had died insane.

M. Poirier had met with three cases of mania after ovarian castration. One of these recovered within a month, while the other two committed suicide.

M. Bouilly, among several thousand operations, had only observed five cases, and two of these were insane before the operation; a third was in a state of senile dotage; in the remaining two, the mania followed upon unimportant operations, and was quite unexplained. He believes that the exaggerated fear of operation, which one often meets with in women, is an important factor in the production of mental instability, and recommends regarding it as a contraindication, when very pronounced.

The Bubonic Plague in Formosa.—Dr. J.-J. Matignon, assistant surgeon to the French legation at Pekin (*Archives cliniques de Bordeaux*, June), states that the bubonic plague exists in the island of Formosa and that the Japanese army has suffered from it. Accounts hitherto are few in number and are only published in Japanese. The plague was particularly studied at Tac-Ho-Kon by a commission of Japanese army surgeons—namely, Morita, Kamakowra, Hakamoura, and Kaoki—from October to November, 1896.

The disease appeared to have been introduced from Amping, at the opposite end of the island, at which place it prevailed from September to November, by a merchant who, arriving in September at Tac-Ho-Kon, died soon after from what was then thought to be malaria. Almost at the same time some of his neighbors were carried off in a few days. The disease spread rapidly, and the patients who were thought to be affected with malaria presented buboes. A great mortality in rats and mice was noticed at the same time by the inhabitants, whence the disease was named the epidemic of rats. In October three military messengers succumbed, and their blood was found to contain the bacilli of the plague. The epidemic attained its height at the end of October. Fifty cases, divided as follows, were studied by the Japanese surgeons: Natives, four cases; military workmen and employees, forty-two cases; soldiers, four cases. There were twenty-two deaths, giving a mortality of forty-four per cent. The mean age of the patients was twenty-five years. The duration of incubation was very difficult to determine, but appeared to the Japanese physicians to average about four or five days. There were rarely any prodromata; when they were present they consisted of a general enfeeblement, cephalalgia, repeated rigors, a rapid rise of temperature, with insignificant remissions, and acceleration of the pulse. The access is especially characterized by a profound prostration, a typhoid state of the most severe kind, with high temperature and the appearance of buboes.

To review each organ of the system: The pulse corresponds with the temperature. As the latter rises to 102° F., 103° F., or 104° F., the pulse mounts to 110 or 120. Strong at first, it rapidly becomes enfeebled, irregular, and at times dicrotic. The skin is dry and hot. Perspiration is absent, and it is only in his last moments that sweats supervene, and then with severity. The extremities, especially the hands and forearms, very early become cyanosed; the limbs at first sight appear to be frostbitten. The countenance is downcast, the eye injected. The tongue, at first white, quickly becomes dry, and covered, as well as the teeth, with fur. The patients complain most of headache of a character sometimes weighing down, sometimes lancinating, and exacerbated by the least movement. The ideas soon become clouded. The torpor in which the patient is so deeply plunged, however, sometimes gives place all of a sudden to extreme agitation. Delirium is not infrequent; the patients often try to rise and escape. Deafness is common. The throat is dry and burning, and thirst severe. The appetite is either destroyed or perverted. There is nausea, especially at the onset, often followed by vomiting, which is usually bilious.

Constipation is present in about three fourths of those attacked. The others have diarrhœa with yellow stools, seven or eight daily.

In only six cases out of fifty was the liver enlarged. In nearly all the patients the spleen was hypertrophied, but the Japanese physicians were in doubt whether the enlargement of this organ was due to the disease, since most of their patients had suffered from malaria and beri-beri, both of which diseases affect the spleen. However it be, the physicians do not regard lesions of the spleen as the rule in plague.

Dr. Matignon has made (*Journal de médecine de Bordeaux,* Nos. 19 and 20, 1898) identical observations of this disease, as regards the liver and the spleen, in China. The dilatation of the right heart is common, as well as a weakening of the first sound, asystolic at the apex; the second pulmonary sound has often a shrill tone. The lungs show nothing of interest either on auscultation or percussion. The gluey, barley-sugar sputa of the pneumonia of plague were always absent. The abdomen is sometimes tympanitic. The abdominal wall may be slightly hyperæsthetic and palpation thus be painful. The urine is dark, scanty, and acid. Anuria has been noted, but no albuminuria has been observed.

The bubo, by the pain it causes, early attracts the patient's attention. Usually it appears at the same time as the fever, or very shortly afterward. Very often the patient complains of pains in the region of the glands, yet neither by sight nor touch can any enlargement of the glands be made out. The seats of election are the axilla, the neck, then Scarpa's triangle. The grouping of many inflamed glands together often gives rise to considerable tumors. In only two out of the fifty cases have both groins been affected. The bubo, when found, is hard, painful, and tender on pressure, and this pain may be often the only thing to which the patient remains sensitive in his profound depression. The skin around the swollen glands is red. Erythematous patches, as large sometimes as the two hands, may cover half the internal surface of the thigh, reaching up to Poupart's ligament. The skin has always appeared movable over the gland. Suppuration occurs in the gland usually between the seventh and tenth day. In exceptional cases it has appeared by the fifth day. The blood contains, besides the bacilli, a great increase of white blood cells.

Death ensues usually during the acute period of the disease, toward the fourth day. The most usual cause appears to lie in the state of the heart, the progressive enfeeblement quickly arriving at collapse. It is by no means rare to see patients, after having well passed through this subacute stage of the disease, fall into a state of depression, which, progressing slowly but steadily for five or six days, finally ends fatally. Ordinarily, however, those patients who resist the first four or five days of the disease have a good chance of recovery. The prognosis is dependent on the condition of the heart.

No serum injections were made; camphor and quinine were used without result.

As regards the entrance of infection, out of fifty examinations the Japanese physicians only found six having any cutaneous wound whereby the entrance of the specific germ might be aided.

Operation versus Taxis in Strangulated Hernia.—Mr. W. McAdam Eccles (*West London Medical Journal,* July) says: "Taxis may obviate; operation may have to follow on ineffectual taxis; or operation may be performed without any previous attempt at taxis." He holds that taxis should take the premier place at the two extremes of life, infancy and extreme old age, but that herniotomy should be preferred to taxis in the majority of cases of strangulated herniæ occurring in middle life. The specific advantages of operation he holds to be as follows:

1. The contents of the sac will be entirely spared the risk of serious injury by the manipulation to which they are subjected by taxis. There is a very grave and real danger of producing ecchymoses in the wall of the bowel, and I am sure that the failure in the recovery of the bowel after reduction is, in many cases, due to this bruising setting up inflammation. Moreover, actual laceration is not unknown as the result of indiscreet taxis.

2. An accurate investigation of the condition of the contents of the sac can be made after incision. When they are exposed to view, there is also the certainty that they will be dealt with in the way in which their actual condition demands.

3. The fluid which is exuded from the blood-vessels of the bowel wall into the cavity of the sac rapidly becomes septic, owing to the passage of micro-organisms through the congested intestinal wall, and among the most frequent is the *Bacillus coli communis*, so often the producer of septic peritonitis. This fluid must of necessity be returned into the abdominal cavity if taxis is employed with success; on the other hand, if an operation is performed, all the fluid contents of the sac can be thoroughly washed away by an antiseptic solution, and the viscera cleansed before they are returned.

4. Further, a herniotomy enables the surgeon to proceed to the obliteration of the sac and the more or less complete closure of the aperture through which the hernia has escaped—both with a view to the prevention of the return of the protrusion. Such a complete operation will, moreover, do away with the likelihood of a recurrent attack of strangulation, which the patient still remains ever liable to when treated merely by reduction and truss.

On the other hand, he says, there are certain facts which tend to militate against a perfectly safe performance of an operation for the relief of a strangulated hernia:

1. The careful preparation requisite in order to secure that asepsis which is all important takes some time, in fact, a not inconsiderable amount, all of which period the contents of the sac remain strangulated, their circulation impaired, and their nutrition endangered.

2. A general anæsthetic is usually required, and this in itself is not without its dangers, for there is no time for any preliminary preparation for it, and the patient has in most cases repeated attacks of profuse vomiting, which are highly hazardous under an anæsthetic. Many of the smaller-sized strangulated herniæ can be satisfactorily dealt with by operation with the use of a local anæsthetic alone, but a thorough operation with a view to cure can hardly be performed under these conditions.

3. Sepsis should, of course, be easily avoided and certainly so, but failure to obtain asepsis may occur, and this complication is so serious a matter that the fear of it deters many from operating before applying taxis. Suppuration in the abdominal wall might not lead to anything more annoying than delay in the process of healing, but infection of the peritonæum may cause fatal septic peritonitis.

4. If too free an incision of the structures forming the stricture be made, a larger aperture may result than was present before and a worse hernia follow.

5. Also after operation a patient is confined to bed for some length of time.

6. Lastly, there has to be taken into account the not unnatural shrinking, on the part of the sufferer, from any procedure which requires incision.

Cimicifuga in Tinnitus Aurium.—Dr. Albert Robin and Dr. Mendel (*Médecine moderne,* May 11th; *Medical Bulletin,* July) extol cimicifuga in this complaint, and cite, among other cases, one in which a plug of wax, the obvious cause of the buzzing, was purposely left, while the buzzing disappeared in two days under treatment. Here are their conclusions: 1. Buzzing of the ear may be considered as the reaction of the auditory nerve to direct or reflex irritation. 2. Cimicifuga racemosa possesses an action upon the auricular circulation and upon the reflex irritability of the auditory nerve. The average active dose is thirty drops of the extract a day. 3. Buzzing which has existed more than two years appears difficult to influence by cimicifuga.

Infantile Scorbutus.—Dr. C. E. Allen (*Vermont Medical Monthly,* April), in a paper read before the eighty-fourth annual meeting of the Vermont State Medical Society, points out that while careful observers have failed to record any cases of scurvy in infants at the breast or in those fed with an ample supply of good cow's milk, those fed upon oatmeal and water, bread and water, desiccated foods, peptonized condensed milk, etc., with a very limited supply of fresh milk or none whatever, are the subjects in whom scurvy is seen to develop, and that in these cases in children, as with adults, the improvement following the use of antiscorbutics is a most convincing proof that the condition is one of true scurvy.

He then records two cases. In the first, the child did well up to the age of eight months, when it became fretful, lost flesh slightly, had a variable appetite, seemed uncomfortable in any position, and had other symptoms leading to a suspicion either of rheumatism or of injury by the nurse. The child would wake crying in the night and be relieved by a change of position; could not bear any weight upon its feet, was sensitive to the touch, the tongue was inflamed, and the gums were purple and swollen. There was no diarrhœa, and the child did not care for food, though it did not seem to disagree. A change of diet from condensed milk and farinaceous food to fresh cow's milk, Mellin's food, orange juice, potato pulp, and celery juice resulted within twenty-four hours in improvement, which progressed uninterruptedly to recovery. The second case resembled the first, but that the gums were only slightly affected. Here, also, a change of diet to undiluted cow's milk and orange juice resulted in an immediate change for the better, and the child is now in excellent health.

Dr. Allen emphasizes the following points in these clinical records: 1. An absence of digestive disturbances to warn us that the food was inefficient. 2. The misleading symptoms that pointed to rheumatism or infantile paralysis. 3. The few symptoms present to lead one to suspect scurvy.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending July 14, 1898:*

BANKS, C. E., Surgeon. Granted leave of absence for two days from July 5, 1898. July 2, 1898.

PECKHAM, C. T., Passed Assistant Surgeon. To report to chairman of board of examiners at Washington, D. C., for examination to determine fitness for promotion. July 12, 1898.

BROOKS, S. D., Passed Assistant Surgeon. To report to chairman of board of examiners at Washington, D. C., for examination to determine fitness for promotion. July 14, 1898.

WHITE, J. H., Passed Assistant Surgeon. To proceed to Fort Monroe, Va., for special temporary duty. July 13, 1898.

CARRINGTON, P. M., Passed Assistant Surgeon. To report to chairman of board of examiners at Washington, D. C., for examination to determine fitness for promotion. July 13, 1898.

PERRY, J. C., Passed Assistant Surgeon. To assume temporary command of Port Townsend quarantine during absence of Passed Assistant Surgeon S. D. BROOKS. July 14, 1898.

BROWN, B. W., Passed Assistant Surgeon. To proceed to Fort Monroe, Va., for special temporary duty. July 14, 1898.

DECKER, C. E., Assistant Surgeon. Placed on waiting orders from July 23, 1898. July 7, 1898.

Society Meetings for the Coming Week:

TUESDAY, *July 26th:* Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *July 27th:* New York Academy of Medicine (Section in Laryngology and Rhinology); American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Gloucester, N. J., County Medical Society (quarterly); Berkshire, Massachusetts, District Medical Society (Pittsfield); Middlesex, Massachusetts, North District Medical Society (Lowell); Philadelphia County Medical Society.

THURSDAY, *July 28th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Pathological Society of Philadelphia.

Births, Marriages, and Deaths.

Born.

MABBOTT.—In New York, on Wednesday, July 6th, to Dr. and Mrs. J. Milton Mabbott, a son.

WHEELER.—In New York, on Friday, July 8th, to Dr. and Mrs. Claude L. Wheeler, a daughter.

Married.

ANDERSON—PERSON.—In Port Gibson, Mississippi, on Thursday, July 14th, Dr. Lomax Anderson, Jr., United States army, and Miss Louise Person.

FLEMING—JANIN.—In New Orleans, on Thursday, July 14th, Dr. Milton S. Fleming and Miss Elmire Josephine Janin.

PRATT—SMITH.—In New York, on Thursday, July 14th, Mr. James Madison Pratt and Miss Lucille Carroll Smith, daughter of Dr. Stephen Smith.

WOODEND—HOWARD.—In New York, on Thursday, July 14th, Dr. William Edwin Woodend and Miss Jennie Louise Howard.

Died.

WIENER.—In Long Branch, N. J., on Thursday, July 14th, George S., infant son of Dr. Alfred Wiener, of New York.

WILSON.—In New York, on Sunday, July 17th, Dr. John Hewitt Wilson, in the seventy-ninth year of his age.

Letters to the Editor.

THE STATUS OF THE DENTAL PROFESSION.

117 WEST NINETY-THIRD STREET, *July 1, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the June 25th number of the *New York Medical Journal* I notice that representation has been given on the British Medical Council to the dental profession. This is a long delayed and justly given honor to a branch of medicine and surgery. Until within the last few years such recognition was not deserved, but now, especially in New York State, where education in dentistry requires three years of study, necessitating a complete and comprehensive study of anatomy and the dissection of the whole body, complete physiology instead of the cursory study of the physiology of digestion, materia medica and therapeutics in their broader relations to physiology and pathology, chemistry broader than simple metallurgy, and operative and mechanical dentistry simply as an addendum to the very thorough pursuit of medical branches, it is time that some such recognition should be given here. The dental graduate of New York State to-day is a much more thoroughly educated medical man than the graduate of our medical college five years ago. Four years' intimate association with dental education has clearly demonstrated this to my positive satisfaction.

DWIGHT L. HUBBARD, M. D.

THE ABUSE OF MEDICAL CHARITY.

63 EAST SEVENTY-NINTH STREET, NEW YORK, *June 27, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the *Journal* of June 25th appeared a statement, under the title of The Abuse of Medical Charity, which certainly calls for some criticism. Uncriticised, it would convey to the minds of nearly every one the impression that the committee mentioned as devoting "all of its time to seeking out a remedy" failed in its noble intention through no fault of its own, whereas, if the truth were known, it would be seen that the cause of failure was the unwillingness of this committee to do what was right and just.

We can pass over the opinion "that the system of charging small fees for medicine and apparatus" is an important factor in the production of the "abuse," because there is nothing in it. It is true that this system prevails, and it is perfectly justifiable; it does no harm to the profession, and is the means of aiding the dispensaries in carrying on their work, and, if stopped, would entail increased expense to the city or State. Very few people pay for instruments and drugs under the mistaken impression that by so doing they are entitled to free treatment; a very large proportion of the people treated in dispensaries know that they get the free treatment because they are unable to pay for it, and that they can get drugs and apparatus free, as well, when necessary. A resort to such phrases as "bargain-counter prices," "pauperization of the people," etc., should not be made, as these phrases are merely catchwords, and flimsy ones at that, which do not help the cause, but rather serve to injure it. The same may be said of the use of the phrase "the great evil." We know, as everybody knows, that the only evil connected with the abuse of medical charities is that it robs the medical profession of just and legitimate fees, and we have a right to demand that, be the evil great or small, it ought to stop; that if we are willing, as a profession, to give our services to the poor for nothing, it is only right that we should receive fees from those who are able to pay for them.

It is not necessary to say that fifty per cent. of the people of New York city receive free treatment, because everybody knows that such an assertion is not true.

It is not necessary to exaggerate at all. If only ten per cent. of the people attending dispensary clinics are able to pay for treatment, we have a right to demand that that number be refused treatment. Granted, then, from a medical standpoint, that we have a right to demand fees from people who are able to pay, and that these people should be excluded from treatment in free medical institutions, the question is how can we bring about the condition we seek? Surely, the desired end can not be attained by persistently antagonizing the very people who can aid us in bringing it about.

Your article in the issue of the 25th inst. states that this joint committee, of which Dr. Wiggin was one, sent a letter to the managers of all the dispensaries in the city, asking, 1. Whether the dispensaries approved of the effort to abolish abuses. 2. Whether the dispensaries would cooperate with the committtee of the Medical Society of the County of New York toward this end. 3. Whether the dispensaries would display a placard that after a certain date every applicant would be investigated. Your article states that seventy-six dispensaries replied to this letter, and, while many of the smaller dispensaries replied in the affirmative, the more important ones either replied affirmatively only on condition that all dispensaries should agree to act, or declined to have anything to do with the matter. It soon became apparent that it would be impossible to get the managers of all the dispensaries in the city to agree voluntarily to any general plan.

Let us look at the report of this committtee to the county society, as embodied in the minutes of the meeting of May 24, 1897. On page 168 we read: "Replies to this letter have been received from seventy-six dispensaries. Of the nineteen dispensaries ignoring the first circular letter and a duplicate sent out on the 1st of April, five are homœopathic, two are under the supervision of the Department of Charities, and the remaining five are either private or church institutions at which but a small number of patients living in the immediate vicinity are treated. These replies are affirmative, or conditionally affirmative, to all three questions, with the exception of those received from the dispensary of St. Mary's Free Hospital for Children, and the Out-patient Department of the New York Hospital." So we see that the assertion made in the *Journal* does not correspond with the report of the committee aforesaid, because affirmative, or conditionally affirmative, replies were received from all who replied, except two, and these seventy-four replies included all the larger and more important dispensaries in the city.

It did not soon become apparent that it would be impossible to get the managers of dispensaries to agree on any plan, for the committee took no steps whatsoever to ascertain whether this was the case or not; it offered no plan, but spurned the expressed willingness of the managers to cooperate, and took up a bill which would have taken the entire control of the dispensaries away from these managers.

Dr. Wiggin knows that, again, during the legislative session of 1898, his committee refused to consult or cooperate with the committee of the dispensary managers, and that he wrote the letter saying that the committee, of which he was a member, declined a conference, after he himself had taken steps to bring such a conference about.

There are good and sufficient reasons why the managers of the dispensaries in this city do not feel that it is safe to vest in the State Board of Charities powers greater than it possesses at the present time. This board has power now to visit and inspect and to make rules and regulations governing the reception and retention of inmates in all institutions which are of a charitable, eleemosynary, correctional, or reformatory character, whether State, county, or municipal, incorporated or unincorporated, public or private, and in the event of any institution subject to its supervision refusing to carry out the rules thus made, can call upon the district attorney of any county, or the attorney general of the State, and they are compelled by law to take such steps as are necessary to compel compliance. These are powers sufficient to correct any evils which may exist in the management of these institutions; and to make these powers even more arbitrary, to give to this board the right to close institutions without resorting to legal procedure, would be to establish a precedent which, if it were carried out so as to include banks, railroads, insurance companies, and others, subject to the control of State boards similar to the State Board of Charities, would make the existence of these institutions so uncertain, and of such a precarious nature, as would utterly destroy the confidence of the community in them, and lead to the greatest wrong and the grossest injustice.

We have had, in the case of the State Board of Charities, an example of this very thing. During the past winter this board issued to a homœopathic dispensary, at the instigation of certain members of the joint committee having the dispensary bill in charge, a charter, which the managers of said dispensary had been vainly endeavoring to obtain for nearly two years; and this charter was promised, so we are informed, to this dispensary by these members of this joint committee, some of whom are members of the county society and of the county association, as a bribe to obtain the indorsement of the Homœopathic Medical Society for the dispensary bill.

It is not to be wondered at that the dispensary managers of this State, who are custodians of millions of dollars of trust funds, should look with disfavor on the efforts of certain members of the State Board of Charities to obtain control of these institutions, nor is it less surprising that the members of the medical profession who are familiar with the incapacity of this board should view it with equal distrust.

Evils there may be in the distribution of free medical treatment, and it has not been denied, although there may be differences of opinion as to its extent, but these evils, such as they are, are not to be remedied by injustice. It is not necessary that unjust laws should be passed, putting it in the power of an easily influenced State board to make rules such as it would be impossible for the institutions to comply with and still conduct their affairs; nor do the sober-minded members of the medical profession desire any such radical measures. Recourse to the published *Transactions* of the Medical Society of the County of New York for the past year will demonstrate to any one who is unprejudiced that the present managers of that organization are entirely responsible for the failure of any cooperation between the managers of dispensaries and the medical profession to bring about needed reforms. It is not too late even now. The dispensary managers are perfecting a permanent organization, a majority of whose members are willing to unite with us in correcting dispensary abuses, and it only remains for the Medical Society of the County of New York to elect to office gentlemen who are willing to do that which is right, and, instead of keeping alive this spirit of antagonism which is now rampant, cooperate with the dispensary managers' organization, and in a short time we shall see the medical profession in full possession of what is theirs in all justice. Frank Van Fleet, M. D.,

Chairman of the Committee on Legislation of the Medical Society of the State of New York.

PRECISION OF TERMS IN DISEASES OF THE STOMACH.

126 East Twenty-ninth Street, New York, *July 9, 1898.*

To the Editor of the New York Medical Journal:

Sir: Allow me to add to Dr. Aaron's suggestions and remarks in to-day's issue of your journal one word in regard to our nomenclature or lexicology: each and every hybrid word defacing our noble scientific literature should at once, and once for all, be eliminated. It is painful to see even in Dr. Aaron's paper such words as *termino-λογία, γαστρό-succo-ρροια.*

Let us also, and first of all, understand what is the meaning of such foreign words as we employ, that we may not any more speak of a pathological condition when we have to deal with a nosological affection. Let us name things by the right name. Hybrid words are miserable corruptions. A. Rose.

Book Notices.

Ear Records: A Method of Recording Ear Cases. Arranged by John C. Lester, M. D., Fellow of the American Academy of Medicine, etc., and Vincent Gomez, M. D., Assistant Surgeon, New York Eye and Ear Infirmary, etc. New York: J. W. and George H. Hahn, 1898. Pp. 175.

The authors have succeeded in compiling a system of recording ear cases which is, if possible, too complete; at any rate it is too bulky. We should consider it more valuable as a record book if it had more blank space or, better still, if it were interleaved with blank pages.

Under the heading "functional examination" there is provision made for one examination only. As it is often necessary to make a series of tests during a course of treatment, there should be several forms provided for this purpose, especially for the watch, voice, and tuning-fork tests.

There should be a blank space adjoining the diagrams of the membrana tympani for notes, etc.

The arrangement of the index is inconvenient, the usual form being greatly preferable.

BOOKS, ETC., RECEIVED.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish Authors. Edited by William F. Norris, A. M., M. D., and Charles A. Oliver, A. M., M. D., of Philadelphia. Volume III. Local Diseases, Glaucoma, Wounds and Injuries, Operations. With Fifty Full-page Plates and One Hundred and Eighty-six Text Illustrations. Philadelphia: J. B. Lippincott Company, 1898. Pp. xii-3 to 962.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat, and Ear. By W. Scheppegrell, A. M., M. D., Late Assistant Surgeon to the Eye, Ear, Nose, and Throat Hospital, New Orleans, etc. With One Hundred and Sixty-one Illustrations. New York: G. P. Putnam's Sons, 1898. Pp. xiv-403.

Archives of the Röntgen Ray (formerly Archives of Skiagraphy). Edited by W. S. Hedley, M. D., M. R. C. S., in charge of the Electro-therapeutic Department, the London Hospital, and Sydney Rowland, M. A., M. R. C. S., etc. Vol. II. No. 4. London: The Rebman Publishing Company, Limited, 1898. Pp. 61 to 97. [Price, $1 each part.]

Sir Benjamin Collins Brodie. By Timothy Holmes, M. A., F. R. C. S. New York: Longmans, Green, & Co., 1898. Pp. 9 to 256.

William Stokes. His Life and Work (1804–1878). By his Son, William Stokes, Surgeon in Ordinary to the Queen in Ireland. New York: Longmans, Green, & Co., 1898. Pp. 9 to 256.

First Aid to the Injured. St. John Ambulance Association. Being the Ambulance Department of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England. Annual Report of the Central Executive Committee, 1897.

Seventeenth Annual Report of the State Board of Health of New York for the Year ending February 1, 1897.

Maps accompanying the Seventeenth Annual Report of the State Board of Health of New York.

The Transactions of the Medical Society of the State of California. Twenty-eighth Annual Session, held in Fresno, April, 1898. Volume XXVIII.

Bulletin of the North Carolina Board of Health. Volume XIII. No. 2. Progressive Loss of Brain-weight in Dementia. By Warren L. Babcock, M. D., of Ogdensburgh, N. Y. [Reprinted from the *Philadelphia Medical Journal.*]

A Review of the Dangers and Evils of Bicycling. By C. C. Mapes, M. D. [Reprinted from the *Medical Age.*]

Notes on Suicide. By C. C. Mapes, M. D. [Reprinted from the *Medical Age.*]

Prostatorrhœa Simplex and Urethrorrhœa ex libidine. By F. R. Sturgis, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Menopause Amnesia and the Bromides. By Joseph D. Anway, M. D., of Chicago. [Reprinted from *Medicine.*]

La Urotropina (Exametilentetramina) e la sua azione terapeutica nelle malattie delle vie urinarie. [Estratto dal *Giornale internazionale di medicina pratica.*]

Nuove ricerche sull' azione della diuretina (Knoll) nelle cardiopatie e nefropatie. [Estratto dal *Giornale internazionale di medicina pratica.*]

New Inventions, etc.

A NEW FORM OF INSTANTANEOUS CUT-OFF.

By Henry W. Wandless, M. D.

This cut-off forms an important part of my constant-current ear syringe recently published in the *Medical Record,* and is indicated in the illustration of that apparatus by the letter A.

I did not deem it advisable to describe it in detail in connection with the description of that instrument, fearing that such a description as is necessary for it would confuse the reader in his understanding of the mechanism of the ear apparatus as published in the *Record* of May 21st.

In order that its application may be clearly understood, I add the cut of the ear syringe in which, as stated above, the cut-off is indicated by A, Fig. 1. This cut-off is especially adapted to control currents of compressed air in the operation of constant-current streams (as in the operation of my ear syringe, sprays, and atomizers), but it is adapted to liquid substances as well, and was designed with a view especially to efficiency, durability, and convenience.

All of the different forms of cut-offs that I have used (and I usually kept several on hand) have been deficient in one or more essential features—all leaking after having been in use a short time unless repairs are kept up constantly. It is very annoying to find, when necessity demands a full charge of compressed air, that the tank or receiver is empty, having discharged through a defective cut-off. This has happened to me many times, and I am sure others have experienced like annoyances. In view of these facts, and because this cut-off has been highly satisfactory to me, I feel justified in recommending it to the profession.

I have been informed by the instrument-makers who have examined this cut-off that it is constructed upon rational mechanical principles. They have also informed me that there is a great demand for a superior instrument. I trust this one will supply that demand.

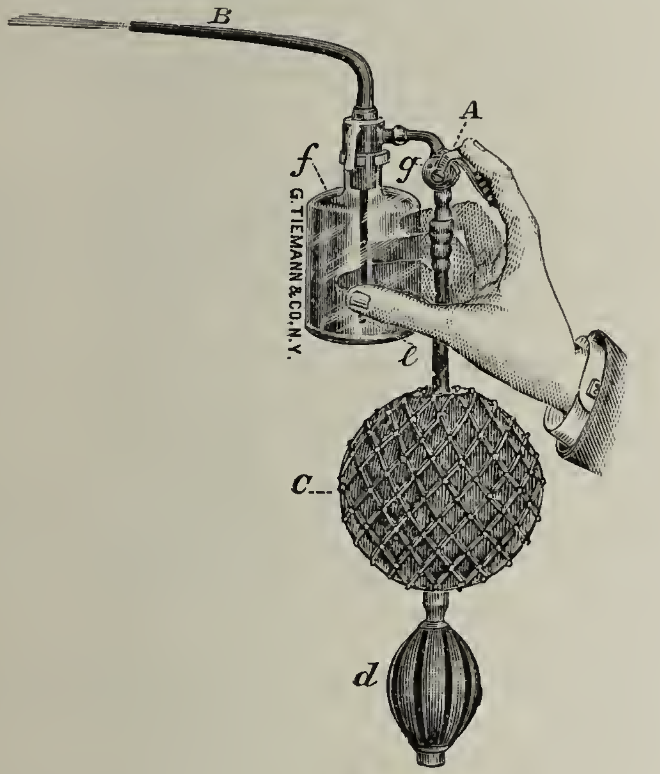

FIG. 1.

Figs. 2 and 3 are vertical sections of the cut-off made to expose the openings and to show their relations in different positions. The different parts are represented by different letters, as are also the openings. The latter may be called parts, but in the description they are referred to as openings. L, N, O, P, B, and H are the openings referred to, and the important mechanism of the instrument depends on shifting the cylinder (K) so as to keep one of its openings closed, so that when the escape (G) is open the feed M is closed, and *vice versa*. By this arrangement, the escape of air can only occur after M is closed. The escape is instantaneous with cutting off of the source of air pressure, and provides for instantaneous relief of surplus pressure in the spray or syringe bottle, which discontinues the operation instantly, otherwise the operation or flow of the spray would continue a few seconds, throwing the liquid into the patient's face or upon his clothing. Most of us are perfectly familiar with this most disagreeable consequence.

Fig. 2 is intended to show the relief or escape open, with the source of air cut off; L and M are disconnected; G and N and O and P are connected; thus the supply of air is cut off and the escape is open.

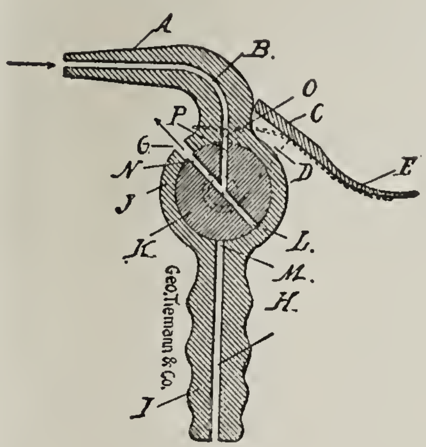

FIG. 2.

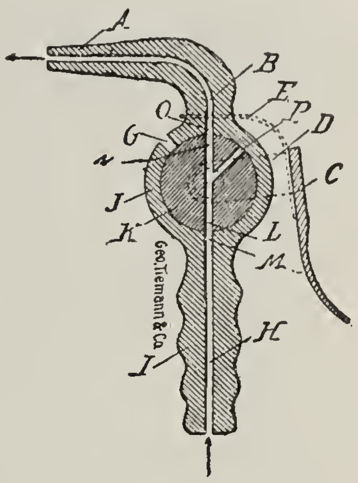

FIG. 3.

Fig. 3 is intended to show the escape closed and the feed to the air supply open. In this position the current flows continuously. L and M are connected, as are also N and O, while G and P are closed. This shift in the cylinder and change in the relation of the openings is effected by depressing the trigger (C), which revolves the cylinder (K) in the casing (J). When the lever or trigger is released, the cylinder is returned to position in Fig. 2.

The casing (J) and cylinder (K) are slightly larger at one end, the cylinder fitting accurately into the casing, and by the arrangement of clasp on either end of the cylinder their surfaces are adjusted automatically, as they wear slightly by continued use. The nozzle (A) is placed on top of the cylinder in order that the openings may be better arranged, adding greatly to the effectiveness of the instrument; besides this, such an arrangement brings the cut-off much nearer the bottle and is more easily manipulated than when farther off and placed on the side. The stem (I) is corrugated transversely, which holds the tubing better and does not need to be tied to prevent leakage.

An essential feature of this, as of all instantaneous cut-offs, is the fact that it opens the escape the moment the current is cut off, insuring instant escape and relief of surplus pressure in the bottle.

Tiemann & Co. are makers of this cut-off.

39 West Thirty-sixth Street, New York.

Miscellany.

Virtue has its own Reward.—Dr. Love once said, with regard to medical meetings, it was desirable that a man should come away having imparted something if possible, but that it was imperative that he should at least have picked up something. Here is something, quoted from *Love's Medical Mirror* for July, that the genial doctor "picked up" in Denver: A bright little Denver boy, one of a class of children six or eight years old who had been requested by their teacher to write a story, selecting their own subjects, and whose compositions were not to be subject to revision by the teacher, but to be read before the children's parents exactly as written, submitted the following:

Virtue has its own Reward: A poor young man fell in love with the daughter of a rich lady who kept a candy shop. The poor young man could not marry the rich candy lady's daughter because he had not money enough to buy furniture. A wicked man offered to give the young man twenty-five dollars if he would become a drunkard. The young man wanted the money very much so he could marry the rich candy lady's daughter, but when he got to the saloon he turned to the wicked man and said: "I will not become a drunkard even for great riches. Get thee behind me, Satan." On his way home he found a pocketbook containing a million dollars in gold. Then the young lady consented to marry him.

They had a beautiful wedding, and the next day they had twins. Thus, you see, "virtue has its own reward."

Extirpation of a Large Goître of Thirty-five Years' Growth.—Dr. A. C. Bernays (*St. Louis Medical Gazette,* July), who, by the way, seems nothing daunted by the recent action against him for publishing portraits of patients illustrating his cases, describes a case of an enormous goître which he successfully removed, the wound healing by first intention. It is now over three months since the operation was performed, and none of the ill results so much feared by some have so far shown themselves. He describes the patient, aged sixty-three, as "rejuvenated." The pictures are distinctly helpful toward realizing the magnitude of the goître and the complete success of the operation.

Acute Bright's Disease in a Three-months-old Infant.—Dr. T. B. Greenley (*American Practitioner and News,* June 15th) records a case of acute Bright's disease ending fatally in seventeen days in a child three months old, and not consequent upon a skin affection or scarlatina.

Aphorisms for Army Surgeons.—Dr. Nicholas Senn (*Journal of the American Medical Association,* July 9th) thus sums up an excellent paper on the Modern Treatment of Gunshot Wounds in Military Practice:

1. In theory and practice military surgery is equivalent in every respect to emergency practice in civil life.
2. The wounded soldier is entitled to the same degree of immunity against infection as persons in civil life suffering from similar injuries.
3. The fate of the wounded rests in the hands of the one who applies the first dressing.
4. The first dressing should be as simple as possible, including an antiseptic powder composed of boric acid, four parts; salicylic acid, one part; a small compress of cotton, safety pins, and a piece of gauze forty inches square.
5. Any attempt to disinfect a wound on the battlefield is impracticable.
6. The first dressing stations and the field hospitals are the legitimate places where the work of the hospital corps and company bearers is to be revised and supplemented. All formal operations must be performed in the field hospitals where the wounded can receive the full benefits of aseptic and antiseptic precautions.
7. Probing for bullets on the battlefield must be absolutely prohibited.
8. Elastic constriction for the arrest of hæmorrhage must not be continued for more than four to six hours, for fear of causing gangrene.
9. The X ray will prove a more valuable diagnostic resource than the probe in locating bullets lodged in the body.
10. Gunshot wounds of the extremities must be treated upon the most conservative plan, the indications for primary amputation being limited to cases in which injury of the soft parts, vessels, and nerves suspends or seriously threatens the nutrition of the limb below the seat of injury.
11. Operative interference is indicated in all penetrating gunshot wounds of the skull.
12. Gunshot wounds of the chest should be treated by hermetically sealing the wounds under the strictest aseptic precautions.
13. Laparotomy in penetrating gunshot wounds of the abdomen is indicated in all cases where life is threatened by hæmorrhage of visceral wounds and the general condition of the patient is such as to sustain the expectation that he will survive the immediate effects of the operation.

To Clean Rusty Instruments.—Brodie (*Journal of the British Dental Association; Georgia Journal of Medicine and Surgery,* July) gives the following as an effective method of cleaning rusty instruments:

Fill suitable vessels with saturated solution of stannous chloride (chloride of tin) in distilled water. Immerse the rusty instruments and let them remain overnight. Rub dry with chamois after rinsing in running water, and they will be of a bright silvery whiteness.

The Phonation of the Letter R.—Dr. John Benjamin Hellier (*Edinburgh Medical Journal,* July), in an admirable and scholarly article on The Defective Articulation of the Consonant *R,* gives the following suggestions for a series of exercises:

I. To drill the tip of the tongue by practising the articulation of dental consonants—

Repeat each of the following many times, with as great distinctness as possible:

"Id, id, id. It, it, it. Tit, tit, tit, tat, tat, tat. I did it, thou didst it, he did it. I had it, thou hadst it, he had it. I added it, thou addedst it, he added it. Thou conceivedst it." And so on.

II. *R* combined with *s* and *t.*

The pupil must be made to understand the normal mechanism of the articulation of *r.*

(*a*) To pronounce the word "stray."

Take a deep inspiration—pronounce the *s* with a prolonged and somewhat forcible effort. Interrupt this by bringing the tongue into the position for *t.* The teeth are to be slightly separated, the tip of the tongue being placed against the palate just behind the upper teeth; let the tip of the tongue then be somewhat recurved so that the under surface touches the backs of the teeth. Lastly, suddenly liberate the pent-up current of breath and so add the *r* sound. Thus—"s-s-s- T—ray."

(*b*) Make a similar attempt, with the substitution of *d* for *t.* Thus "s-s-s- D—ray."

This exercise must be practised for five minutes at a time, and may be repeated several times daily. No advantage will be gained by fatiguing the muscles, and repeated practices for short periods is likely to give the best results.

At first a loud tone of voice may be used. The pupil may be stationed at a distance from the teacher, as in a lecture hall, etc. The words may be said or sung. When some success is attained a lower tone may be used, until the words can be pronounced accurately with perfect softness.

III. Another attempt to reach the *r* by means of *t* and *d*.

The following syllables are to be repeated as many times as a single breath will comfortably allow. They are to be pronounced both slowly and also in rapid succession. The exercise may be said or sung, and practised in the same way as No. 1—

"Tettra, tettra," etc. "Doddra, doddra," etc.

IV. To pronounce the uncombined *r*. Commence as in Exercise I, with the word "stray." Then drop the *s*, then the *t*. Thus—"Stray, tray, ray." "Sdray, dray, ray," etc.

V. *R* combined with a long vowel. (In this exercise the use of singing will be helpful. Each word is to be sung slowly, the tongue-tip being brought into position for the *r*, while the vowel is being dwelt upon. Then the words may be spoken slowly—then quickly.)

"Mary, wary, weary, query, dreary, fiery, wiry, iris, glory, story, hoary, rural, showery, flowery, cowrie, lawrie, angry, hungry."

VI. Median *r* with short vowel.

(This is the most difficult series of all. Each word may be used as a separate exercise and repeated many times. Every method must be tried to attain the right pronunciation. They must be said and sung, said slowly, said rapidly. The word "very," for instance, may be repeated fifty times in rapid succession, and so with the others.)

"Arrant, arrowroot, arrest, abhorrence, barometric, barrow, berry, borrow, carriage, coral, currant, error, errant, embarrass, foreign, ferret, February, flurry, garrulous, harass, horror, hurry-skurry, irritant, irrefragable, January, Koran, literary, marry, merry, morrow, miracle, narrow, orrery, parallel, peril, pyramid, paregoric, querulous, rarefy, syrup, squirrel, spirit, sorrow, terror, tyranny, very, wherry, worry."

To test the progress of the pupil, some standard lines should be taken, which he should read or recite from time to time. When he can read these smoothly, without defect and without exaggeration, the cure is complete. Such a test is for this purpose better than exercises in which attention is concentrated on the *r*. The following are especially suitable for use:

(*a*) The Lament of Wolsey—Shakespeare, *Henry VIII*, act iii, scene ii, lines 351–372 and 428–457.

(*b*) The last stanzas of Macaulay's *Horatius*. Begin—

> "He spake to the noble river
> That rolls by the towers of Rome."

(*c*) I Corinthians, chapter xv, verse 40 to the end.

In this last passage the painful effect of an imperfect *r* is most perceptible.

The Toxic Material of Poison Ivy.—Dr. Franz Pfaff, of Harvard University, according to the *Pacific Medical Journal*, quoted by the *Medical World* for June, demonstrated this poison in 1895 to be a fixed oil, which he named "toxicodendrol," and not a volatile substance. According to Mr. V. K. Chestnut, assistant in the division of botany, United States Department of Agriculture, it is insoluble in water, but readily so in alcohol. Alkalies saponify it and it is rendered inert by an alcoholic solution of lead acetate. We can thus understand, says the *Pacific Medical Journal*, the action of certain remedies—*e. g.*, solution of ammonia, which saponifies the oil, and of Goulard's lotion. Tinctures probably depend for their efficacy on the alcohol they contain. The *Medical World*, however, demurs to this on the ground that, as it asserts, alcohol alone does not produce the same results as the fluid extracts of grindelia and serpentaria, and this journal also extols sweet spirits of nitre as a local application.

The Minute Anatomy and Physiology of the Biliary System.—Dr. Fütterer (*Medicine*, July) thus draws the following conclusions from his researches into the bile passages: 1. The roots of the bile-duct system are inside of the liver cells, as intraprotoplasmic channels, which form complicated networks, and which closely surround the nucleus. 2. An intranuclear system of bile channels communicating with the intraprotoplasmic channels does not seem to exist. 3. The intraprotoplasmic channels are in direct communication with the bile capillaries. 4. Under normal conditions the intraprotoplasmic channels are not visible, and if stagnation of bile distends them and makes them visible as networks, this happens at the cost of the protoplasm and the life of the cells. 5. While the protoplasm under such conditions perishes very quickly, the form and structure of the nucleus remain intact for a long period. 6. The bile is secreted in the form of minute drops, which first appear around the nucleus. 7. We should now use the terms: *Bile ducts, bile capillaries,* and *bile channels.*

The Medical and Surgical Monitor.—The first number of this new medical journal, published at Indianapolis, June 15th, is at hand. Its department editors are: General medicine, Dr. Allison Maxwell; surgery, Dr. William V. Morgan; gynæcology and obstetrics, Dr. Joseph R. Eastman; eye and ear, Dr. John L. Masters. It contains articles on Appendicitis by Dr. Eastman, Suggestive Therapeutics by Dr. Link, and Heart Murmurs by Dr. Scherer. There is a goodly array of editorials on a variety of subjects, with notes on the various subjects dealt with by the before-named department editors, miscellany, etc. It is a distinctly readable journal.

A Mosquito Quarantine.—The *Gazette hebdomadaire de médecine et de chirurgie* for June 23d recommends as a protection against mosquitoes that a piece of amadou about an inch square be placed at bedtime in a saucer on a metal plate. Upon this is to be put a large pinch, about as big as a nut, of powdered pyrethrum, and when the mosquitoes get troublesome the amadou should be ignited. The smoke produced by the burning pyrethrum, so the *Gazette* asserts, will infallibly drive away the mosquitoes for the night.

The Dangers of Hair Dyes.—The *Gazette hebdomadaire de médecine et de chirurgie* for June 23d states that reports continue to be made to scientific societies of eruptions—*e. g.*, eczema, erysipelas, etc.—produced by the use of hair dyes. The offending constituent, according to published accounts, is the hydrochloride of paraphenylenediamine.

The Aseptic Treatment of Open Wounds.—Friedrich (*Memphis Medical Monthly*, July), in a paper at the twenty-seventh German Surgical Congress, summed up as follows: 1. Infection of a recent wound is a local process, and remains so for five or six hours. 2. The best method of procedure is freshening the whole extent of surface. 3. When this is contraindicated, the open treatment is the best preventive of grave infection. 4. Disinfection has a favorable influence at first; it has no effect on infection actually in progress.

Hernia of the Ovary.—Dr. B. Bernard Browne (*Maryland Medical Journal,* July 9th) thus sums up his conclusions in a paper read before the American Gynæcological Society at Boston:

1. That hernia of the ovary, although not very common, occurs much more frequently than has generally been supposed.
2. That congenital hernia of the ovary is almost invariably associated with and caused by some arrest of development during intra-uterine life.
3. That congenital hernia of the ovary is always inguinal, often double, but when single generally on the left side; it is caused by abnormal descent of the ovaries analogous to the normal descent of the testicles, constituting anomalies rather than diseases, and coinciding usually with anomalies of the genital organs, such as embryonic uterus, uterus unicornis, hermaphroditism, etc.
4. That the persistence of Nuck's canal favors its production; also the size and shape of the ovary, which is at first a long, flat body, with its apex pointing toward the canal; also the fact that at the birth of the child the ovaries are yet situated above the ileo-pectineal line and descend during the first few months of the child's life into the true pelvis.
5. That as congenital hernia of the ovary occurs so frequently as a result of arrest of development and borders so closely on pseudo-hermaphroditism, it is important in all cases that the glands, when removed, should be examined microscopically.
6. That the sac in this hernia generally contains the ovary and Fallopian tube. It is irreducible, except soon after birth, on account of the adhesions formed and the early closure of the internal ring.
7. That accidental or acquired hernia may occur at any of the ordinary hernial openings, in which case it frequently follows a pre-existing intestinal or omental hernia. They are almost always unilateral and more frequent on the right side. They are most apt to occur soon after labor, when the abdominal walls are relaxed and the uterus and ovaries are above the pelvic brim. Therefore, women who suffer from any form of hernia should be carefully watched before, during, and after their confinements, so as to prevent and rectify any undue strain upon the weak point.

Strophanthus in Cardiac Diseases.—Dr. Simon P. Scherer (*Medical and Surgical Monitor,* June 15th) says that with strophanthus we get the advantage of greater rapidity of action over digitalis, absence of vasoconstrictor effects, greater diuretic power, no disturbance of digestion, and absence of cumulative effects.

Wilcox has made a careful study of the action of strophanthus during the past two years and sums up his belief as follows:

Strophanthus properly selected and prepared is the drug of choice in the following conditions:

1. All cases in which we wish to establish compensation.
2. All cases of arterial degeneration in which a remedy to cause more energetic cardiac contractions is required.
3. All cases of cardiac disease where diuresis is necessary.
4. All cases of weak or irritable heart.
5. All cases of cardiac disease in childhood or old age.

Avoiding its use in fully compensated or overcompensated hearts which present advanced muscular degeneration or mechanical defects of high degree, and given only in small doses—five to eight minims—Dr. Scherer has used it in quite a number of cases and believes it to be superior to digitalis in the class of cases just enumerated. With the importance of knowing what the lesion is in order to better instruct our patients, we can scarcely overestimate the use of a stethoscope. Correct diagnosis of valvular heart disease can not be made by placing the ear over the clothed chest. Have the patient's chest bare, and use the stethoscope with a definite knowledge of normal and abnormal sounds.

Surgical Aphorisms.—Says Dr. Morgan (*Medical and Surgical Monitor,* June 15th): When in doubt, use drainage. Soap, salt, scrubbing secure surgical safety. Medical literature could be greatly improved by a surgical operation—enucleation of the I. Nature is full of compensations. Even Thompson's colt passively serves our generation by furnishing antitoxine.

The Treatment of Appendicular Inflammation.—Dr. Joseph Eastman (*Medical and Surgical Monitor,* June 15th) thus sums up his conclusions regarding this disease:

First. The unqualified dictum, "Operate as soon as the diagnosis of appendicitis is made," is unsound, unsafe, and often pernicious.

Second. Appendicitis is a disease demanding surgical treatment at the hands of the expert in abdominal work for the reasons: (*a*) In no abdominal operation is so thorough mastery of the principles and technique of asepsis necessary. (*b*) The operator with an experience of hundreds of abdominal sections can give the patient a better chance of life than one who only occasionally opens an abdomen. This need not deter any surgeon or physician from operating in an emergency.

Third. After an attack of appendicitis the patient is carrying an open communication between the intestinal lumen and the peritoneal cavity, which, if temporarily closed, may open at any time by absorption of the exudate or adhesions which have temporarily closed the leaking sinus.

Fourth. The cases cured (?) by medicine should, during their convalescence from the cure (?), be submitted to a surgical cure in fact, not in fancy, for the reason that operation in the interval between attacks is less dangerous than medical cures.

Fifth. All cases in which an appendical abscess has been opened come under the same head as medical cures (?) and demand surgical cure in fact, not waiting for a second explosion of dynamite.

Sixth. Who would think of living in a house with a burst, leaking sewer, sending out microbic infection and poison, depending on the degree of filth, fæces, and fungous granulations or accumulations to hermetically seal up the opening? It would be contrary to all the best principles of correct *science, of good surgery, and of sound sense.*

Seventh. "Surgery should be as the handmaid of medicine, not supplanting her mistress nor yet usurping her rights, but rather assisting her to maintain them."

Antistreptococcus Serum in Scarlatina.—Dr. H. M. McConathy (*American Practitioner and News,* June

15th) translates from the *Clinique* for March a paper by Dr. Marmorek, from which the following excerpts deserve notice:

We do not yet know the microbe which causes scarlatina. There is, however, no longer any doubt as to the important part played by the association of the streptococcus in this disease as in so many others. In even the mildest cases of scarlatina, complications from streptococcus always manifest themselves either by angina, by swelling of the glands, or by traces of albumin in the urine.

At the Trousseau Hospital, during the service of Dr. Josias, Dr. Marmorek made the present therapeutic test, which lasted from the 16th of October to the 31st of December, 1895. The scarlatina was at first quite mild, but during the latter part of November it increased in virulence so that during December the severe cases were in the majority. During this time a hundred and three children suffering with the disease were received; seven were not treated with the serum because it was so long since the beginning of their cases that they were already in the stage of desquamation.

One of these children was especially interesting. At his entrance he had a nephritis which had already lasted three weeks (0.6 per cent. albumin). After staying two months in the hospital, he left without being cured. He did not receive the serum treatment. His two sisters who fell sick a little later were both injected with serum and presented no complications. There remained ninety-six children who were treated with serum of a preventive power of thirty thousand.

Bacteriological examination showed, in every case, the presence of streptococci, either alone or with other microbes. In seventeen cases the Loeffler bacillus was found. In four of these cases there were symptoms of diphtheritic intoxication, and the patients died in spite of treatment with both serums. These children had all remained several days at home without treatment. The first was put upon treatment for scarlatina on the fourth day of the disease; he received for two days antistreptococcus serum, then, as it was seen that he had diphtheria, he was injected, on the sixth day only, with antidiphtheritic serum. He succumbed to the double intoxication on the ninth day after his entrance.

The second patient had first entered the diphtheria ward; after four days he was transferred to that for scarlatina, and presented at that time a gangrenous angina which extended to the gums and lips, double adenitis of the neck, and a very bad general condition. He was given the two serums at the same time; the adenitis disappeared without suppuration, the false membrane became partly detached, the general condition improved, but the child died on the eighth day from cardiac insufficiency.

The two others died almost suddenly, one on the third, the other the fifth, day after their entrance, of quickly developed (*precoce*) uræmia. Their urine contained but very little albumin.

In one child of two years the scarlatina developed mildly, without any fever for five days, when suddenly there appeared a frank double pneumonia, to which the patient succumbed.

Every patient received, on entering, a dose of ten cubic centimetres of antistreptococcus serum, which was doubled if the general condition was bad. The treatment was restricted to antistreptococcus serum, and to antiseptic throat washes. Injections were repeated daily until the temperature fell. Ordinarily, one or two injections sufficed. As soon as adenitis or traces of albumin in the urine were noticed (adenitis, nineteen times; albuminuria, thirty-three times), the injections were recommenced and continued until the conditions became normal. The effects of the serum were transient, and it was necessary to remain always on guard, especially in this disease where complications may come late, and to begin again with the injections as soon as any manifestation of streptococcus infection appeared.

The total quantity of serum injected into one infant was from ten cubic centimetres to thirty cubic centimetres for ordinary cases; in grave cases it was carried to forty, sixty, seventy, eighty cubic centimetres. This last dose was given to a child afflicted with scarlatinal rheumatism. Into an infant four years old, attacked with broncho-pneumonia, ninety cubic centimetres were injected to obtain a complete cure.

The most manifest effect of the antistreptococcus serum was upon the adenitis. Nineteen children showed, either at their entrance into the hospital or later, inflammation of the cervical glands. These subsided in every case, giving not a single instance of suppuration. When an infection of the kidneys showed itself by traces of albumin in the urine, one or two injections sufficed to restore these organs to the normal state.

The antistreptococcus serum not only prevented severe complications, but produced, also, a rapid disappearance of the false membrane in the throat and a cessation of the delirium. Under its influence the general condition improved sensibly, and the pulse became slower and stronger. When the elevation of the temperature was due to the streptococcus, it fell after the injection of the serum, while the temperature due to the scarlatinal virus continued, and the scarlatinal eruption followed its ordinary course. These last facts seem to strengthen the opinion that scarlatina is not caused by the streptococcus which we know.

The antistreptococcus serum produced no serious inconvenience. Transitory erythema was but rarely noticed. The most rigid asepsis, however, must be observed in the inoculation.

While the number of cases of scarlatina which have been treated by the serum method is still too small to draw any definite conclusions from this therapeutic test, its favorable action upon the adenitis and the albuminuria and its influence to prevent the grave complications of scarlatina would indicate that antistreptococcus serum renders real service in the treatment of this malady.

The Street-Cry Nuisance.—According to the *Medical Standard* for July, the *British Medical Journal* states that the Lord Chief Justice of England has decided in support of the County Council of Kent, which laid down that music and cries of street venders may be forbidden within fifty yards of any public place or highway after a demand to desist—*O si sic omnes!*

A Piece of Steel in the Vitreous located by the Roentgen Rays and Removed by the Electro-magnet.—Dr. de Schweinitz (*Ophthalmic Record,* July) reported to the Ophthalmic Section of the College of Physicians of Philadelphia a case in which a radiographic examination made by Dr. Steel located about three millimetres behind the horizontal plane of the globe of the eye, and nearly two millimetres to the nasal side, and twenty-three millimetres behind the cornea, a steel splinter about three millimetres long and one millimetre wide. An incision was made through the sclera just below the lower margin of the external rectus, and the broad, flat extension point of a Hirschberg magnet introduced for fifteen millimetres, so as to bring it, as nearly as could be calculated, over the macula. On withdrawing the extension point the piece of steel, of triangular shape and weighing one seventh of a grain, was found adherent to it. The scleral wound was closed with catgut, and the conjunctiva with interrupted silk sutures.

The Consolidation of the Buffalo Medical Schools.—In an appropriate place announcement is made of the union of Buffalo University Medical College with that of the Buffalo University Medical School. There was undoubtedly some surprise among the friends of both colleges when the announcement appeared in the newspapers, and perhaps it occasioned regret on the part of some friends of Niagara, especially its alumni. On this account perhaps a few words on the subject in these columns may not be deemed out of place.

When the medical department of Niagara University was organized fifteen years ago it was believed that there was room for such an institution with advanced standards, which should include higher preliminaries, longer college terms, and separate final examinations. These were all adopted by Niagara and the history of the college shows that it was not organized in vain, nor has its example proved futile. It has served to point the way to a better state of affairs in medical education not only in this State but all over the country.

At the present time it is required in this State on the part of a medical student that he shall possess an English education equivalent to that of a graduate of a high school before he can enter upon the study of medicine. He must then attend a medical college for four years, after which, if qualified, he may receive a diploma. This, however, will not entitle him to practise; for he must now submit to an examination by the State, which, if successfully met, will entitle him to a license.

When Niagara was organized in 1883, no preliminaries were necessary, except such as each medical school might see fit to impose, two years was a legal college course, and a medical diploma, no matter how obtained we had almost said, conferred a right to practise. Who shall gainsay the statement that the bold stand taken by the faculty of Niagara in 1883 has not contributed to the conditions prevailing in 1898? Dare any one assert that Niagara as a pioneer in the movement toward higher medical education in this State is not entitled to a high measure of praise? If the school, in view of the changed conditions herein referred to, has apparently outlived its usefulness, is there any dishonor in yielding up its individuality? When the great volunteer army of the civil war had conquered a peace it disbanded and returned to civil pursuits.

Let the alumni of Niagara always feel pride in the honorable part their alma mater bore in the contest for better education, and if a feeling of regret can not be repressed at its union with Buffalo, thus sinking its identity in a measure, let it always be remembered that its fifteen years of collegiate life can be pointed to as an era that adorns the brightest page of medical history in this country—that of reform in medical education. All honor, too, to the faculty that made sacrifices to accomplish such results and that further sacrificed its separate existence as a teaching body to the spirit of the age which has announced to the people with all the forcefulness of a Delphic oracle, "There are too many medical colleges."—*Buffalo Medical Journal*, July.

J. M. Mathews, LL. D.—We learn from *Love's Medical Mirror* for July that the degree of LL. D. has been conferred by "a leading institution of learning in Pennsylvania" on the president-elect of the American Medical Association, the genial Dr. J. M. Mathews, of Louisville, Kentucky.

The Monthly Cyclopædia of Practical Medicine.—In our issue for June 4th we abstracted an excellent article having special reference to the Cuban campaign from the *Monthly Cyclopædia of Practical Medicine* for May. In the June number of that journal, the accomplished editor continues the subject of military medicine with scholarly articles on Tropical Dysentery, Tropical Diarrhœa, and Venomous Bites and Stings. The value of these contributions will extend far beyond the limits of the army surgeon, and prove of great interest to many classes of civilian practitioners.

Another Sneak Thief Victimizing New York Doctors.—Dr. Henry H. Whitehouse writes to us that a woman of slight build and medium height, dressed in mourning, calls to see the doctor who treated her husband and little girl two years and a half ago. She is a glib talker and tells the servant that husband and girl are both dead. She states that the doctor wouldn't know her now, for she was then quite stout; she lives out of town at present, and is quite timid about coming to the city alone. She has a sore throat and coughs continually, and asks the girl to kindly bring her a glass of ice water. When she returns the would-be patient is gone. The doctor, when he returns, misses a sheet of postage stamps from his desk drawer, an umbrella from the hatrack in the hall, etc.

The Heat in Philadelphia on July 4th.—This was next to the hottest day of the year in Philadelphia, the thermometer registering 99° at 2.20 P. M., when a thunder shower cooled the atmosphere. The temperature at 5 A. M. was 76°, at 8 A. M. 83°, and at 12 M. 93°. There were forty-one prostrations, seven of which resulted fatally. Those who suffered most were the children.

The Death of Professor Karl Freiherr von Rokitansky, of the Gratz faculty, is recorded in the *Wiener klinische Rundschau* as having taken place on the 20th of June. The deceased was in his fifty-ninth year. He died of renal disease.

Semmelweiss's Eightieth Birthday.—We learn from the *Klinisch-therapeutische Wochenschrift* that Professor Ignaz Philipp Semmelweiss's eightieth birthday occurred on July 1st. Apropos of the event, Dr. Békéss, of Vienna, contributes to the *Wochenschrift* an interesting sketch of Semmelweiss's life.

The Cleveland College of Physicians and Surgeons.—We learn from the *Cleveland Medical Gazette* for June that Dr. C. B. Parker has been reelected chairman of the faculty, and that Dr. N. Weidenthal has been elected professor of general pathology and Dr. Benjamin W. Holliday professor of medical jurisprudence.

The New York Pasteur Institute.—We learn that the laboratory has been removed to the Ramapo Hills, on the outskirts of Tuxedo, and that the New York office is at No. 313 West Twenty-third Street.

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Original Communications.

ACUTE GASTRO-INTESTINAL INFECTION IN INFANTS.*

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A FEW years ago, writers describing the summer gastro-intestinal derangements of infants made extensive classification of the disorder, various authors making from seven to ten divisions. Some based their classification upon the symptoms; others, who were familiar with autopsy findings, combined the two, and endeavored to classify according to the symptoms and the lesions.

Booker, in his admirable treatise on summer diarrhœa, makes but three varieties of this disorder, and this classification was brought about through the assistance of "clinical features, bacteriological findings, and anatomical changes."

Looking upon these cases of acute summer diarrhœa from the bedside, or rather considering them from a purely clinical standpoint, we are forced to include them all under one heading, that of acute gastro-intestinal infection, a poisoning process brought about through the agency of bacteria. It is a poisoning which may be induced by direct infection through the use of contaminated food, infected feeding apparatus, or by any means whereby bacteria might pass in sufficient number into the intestinal tract. The poisoning may also be brought about by indirect or self-infection. The food is unsuitable or given improperly, indigestion supervening; or, as a result of cold, heat, or any unfavorable external influence, an impression is made upon the organism whereby the proper secretory function of the stomach, liver, pancreas, and intestines is interfered with. The disinfectant digestive ferments are not furnished in quality or quantity sufficient for the performance of the work required, with the result that the bacteria of putrefaction, saprophytes so called—the *Bacterium coli commune*, the *Bacterium lactis aerogenes*, always present in the stools of the milk-fed, and other micro-organisms, the nature of which is not yet clear—are furnished by the milk diet with a favorable culture medium in the intestines.

Booker looks upon the streptococcus and the *Proteus vulgaris* as most potent causative factors in summer diarrhœa. The symptoms of fever and prostration in our patients evidence the poison, the diarrhœa and vomiting being largely conservative efforts on the part of the organism to relieve itself of the offending microbe and its production. We thus have at the onset of the illness the contents of the intestine involved, and not the intestinal structure. When lesions develop they are the result of both the action of the bacteria and their products.

This has been demonstrated to my satisfaction by two hundred and fifteen personally conducted autopsies on children who had died with intestinal derangements, or with an intestinal complication. In the rapidly acute fatal cases there was no lesion to the naked eye other than perhaps a slight enlargement of the lymph nodes. The microscope showed slight destruction of the epithelium. These cases correspond to the so-called cholera infantum, in which the patient is overwhelmed by the poison ingested in a period of time too short for the formation of lesions.

In the severe prolonged cases, those which continue for ten days or more, destructive changes in the intestinal wall will often be found. Surprises at the autopsy table, however, never ceased, and it was demonstrated that without an autopsy there can be no certainty as regards the lesions. Two cases will illustrate this statement: A child fourteen months of age had a diarrhœa, and died after an illness of two weeks from exhaustion and sepsis. The autopsy revealed extensive ulceration, extending to the peritoneal coat of the intestines in several places. The stools were examined carefully, every one of them, and contained not even a trace of blood, and but little mucus.

The second case occurred last summer, the child dying after ten days' illness from exhaustion and hyperpyrexia. Two days before death the stools were yellow and contained a small amount of clear mucus. The autopsy showed a membranous exudation involving the greater part of the large intestine.

In other cases, in which considerable blood had been passed, the autopsies showed no ulcerative changes, simply localized areas of congestion. In short, my experience at the bedside and at the autopsy table has taught me that the physician may diagnosticate the lesion of the case in question, with safety to his peace of mind and reputation, when he knows the patient will recover, or will not come to autopsy if fatal.

It will thus be seen that it is rather useless to attempt making a classification of an active disorder, according to a pathological state, when such a condition must be guessed at, at best. Further, if possible, such a classification would be of no value to the practitioner from the standpoint of the treatment; on the contrary, the indiscriminate use of the terms ileitis, ileocolitis, and colitis draws the attention from the source of trouble, the intestinal contents, to the intestinal structure.

The physician's energies, in his endeavors to stop the diarrhœa, are exerted, accordingly, upon the intestines, in the use of astringents and opium, regardless of the character of the intestinal contents and with little or no attention to the diet. The result is a high infant mortality. The terms referred to are only applicable in a pathological classification.

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* Read before the West End Medical Society, October, 1897.

In cases where there has been decided stomach involvement, there will usually be a history of a period of indigestion and direct infection. This has been the rule in nearly all of my cases of so-called cholera infantum. The excessive vomiting, the purging, the intense prostration and collapse, so many symptoms in common presented in various cases, suggest the thought of a specific poison.

In some cases of acute gastro-intestinal infection there are persistent vomiting and profuse diarrhœa; in others, vomiting without diarrhœa, or diarrhœa without vomiting. In others there is almost a cessation of bowel action with foul mucous stools (four of the latter were seen last summer). In some the stools will be largely serous, and in others largely mucous. In some the prostration will be great, in others slight.

The various phenomena and the impression made upon the patient doubtless depend upon the nature and amount of the infection, the fertility of the field of operation, age, and individual susceptibility. A classification to meet every one of the various manifestations is to make the subject more difficult.

The bacteriology of the intestines has received considerable attention of late, and while there has not been established a positive connection between any particular form of bacteria and particular form of diarrhœa, bacteria have been discovered in the stools of infants severely ill with intestinal disorders possessing extreme virulence. Some of the forms studied are apparently able to perforate the intestinal mucous membrane and enter the circulation.

There is conclusive evidence that bacteria in the intestines produce toxines which are absorbed into the circulation and produce toxic effects upon the vital organs. Through a chemical putrefactive process started up by the action of bacteria in or upon the intestinal contents, a product is formed with destructive and irritant properties sufficient to destroy the integrity of the intestinal mucous membrane, and perhaps the parts beneath. The theory of the corrosive nature of bacterial products is borne out by the location of the lesion. We find the greatest destruction of tissue in the colon and lower ileum, where the intestinal contents remain longest in contact with the intestinal mucous membrane. It is extremely rare to find even an inflammatory area in the ileum four feet above the valve. The lower one or two feet of the ileum and the colon, parts in which the peristalsis is least active, show the most marked inflammatory change.

The Management.—The first point to be realized in the management of acute gastro-intestinal infection or acute summer diarrhœa is that it is the contents of the intestines which demand our attention.

Accepting, then, the fact that we have primarily an infection, a poisoning process to deal with, the management is plain. We have the entire gastro-intestinal tract involved, containing pathogenic organisms which it must be our endeavor to remove and the field of their activity rendered as inhospitable as possible.

To bring this about, the use of certain drugs is indispensable. Equally important to the medication is the diet. The food must be of such a nature that it will be absorbed largely by the stomach, and that it will not furnish a culture medium in the intestinal canal.

With the onset of the attack one grain of calomel is ordered to be given in divided doses of a sixth of a grain every thirty minutes, if there is no vomiting. If this symptom is troublesome, it will be advisable to give from a thirtieth to a fortieth of a grain every fifteen minutes until the desired amount has been given. The calomel is indicated for the cathartic effects, the washing out of the intestines, and for its stimulating influence upon the secretory function of the liver. When a decidedly prompt cathartic action is required in those cases where there are marked prostration and infrequent foul stools, an initial dose of castor oil is to be preferred to the calomel.

The most important step in the management of our summer cases must also be brought into operation early in the attack. The milk diet must be stopped at once, whether nursed or bottle fed. It may not be necessary to discontinue it for longer than twenty-four hours. In other cases it is not only unwise but positively dangerous to allow cow's milk until two or three weeks have elapsed.

If the patient is not promptly relieved, the further progress of the illness may mean an involvement of the intestinal structure. It is well to remember in this connection that one of the first principles in the treatment of any diseased organ is rest. This the milk will not allow, the greater part of it fermenting and passing undigested the entire length of the intestinal canal, acting as a local irritant and exciter of peristalsis in addition to furnishing a means for the development of bacteria.

The writer feels that he can speak fully and feelingly regarding the disadvantage of a milk diet in summer diarrhœa. An uncomfortably large percentage of the infants who furnished the two hundred and fifteen autopsies were either put on a *sick* diet of completely sterilized milk or peptonized milk. The majority of these patients were the inmates of an institution for children in which the writer held a prolonged interne service. The profession had just taken up sterilized milk. The longer it was sterilized the better it was supposed to be. It was our custom to sterilize from one to three hours, thus procuring a highly indigestible food—one which remained sterile until it passed the child's lips—and a high infant mortality.

Since bringing into use the measures suggested in this paper, my death-rate from intestinal derangements in out-patient and private sources has been reduced to a minimum. Upon suggesting that the milk diet be temporarily suspended, many mothers will appear considerably surprised, and maintain with pride that the child is fed on *sterilized* or more or less peptonized milk.

An explanation that no process could make milk suitable for the patient, and that the entire abstinence will probably be but of a few days' duration at the longest, will always be kindly accepted and adhered to.

The patient may be given cool boiled water to drink freely, providing there is no vomiting. If there is vomiting, it may be allowed, depending, of course, on the ability of the patient to retain it.

The diet allowed consists of barley water, the barley being cooked three hours; wine whey—half an ounce of sherry wine to ten ounces of whey; liquid peptonoids, a drachm every three hours; weak albumin water—white of one egg to a pint of boiled water; beef juice, diluted, one part in twenty-four of boiled water. These are the preparations commonly selected. Others are given for special cases. To the egg water and barley water it would be well to add a little salt, which will remove the insipid taste, or one drachm of the liquid peptonoids may be added to each feeding.

Written directions concerning the preparation of the foods and the feeding must be given in every case. It is not well to select one food and use it to the exclusion of all others, as the child will soon tire of it. It is far better to make two or three preparations and alternate them. Care must be exercised in giving the egg mixture, as some children fail to digest it. It will be well to precede its administration with a grain or two of pepsin. It should not be given oftener than twice in twenty-four hours, at considerable intervals.

If vomiting is troublesome, it may be necessary to reduce the food to a minimum for a day or two, one or two teaspoonfuls every half hour. In other cases only water in teaspoonful doses will be borne by the stomach. Others will only retain a few minims when it is given by a medicine dropper. In some a period of absolute rest for the stomach, from twelve to twenty-four hours, will be required. These means, with one or two stomach washings daily, will fail in comparatively few cases. In these few, gavage (see Gavage in Obstinate Vomiting, Kerley, *Archives of Pædiatrics*, February, 1892) may help us out. When all of these means fail, the vomiting will usually be found due to brain complication. The use of drugs administered by the stomach in vomiting is extremely limited. The hypodermic use of morphine in selected cases is of considerable value, but its use is not to be generally advocated. If there is little or no gastric disturbance, the diet may be given in quantities corresponding to the amount given in health.

Closely following upon the administration of the calomel and change in the diet, the following prescription, or some modification of it, is ordered:

Bismuth subnitrate (Squibb) .	12 to 20 grains;
Bismuth salicylate	1 grain;
Water ....enough to make	1 drachm;
Aromatic tincture of rhubarb...	1 to 2 minims.

This is given hourly, twelve to twenty grains to a child one year old. The limit to bismuth subnitrate (Squibb) is twenty grains hourly. This drug, when given frequently in large doses, combined with a small amount of bismuth salicylate, one to two grains, will give most satisfactory and many times astonishing results. Small doses are without value. It is to be given when the discharges are serous as well as when there is mucus present. The only contraindication is pronounced inactivity of the bowels or when it is not well borne by the stomach, both of which conditions being rarely met with. The aromatic rhubarb makes the combination very agreeable.

If, twelve hours after bringing into use the calomel, the diet, and the bismuth compound, the stools are very frequent, Dover's powder is given, a fourth to half a grain two hours apart, to a child from six months to one year of age. The Dover's powder is given not to stop the diarrhœa, but to control the excessive peristalsis and relieve pain.

If the case is a particularly active one of several days' duration when first seen, with frequent stools, the Dover's powder is given at once. The opium must be given according to the symptoms, and must be discontinued when the stools are reduced to three or four in twenty-four hours.

There are few questions met with in pædiatrics which require a more careful exercise of judgment than the matter of opium administration in summer diarrhœa. If we give too much, we poison the patient—not opium poisoning, but by locking up the bowels we produce high fever, prostration; in short, sepsis. We must maintain free drainage, at the same time giving enough of the drug to check the excessive peristalsis, to prevent the excessive loss of fluid, and to relieve pain, or we shall lose our patient.

Four cases last summer were significant, in that there were intense prostration, low fever, 99° to 101°, and infrequent, foul, green, mucous stools. The treatment was in the repeated administration of calomel and intestinal irrigation, with diet. In one of these patients there was no passage from the bowels for three days, except upon irrigation. Irrigation of the colon is practised in every case coming under observation, if it promises any degree of severity.

A solution of one-per-cent. boric-acid or normal salt solution is ordinarily employed. If the amount of mucus in the stools is large, or if there is blood in any degree, one-per-cent. tannic-acid solution is used instead. It will rarely be advisable to use the irrigation oftener than twice daily; when practised too frequently, the manipulation with the tube may act as an irritant to the mucous membrane of the rectum and sigmoid. Two quarts of the solution suggested will usually be all that is required.

For irrigation, a soft-rubber catheter, No. 14 English, is attached to a fountain syringe, the bag of which should be held three or four feet above the patient's body. The child must lie on the back or left side, with legs well drawn up. The tip of the well-oiled catheter is passed into the rectum. When an introduction of two inches has been effected, allow the water to pass in slowly. The water will distend the parts and facilitate the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This in a child eighteen months of age will require twenty-four to thirty ounces of water. When this or a lesser amount, at least one pint, has passed in, allow the solution to run in and out at the same time. The temperature of the solution should range between 95° and 100° F., except in cases of high fever, when it may be used as cold as 60° F. When the child is moribund or an athreptic, with a low temperature and low vitality, hot water acts as a decided stimulant. It is not advisable to introduce the catheter into the bowel farther than nine inches.

Various drugs which have been advocated from time to time as being useful in gastro-intestinal affections have been given conscientious trials. Prominent among these is salol, resorcin, beta-naphthol and beta-naphthol bismuth, carbolic acid, and creosote. The use of each in a considerable number of cases proved them to be objectionable on account of exciting vomiting, or their use was attended with no results.

Recently tannigen and tannalbin have been brought into use. These drugs have been given in fifty selected cases, according to the directions laid down by their advocates, in doses of from ten to thirty grains daily, but thus far I have failed to obtain with them the favorable results that have been reported by some other observers.

The advocates of these remedies evidently based their opinion upon the results obtained after their use as a routine measure in every case which appeared. The fact that under diet and calomel many cases of summer diarrhœa will do well without further treatment leads me to think that perhaps virtues were attributed to tannigen and tannalbin which they do not possess.

The cases in which they were employed by the writer were those which, after calomel and while on diet, had many thin watery passages, sometimes referred to as serous diarrhœa. After a fair trial of two or three days' duration, without benefit, the patients were given the bismuth mixture referred to above, some with, some without opium, which change in treatment was followed by prompt improvement and recovery. The use of the normal salt solution subcutaneously has not been of avail in my hands in the management of the severe cases of summer diarrhœa.

Upon resuming the milk diet, which must only be allowed when the stools approximate the normal, great care is required that it is not given freely to the child. If he is given the regular milk diet at once, a relapse will almost always result. At first but half an ounce should be added to each feeding of barley water. The milk may be increased half an ounce every day or every other day until the customary strength is reached. In the breast-fed the attack is usually not very severe and the period of abstinence of short duration. Nursing can often be resumed in twenty-four to forty-eight hours. During the interval when the child is not nursing the breast pump must be employed at the regular nursing periods.

In addition to the usual prophylactic measures of fresh air, cleanliness, and the exercise of common sense, I have found it useful to cut down the allowance of milk in the bottle-fed during the hot months. One way in which heat affects children is to render the capacity for food less. The strength is reduced from one fourth to one third, replacing the quantity removed with water, so that the amount in ounces given at each feeding remains the same.

Further, and most important, look upon every case of gastro-intestinal disorder in a child as serious, particularly during the summer, and use radical means as regards diet and drugs at the earliest opportunity.

UNILATERAL LOSS OF THE PUPILLARY LIGHT REFLEX

(REFLEX IRIDOPLEGIA);

ITS PATHOLOGY AND CLINICAL SIGNIFICANCE.*

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THE term "unilateral reflex iridoplegia" has been applied to an ocular condition in which one pupil does not react directly to light, while its reaction in convergence is preserved. As a rule, it does not contract indirectly upon illumination of the other eye (consensual reaction). The pupil may be either dilated or contracted, or both pupils may be equal. It is usually unaccompanied by any interference with vision, or any apparent lesion of the fundus. The pupillary reactions in the other eye are normal.

Bilateral reflex iridoplegia, otherwise familiarly known as the Argyll-Robertson pupils, is the classical type of this pupillary condition. It is of comparatively common occurrence, and, as we all know, is most frequently found in tabes, paretic dementia, and cerebral syphilis.

Unilateral reflex iridoplegia has also been described as unilateral reflex pupillary rigidity, and might also be called unilateral Argyll-Robertson pupil.

This condition must not be confounded with the dilated and rigid pupil (complete iridoplegia) where all reactions are lost, and which is one of the later manifestations of syphilis. Such cases were first described by Hutchinson in 1878 under the name of "ophthalmoplegia interna," and subsequently by Alexander * and also by Hosch.†

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* Read before the New York Neurological Society, February 1, 1898.

In this connection, it will not be amiss to briefly refer to the term "*Reflextaubheit*" (numbness) introduced by Heddaeus ten years ago.‡ It is obviously a very misleading expression, as applied to the state of the pupils, and will no doubt deservedly pass into oblivion. In the so-called unilateral "*Reflextaubheit*" only the *direct* reaction to light is lost in the pupil of the affected eye, the consensual and convergence reaction being preserved, while the disturbance in the other eye is limited to the loss of the indirect (consensual) reaction. Blindness is the rule, but the function of vision is not necessarily abolished. When this pupillary condition is of long standing, it is accompanied by optic-nerve atrophy. In unilateral reflex iridoplegia, however, one pupil does not react either directly or indirectly to light, while the other reacts normally to both.#

To the medical mind, the application of the terms "reaction" and "reflex" presupposes some mysterious implication of the nervous system beyond ordinary comprehension, and requiring investigation by modern neurological methods.

It is quite true that the subject of the pupillary reactions is of great diagnostic value to the neurologist. Its study, however, is not exclusively neurological, but rather primarily of ophthalmological interest.

The American ophthalmologist neglects a fertile field which requires further cultivation when he fails to devote his attention to a systematic observation of the pupils. This may probably be due to the comparative infrequency of such phenomena not directly traceable to intraocular disease.

No one to-day would seriously attempt to controvert the view so well established by clinical data as to the generally syphilitic origin of the first three forms of iridoplegia.

In every patient that has come under the writer's observation the pupillary condition has remained permanently uninfluenced by antisyphilitic treatment. Such a fact is only explicable on the ground of the primarily destructive or degenerative character of the underlying pathological process. This corresponds with the experience of all observers who have given special attention to this subject.

In a few cases, however, absolute iridoplegia of recent origin has been known to disappear under the administration of mercury and iodide of potassium.

It must not be overlooked that when there is evident inequality of the pupils, it is often impossible to decide which one is abnormal without a careful examination as to their reaction, and a further investigation of the vision and general condition of the eyes. Hence, it becomes necessary that all cases be studied from the ophthalmological as well as the neurological standpoint.

It is also of importance to the neurologist to correctly interpret the significance and value of this symptom.

As bilateral loss of the pupillary light reflex is so commonly associated with tabes and paretic dementia, it has been erroneously inferred by many that the unilateral form is always of tabetic or paretic origin, and should be classed among their unilateral manifestations.

In this paper the writer purposes, among other things, to prove the incorrectness of such a view, and to demonstrate from analysis of the recorded cases that while unilateral reflex iridoplegia has been occasionally observed in tabes and paretic dementia, its presence does not necessarily imply the existence or future development of either disease. It will also be shown, from a review of the literature, that an unnecessary diversity of opinion exists as to whether the lesion causing unilateral reflex iridoplegia is situated in the afferent or efferent portion of the so-called reflex arc.

Owing to the seeming rarity of this clinical phenomenon, this patient is brought before you, in whom it is readily demonstrated, and whose history is herewith submitted:

Mrs. E. T., thirty-eight years of age, born in the United States, was first seen by me on December 22, 1896. She has been married twice, the first marriage having taken place nineteen years ago.

One child was born as a result of the first marriage, and he is now seventeen years of age and in perfect health. She had two miscarriages during the first year of married life, both being artificially induced. Her second husband, from whom she has been separated for five years, contracted syphilis some years before marriage.

He had an attack of left hemiplegia when thirty-two years of age (six years ago), from which he recovered, and another similar attack about three years ago, followed by sufficient improvement to enable him to work. She has never been pregnant since her last marriage.

Until two years ago she indulged in the daily use of alcoholic stimulants. Since then she has only drank two pints or more of beer daily.

Within the last three years she has had occasional attacks of migraine, sometimes accompanied by vomiting. During the last year she has noticed that after walking a short distance the anterior surface of both thighs would get numb and cold. This sensation never extended below the knee, and was always more pronounced on the right side. Of late her feet have been colder than usual.

Two weeks ago, for the first time, she began to suffer from sudden "shooting pains," "cutting like a knife," beginning at the hip on both sides (but more on the right) and extending anteriorly and posteriorly to the knees, and thence to the soles of the feet. The pains would change their location every few minutes from one

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* *Berlin. klin. Woch.*, 1878, p. 302.

† *Correspondenzblatt für schweiz. Aerzte*, 1888, No. 4.

‡ *Berlin. klin. Woch.*, 1888, No. 17.

The nomenclature as applied to pupillary phenomena is in greater part of German origin.

side to the other. These attacks are usually followed by difficulty in walking and descending stairs, and occasional transient loss of power in the lower extremities.

As she describes it, "the legs suddenly give way."

At first the pain occurred every half hour, and subsequently every hour. It is always worse at night, preventing sleep, being attended with jerking and twitching in the legs. She also suffers from occasional "shooting pain" in both shoulders, extending to the wrists. Menstruation is regular. Gaseous and acid eructations from stomach. Bowels constipated, unless relieved by drugs. The bladder functionates normally.

No history of previous illness or traumatism, nor verbal evidence of syphilitic infection.

Present Condition.—Well-nourished woman with florid complexion. Weight, one hundred and fifty-seven pounds. Height, five feet three inches. Pulse, 110, irregular and feeble. No signs of cardiac or pulmonary disease.

Gait is normal. No incoordination while standing with closed eyes. She stands well on either leg alone. Muscular resistance good. Both knee-jerks slightly exaggerated. No ankle clonus. Achilles and plantar reflexes normal. Some generalized hyperæsthesia on deep pressure over the muscles of both lower extremities. No tenderness of the nerve trunks. Slight cutaneous hyperæsthesia, but no objective sensory disturbance. Upper extremities normal. No tremor in outstretched hands. No ataxia. Tongue pale, protruded well, and but slightly tremulous. Facial innervation normal.

Eyes: Pupils unequal. Left larger than right, the left pupil measuring 5.5 millimetres in diameter, while the right is but three millimetres. The left pupil does not react to light consensually nor upon faradaic irritation of the skin. Neither does it dilate in the dark. It contracts, however, to 2.5 millimetres in convergence of both eyes.

She says that this pupil has been large for the last three years, and was much larger when she first discovered, while reading, that the print seemed blurred.

In the right pupil all reactions are normal, and it contracts to 1.5 millimetres in convergence. All of the external eye muscles act normally.

V. R. = $\frac{20}{100}$ + : $\frac{20}{40}$ + w. + 4.50, cyl. axis 100°.
V. L. = $\frac{20}{100}$ + : $\frac{20}{40}$ + w. + 4.50, cyl. axis 95°.
Javal, R. 5.75 D. with the rule, axis 105°.
Javal, L. 5.75 D. with the rule, axis 95°.

Reads J. No. 1 from ten inches and a half to five inches with correction.

R. E., ten to five inches; L. E., ten to seven inches.

The refraction, therefore, is that of hyperopic astigmatism, the range of accommodation being diminished in the eye with the dilated pupil. Stereoscopic vision is preserved. There is no fundus lesion. Fields for form and color are normal. Chemical and microscopical examination of the urine negative.

There are none of the usual somatic indications of previous syphilitic infection.

The character of the pain, indicating involvement of the posterior roots, the nocturnal exacerbations, the probable syphilitic origin of the paralysis affecting her husband, and the pupillary condition were sufficient evidence to warrant the diagnosis of cerebro-spinal syphilis.

Mercurial inunction was ordered, and ten grains of iodide of potassium three times a day.

December 29th (one week since first visit).—All pain has disappeared.

January 2, 1897.—Pain has returned. Has taken no medicine during the last four days. Mercury discontinued. Iodide of potassium, saturated solution, fifteen minims, three times a day, in daily increasing doses.

26th.—Taking twenty-two minims. No more pain, but complains of weakness in both lower extremities. There is now some incoordination while standing with closed eyes, and difficulty in standing on right leg alone. *Both knee-jerks and Achilles reflex are lost.* Plantar reflex preserved. Muscular power unimpaired. No objective sensory disturbance in any part of the trunk or extremities. Pupils unchanged.

February 2d.—Sharp "shooting" paroxysmal pains, beginning in the lower dorsal region, radiating under both breasts, and followed by cutaneous hyperæsthesia.

March 2d.—Pain continues at intervals and worse at night. No anæsthetic areas. Iodide of potassium discontinued on account of iodism. Has been taking two fluid drachms three times a day. Cautery to dorsal region.

4th.—Pain very much relieved.

January, 1898.—Since last note her condition has remained unchanged. The knee-jerks have never returned. The Achilles reflex is still absent. Plantar reflex active. All forms of sensibility are preserved, tactile sense being acute over the cutaneous surface of the trunk and extremities. She is able to distinguish the difference between the light touch of the finger tip, a feather, and a fine camel's-hair brush. The pupils are the same as at first examination more than a year ago. The pains affecting the inframammary and dorsal regions occur at intervals, and are relieved by the usual symptomatic remedies. Tonic treatment, including static sparks and friction, and the use of nitrate of silver, have taken the place of the earlier method. This is supplemented by the occasional substitution of small doses of mercury and iodide of potassium for a few weeks.

It will be noted that there are several interesting and unusual features in this case, which may be considered either as an atypical form of tabes or cerebro-spinal syphilis. The immediate relief which followed the use of mercury and iodide of potassium, the previous history, and subsequent course of the disease, would favor the original diagnosis.

This patient is presented here, however, on account of the peculiar pupillary condition.

In searching through ophthalmological and neurological literature I find only seventeen other cases have been reported up to the present date. Several authors, however, have incidentally mentioned the fact that this condition is occasionally seen.

The following detailed histories have been published:

Case I.—Eales.* A man, twenty-eight years of age. Continuous cephalalgia, frequent delirium, and double optic neuritis. Three years previously, syphilis without secondary symptoms. One year ago he received a blow over the right temple, which was followed by necrosis of right orbital roof and surgical evacuation of pus. He recovered and was able to go about. Eight months later ophthalmoscopic examination showed no traces of the previous neuritis in either eye. Vision was $\frac{15}{\text{xii}}$ with each eye, and most of the letters of $\frac{15}{\text{x}}$. The field of vision was normal for colors. Accommodation was good with either eye up to five inches, but convergence was not maintained, the left eye soon deviating outward. *The right pupil was fixed midway between dilatation and contraction, and neither contracted to light nor dilated more in the dark. It contracted readily, however, during convergence.* The movements of the left pupil were perfectly normal. The knee-jerks were active on both sides. When seen two months later the conditions remained unaltered. The writer attributed the pupillary condition to cerebral syphilis.

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* *Ophth. Review*, 1883, vol. ii, p. 225.

Case II.—Heddaeus.[*] A woman, thirty-two years of age, with paresis of left third nerve. The left pupil was larger than the right and did not react to light. Consensual reaction was preserved, but pupillary contraction in convergence was feeble. Accommodation and fundus were normal. The right pupil was normal.

Case III.—Möbius.[†] A man, aged fifty-four years. History of previous syphilis and now has tabes. Lancinating pains in legs; bladder difficulty. Loss of knee-jerks; anæsthesia of feet and legs, swaying while standing with closed eyes; slight ataxia in lower extremities. Pupils unequal. Right pupil contracted, but reacts to light and consensually; the *left* reacts to neither. In convergence both pupils react quickly. There was no other ocular disturbance. While under observation several months there was no change in the pupils.

Case IV.—Seggel.[‡] A man, aged thirty-three years. Two years before, paresis of left abducens, from which he recovered. Five months later, paralysis of all branches of the left motor oculi. Improved after the use of potassium iodide. Paresis of left inferior oblique remained.

Left pupil, five millimetres; right, three millimetres. In the *left* pupil there was neither light nor consensual reaction, but normal reaction in convergence. The right pupil reacted slowly to light, and consensual reaction was well marked. Myopia both. Vision both, $\frac{9}{9}$ to $\frac{5}{6}$. The near point, thirteen centimetres; binocular, sixteen centimetres. Color and light senses normal. Fundi otherwise normal.

There was no history or evidence of syphilis, but some of the general symptoms were suggestive of commencing tabes. This patient was examined again two years later, and the last time in 1895 (five years after the first visit). The paresis of the inferior oblique was still evident, and there was slight left ptosis. Otherwise, the ocular conditions were practically unchanged. There was absolutely no evidence of tabes.

Case V.—Seggel.[#] A man, aged twenty years. Patient stated that the vision of left eye was poor since his fourth year, that the pupil was also small, and that the vision of the other eye was not as good as it should have been. At his fourth year he received an injury to the left eye, resulting in gradual diminution in its size. There was no history of syphilis or alcoholism, but excess in the use of cigarettes. The pupils were unequal, the right measuring 4.5 millimetres, while the left was only three millimetres in ordinary daylight. The right pupil reacted normally. The left pupil did not react to light, nor consensually, but was normal in convergence and contracted to one millimetre. Left eye, H. 2.25; right, H. 1.75. Accommodation normal. No microphthalmus.

Case VI.—Lyder-Borthen.[*] A man, aged thirty-seven. Syphilis nineteen years previously. Suddenly the left pupil became dilated. In the preceding years occasional vertigo and headache. Otherwise his health was good.

Left pupil, 4.5 millimetres. No reaction to light. No consensual reaction. Pupil contracts in convergence. Right pupil, two millimetres. Normal reactions. Vision, accommodation, and fields normal. Nothing is said as to the knee-jerks, etc.

Case VII.—Redlich.[†] A man, aged forty-five years. Paretic dementia. Left pupil larger than right. No light or consensual reaction. Contracts in convergence. Right pupil normal.

Case VIII.—Turner.[‡] A child with interstitial keratitis.

R. V. = $\frac{6}{6}$, Hm. 1.5 D. L. V. = $\frac{6}{6}$, Hm. 1.75.

Right pupil, four millimetres; acted readily to light and with convergence. Left pupil, 2.5 millimetres; *inactive* to light directly, but contracted to light through the other eye, and acted readily with convergence. The patient presented no symptoms of central nervous disease. There was no ataxia. Knee-jerks normal. Nineteen months later the condition was unchanged. The family history pointed to hereditary syphilis.

Case IX.—Turner.[#] A man, aged forty-eight years. Right pupil, 1.75 millimetres. No light or consensual reaction. In convergence, normal. Left pupil, three millimetres. Normal reaction.

V. R. = $\frac{6}{9}$, Hm. + 2 D. Reads Jaeger No. 1 with + 3.5 D.

V. L. = $\frac{6}{12}$, Hm. + 1 D. Reads Jaeger No. 1 with + 2.5 D.

Both knee-jerks present with reenforcement. No ataxia. No urinary trouble. No lightning pains. The patient denied syphilis.

Case X.—Turner.[‖] A man, aged fifty-four years. Right pupil, three millimetres. Normal. Left pupil, 2.5 millimetres. No reaction to light or consensually. Normal in convergence.

V. R. = $\frac{6}{18}$: + 1.5 D. = $\frac{6}{6}$. Jaeger No. 1 with + 5 D. at normal distance.

V. L. = $\frac{6}{18}$: + 1 D. = $\frac{6}{6}$. Jaeger No. 1 with + 4 D.

Fundus normal. He presented an ataxic gait, and there was great incoordination of the arm movements. He swayed very much when his feet were together and his eyes were shut. No history of lightning pains, but occasional delay in passing urine. Both knee-jerks active. No ankle clonus. No anæsthesia. Syphilis twenty years ago. The general symptoms improved under a course of biniodide of mercury.

Case XI.—Turner.[△] A woman, aged forty years. Right pupil, four millimetres. Reacts to light and convergence. Left pupil, 3.5 millimetres. No reaction to light or consensually. Normal in convergence.

V. R. = $\frac{6}{6}$, Hm. 0. V. L. = $\frac{6}{18}$. Fundus normal.

She complained much of pain in the fronto-parietal region on both sides, and there was some tenderness on percussion over the left temporo-parietal region. There was also occasional spasmodic closure of the left eyelids. Tremors characteristic of disseminated sclerosis were observed on voluntary movement of both arms, but the gait

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[*] *Berlin. klin. Wochenschrift*, 1888, No. 18, p. 354.

[†] *Centrlbl. f. Nervenheil.*, 1888, p. 23.

[‡] *Arch. f. Augenh.*, 1891, vol. xxiv, p. 234.

[#] *Ibid.*, 1895, vol. xxxi, p. 63.

[*] *Klin. Monatsbl. f. Augenh.*, 1892, vol. xxx, No. 4, p. 121.

[†] *Neurol. Centrlbl.*, 1892, p. 309.

[‡] *Ophthal. Hospital Reports*, 1892, vol. xiii, p. 332.

[#] *Ibid.* [‖] *Ibid.* [△] *Ibid.*

REPORTER.	Date.	Sex.	Age.	PUPILS.		Vision and Refraction.	Accommodation.	General Ocular Condition.	Previous History.	Syphilis.	Tabes.	Paretic Dementia.	Remarks.
				Size.	Reaction.								
1. Eales....	1883.	M.	28	R. dilated	Light 0. Converg. good	$\frac{15}{\text{xii}}$	Normal.	....	One year before necrosis of r. orbit following a blow.	Yes.			
				L.	Normal.	$\frac{15}{\text{xii}}$	Normal.						
2. Heddæus.	1888.	F.	32	R. 3.2 mm.	Normal.	$+0.75\ \frac{5}{5}$	Normal.	Normal.					
				L. 6.6	Light 0. Consens. nor. Converg. nor.	$+0.75\ \frac{5}{9}$	Normal.	3d N. paresis.					
3. Möbius..	1888.	M.	54	R. contracted	Normal.	....	....	Normal.	....	Yes.	Yes.		
				L.	Light 0. Consens. 0. Conv. normal.	....	....	Normal.					
4. Seggel...	1891.	M.	33	R. 3 mm.	Slowly to light, otherwise nor.	V. $\frac{6}{9}-\frac{5}{6}$ Myopia.	Normal.	....	Paralysis of left 3d nerve	?			
				L. 5 mm.	Light 0. Consens. 0. Conv. normal.	$\frac{6}{9}-\frac{5}{6}$ Myopia.	Normal.	Paresis of inf. oblique.					
5. Seggel...	1895.	M.	20	R. 4.5	Normal.	H. 1.75 D.	Normal.	....	Injury to left eye.				
				L. 3	Light 0. Consens. 0. Conv. normal.	H. 2.25 D.	Normal.						
6. Borthen..	1892.	M.	37	R. 2	Normal.	....	....	....	Cephalalgia and vertigo.	Yes.			
				L. 4.5	Light 0. Consens. 0. Conv. normal.								
7. Redlich..	1892.	M.	45	R.	Normal.	....	....	....	....	....	....	Yes.	
				L. dilated	Light 0. Consens. 0. Conv. normal.								
8. Turner...	1892.	M.	Child.	R. 4	Normal.	$\frac{6}{6}$ Hm. 1.5 D.	....	Interstitial keratitis.	Hereditary syphilis.	Yes.			
				L. 2.5	Light 0. Consens. and conv. normal.	$\frac{6}{6}$ Hm. 1.5 D.							
9. Turner...	1892.	M.	48	R. 1.75	Light 0. Consens. 0. Conv. normal.	$\frac{6}{9}$ Hm. 2 D.	J. No. 1 w. + 3.5 D.	....	....	....	?	....	Knee-jerks present with reenforcement.
				L. 3	Normal.	$\frac{6}{12}$ Hm. 1 D.	J. No. 1 w. + 2.5 D.						
10. Turner...	1892.	M.	54	R. 3	Normal.	$\frac{6}{18}$: w. + 1.5 D. $=\frac{6}{6}$	J. No. 1 w. + 5	Normal.	....	Yes.	....	....	Symptoms of "mixed sclerosis."
				L. 2.5	Light 0. Consens. 0. Conv. normal.	$\frac{6}{18}$: w. + 1 D. $=\frac{6}{6}$.	J. No. 1 w. + 4	Normal.					
11. Turner...	1892.	F.	40	R. 4	Normal.	$\frac{6}{6}$ Hm. 0.	....	Normal.	....	....	....	....	Symptoms suggestive of disseminated sclerosis.
				L. 3.5	Light 0. Consens. 0. Conv. normal.	$\frac{6}{18}$	....	Normal.					
12. Turner...	1892.	M.	41	R.	Normal.	....	....	....	....	....	....	Yes.	
				L. larger	Light 0. Consens. 0. Conv. normal.								
13. Caspar...	1895.	M.	38	R. 4	Normal.	H.	Normal.	Normal.	....	?			
				L. 3.	Light 0. Consens. 0. Conv. normal.	H.	Normal.	Normal.					
14. Schanz...	1895.	M.	52	R. 2.5	Normal.	Normal.	Normal.	Normal.	....	Yes.	Yes.		
				L. 2.5	Light 0. Consens. 0. Conv. normal.	Normal.	Normal.	Ptosis.					
15. Schanz...	1895.	M.	49	R. 4	Light 0. Consens. 0. Conv. normal	Normal.	Normal.	Paralysis of 3d nerve.	Recent oculomotor paralysis.	Yes.			
				L. 3	Normal.	Normal.	Normal.	Normal.					
16. Wilder...	1897.	F.	28	R. 6	Light 0. Conv. normal.	$\frac{5}{5}$: Hm. 0.75 D.	Sn. No. 1 at 10 ctm. w. + 0.75.	Normal.					
				L. 3	Normal.	$\frac{5}{5}$ w. + 0.75 c. ax. 90°.	Sn. No. 1 at 18 ctm. without a glass.	Normal.					
17. Wilder...	1897.	M.	37	R. 5	Light 0. Consens. 0. Conv. normal.	$\frac{5}{5}$	Sn. No. 1 at 11 ctm.	Normal.	....	Yes.			
18. Leszynsky	1898.	F.	38	L. 3	Normal.	$\frac{5}{5}$	Normal.	Normal.	Cerebro-spinal syphilis.	Yes.			
				R. 3	Normal.	$\frac{20}{100}+:\frac{20}{40}+$ w. $+4.50$ c. ax. 100°	J. No. 1, 5 to 10 inches w. correction.	Normal.					
				L. 5.5	Light 0. Consens. 0. Conv. normal.	$\frac{20}{100}+:\frac{20}{40}+$ w. $+4.50$ c. ax. 95°	J. No. 1, 7 to 10 inches w. correction.	Normal.					

was not spastic, and there was no alteration in the voice, and no nystagmus. Both knee-jerks active. No definite history could be obtained as to any cause for this patient's condition.

CASE XII.—Turner.* A man, aged forty-one years. Paretic dementia. Right pupil smaller than left. Reactions normal.

Left pupil: No reaction to light or consensually, but normal in convergence.

CASE XIII.—Caspar.† A man, aged thirty-eight years. For several years insomnia and severe headaches. Occasional attacks of sciatica, all attributed to excess in beer and tobacco. Kne-jerks absent. No ataxia. No gross sensory disturbance. There was no further general examination. No history of syphilis. Right pupil, four millimetres. Reaction normal. Left pupil, three millimetres. No light or consensual reaction, but energetic contraction in convergence.

Accommodation good on both sides. Hypermetropia. Ophthalmoscopic picture normal.

CASE XIV.—Schanz.‡ A man, aged fifty-two years. Syphilis in early life. Slight ptosis of left eye. Insufficiency of interni. Vision normal in both eyes. Accommodation normal and in accord with patient's age. Pupils equal and measuring 2.5 millimetres. Right pupil normal. In the *left* pupil there is no reaction to light or consensually. Reaction in convergence normal.

CASE XV.—Schanz.# A man, aged forty-nine years. Syphilis sixteen years previously. Paralysis of right third nerve. Ptosis and crossed diplopia. Vision and accommodation normal. Pupils unequal. *Right* pupil, four millimetres. No reaction to light or consensually. Reaction normal in convergence. Left pupil, three millimetres. Normal.

This was a patient with a recent oculo-motor paresis, all of the nuclei on the right side being more or less involved. Only one had certainly escaped, and that was the accommodation nucleus, as the accommodation was normal on both sides.

CASE XVI.—Wilder.|| A woman, twenty-eight years of age, married, was first seen in April, 1896. In September, 1894, she first noticed that the right pupil was larger than the left. Family history good. No evidence of syphilis.

Right pupil, six millimetres. No reaction to light, but normal reaction in convergence.

Left pupil, three millimetres. All reactions normal.

V. R. = $\frac{5}{5}$, Hm. + 0.75. Snellen No. 1 at ten centimetres with sph. + 0.75.

V. L. = $\frac{5}{5}$ w. + 0.75, cyl. ax. 90°. Snellen No. 1 at eighteen centimetres without a glass, thus showing some impairment of the accommodative power of the right eye. The fundus in each eye was normal. There was no evidence of paresis of any of the external muscles of the eyeball.

CASE XVII.—Wilder.△ A man, aged thirty-seven years. Syphilis eight years previously. He now complains of occasional shooting pains through the arms and a slight numbness of the right arm. Knee-jerks normal. No ataxia. Two weeks before consultation he noticed indistinct vision of the right eye.

Right pupil, five millimetres. No reaction to light or consensually. Normal in convergence. Left pupil, three millimetres. All reactions normal.

V. R. = $\frac{5}{5}$. Snellen No. 1 at eleven centimetres, showing impairment of accommodation.

V. L. = $\frac{5}{5}$.

In a dim light the right pupil does not dilate as readily as the left, but remains at about the same diameter as when exposed to the strongest illumination. In the reporter's opinion this seems to indicate that the dilator fibres of the iris are impaired. He thinks the condition due to "a syphilitic deposit in the orbit involving the ciliary ganglion."

From a study of the foregoing cases it will be seen that in nine (I, III, VI, VIII, X, XIV, XV, XVII, XVIII) there is a definite history of a previous syphilitic infection. In four (II, IV, VII, XII) the clinical manifestations, such as third-nerve paralysis, paretic dementia, etc., justify the suspicion as to an antecedent syphilis. In one case (V) the condition followed an injury to the eye, and in four others (IX, XI, XIII, XVI) the origin was uncertain or unknown.

In thirteen cases the left pupil was affected.

In eleven (I, II, III, IV, VI, VII, XII, XV, XVI, XVII, XVIII) the iridoplegic pupil was dilated; in six (V, VIII, IX, X, XI, XIII) it was contracted, and in one case both pupils were equal, measuring 2.5 millimetres in diameter.

The condition of vision or refraction seems to have no bearing upon the state of the pupil in these cases.

In seven (I, II, IV, V, XIII, XIV, XV) the range of accommodation was normal, in four of whom (I, II, IV, XV) the pupil was dilated from four to 6.6 millimetres, while in two (V, XIII) the pupil was contracted, and in one (XIV) both pupils were equal, each measuring 2.5 millimetres.

In three (XVI, XVII, XVIII), in which the pupil was dilated, the range of accommodation was diminished in the affected eye. In the others there is no satisfactory record.

The consensual reaction of the affected pupil was absent in fourteen cases.

In Cases II and VIII it was preserved. In Cases I and XVI there is no record of this reaction.

To recapitulate: Among the eighteen tabulated cases there are only one tabetic (III) and two paretic dements (VII, XII). In two (I, IV) the eye had been injured by a traumatism. Seven cases (VI, VIII, X, XIII, XIV, XVII, XVIII) were found in connection with syphilis. Three (II, IV, V) were associated directly or indirectly with third-nerve paralysis. In one (XI) disseminated sclerosis was suspected. In two (IX, XVI) the cause was not ascertained.

(*To be concluded.*)

A German Translation of Dr. Jacobi's Work on Infantile Therapeutics has recently been published in Berlin. It is entitled *Therapie des Säuglings- und Kindesalters.* The translator is Dr. O. Rennert.

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* *Ophthal. Hospital Reports*, 1892, vol. xiii, p. 332.

† *Archiv f. Augenh.*, 1895, vol. xxxii, p. 291.

‡ *Ibid.*, vol. xxxi, p. 259.

# *Ibid.*

|| *Annals of Ophthalmology*, St. Louis, 1897, vol. vi, p. 234.

△ *Ibid.*

CEREBRAL NEOPLASMS:

CLINICAL ANALYSIS OF SIXTEEN PERSONAL CASES (FIFTEEN TUMOR, ONE ABSCESS),

WITH REPORT OF FIVE CASES.

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During the past five years the consideration of brain tumors has received considerable attention by American and European writers and the literature has been carefully reviewed, especially by Bruns,[*] Oppenheim,[†] Knapp,[‡] and Starr,[#] so that the status of intracranial growths, both clinically and pathologically, is practically settled for the time being. The further study of these cases by the individual observer will no doubt continue as energetically as before, perhaps more with the view of establishing an early and correct diagnosis, so as to allow of greater range in the application of therapeutic measures. My purpose, therefore, in presenting the following cases is more that of pointing out the early symptoms than that of making any attempt to enlarge upon the general consideration of brain tumors.

The summaries of these cases are briefly as follows, Cases II, III, VI, VII, and XIII being reported in this paper:

Case I.—Glioma of the right frontal lobe; death; autopsy.

Case II.—Multiple sarcoma of brain; operation; death; autopsy.

Case III.—Calcareous degeneration of pituitary body; death; autopsy.

Case IV.—Tuberculosis of pons; death; autopsy.

Case V.—Glioma in centrum ovale, right motor areas; death; autopsy.

Case VI.—Glioma of the left motor areas; operation; death.

Case VII.—Subcortical tumor of the right central convolutions; operation; no improvement.

Case VIII.—Tumor of the right motor areas; death; no autopsy.

Case IX.—Tumor of the left motor areas; death; no autopsy.

Case X.—Gumma at base of brain; death; no autopsy.

Case XI.—Tumor in the right motor areas; death; no autopsy.

Case XII.—Gumma in the left motor areas; improvement.

Case XIII.—Abscess in the left temporal convolutions; death; autopsy.

Case XIV.—Tubercular nodules in the right and left lobes of the cerebellum; death; autopsy.

Case XV.—Cyst of the right lobe of the cerebellum; death; autopsy.

Case XVI.—Abscess of the left lobe of the cerebellum; death; autopsy.[‖]

Sixteen cases of brain tumor may not be sufficient upon which to base a symptomatology which shall stand the test of all cases and the criticism of all observers, but are sufficient to tell which way the wind blows, and therefore it may be of some interest to analyze the result. Of these sixteen cases, thirteen were cerebral and three cerebellar. Autopsy was made in six of the cerebral and three of the cerebellar cases. An operation was performed in three cerebral cases—two of the patients died, the other recovered from the operation but was not improved.

The pathological finding in the autopsy cases was tumor and one abscess in five cerebral, and in the cerebellar cases one abscess, one cyst, and one tumor.

The nature of the tumors was as follows: Glioma in three cases; gumma in two; sarcoma in one; tubercle in one; calcareous infiltration in one; unknown in four. Of the cerebellar cases, one was tubercle.

The location of these tumors, according to the autopsy finding or operation, was: Right frontal lobe, two cases; right central convolutions, two; left central convolutions, one; pituitary gland, one; pons, one; and left temporal lobe, one.

Of the cerebellar cases, one was situated in the right lobe, one in the left lobe, and one in both lobes.

The diagnosis of brain tumor was made in twelve of the thirteen cerebral cases, and in one case (No. 11) the diagnosis was thought probable. The cerebellar cases were all correctly diagnosticated.

Turning now to the clinical manifestations, we find that in nearly every case the symptoms came on gradually, and in not a few of the cases assumed a form of neurasthenia or hysteria, and in two of the cases the hysterical or neurasthenic similarity continued far into the course of the disease. As operative procedures, to be successful, must be undertaken as early as possible, the clinician must be able to diagnosticate the condition and locality at the earliest possible moment, and herein he must show his skill and acumen rather than at the termination of the disease when the classical symptoms fully developed hardly admit of any doubt. I shall therefore try to bring out of this series of cases three facts, or groups of facts—namely, the classical symptoms, the early symptoms, and the deciding symptoms.

Assuming that the diagnosis of brain tumor is correct in the five cases not followed up by autopsy, we find that—

Head pain was present in every case, or one hundred per cent. In some of the cases the pain was localized at the occiput, especially when the tumor affected the base or the occipital or temporal lobes or the cerebellum.

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[*] Gehirntumoren. Eulenburg's *Encyclopädische Jahrbücher.*

[†] Die Geschwülste des Gehirns. Nothnagel's *Specielle Pathologie und Therapie.*

[‡] *Intracranial Growths.*

[#] *Brain Surgery.*

[‖] Case I is described in the February number of the *Journal of Nervous and Mental Diseases;* Cases X and XII in the April, 1896, number of the *Buffalo Medical Journal;* Cases XIV, XV, and XVI in the June 1, 1895, number of the *New York Medical Journal;* Case III was presented before the Buffalo Pathological Society, November, 1890; Cases IV and V are not ready for publication; while Cases VIII, IX, and XI are in press elsewhere.

Optic neuritis was present in ten of the twelve cerebral cases, not examined in one case, and absent in the case of abscess. In the cerebellar cases no examination of the fundus was made.

In four of these cases complete optic atrophy had taken place, resulting in total blindness. In nine cases the neuritis appeared early, and in one very late. The degree of the neuritis varied, and in the majority of cases was most intense in the eye corresponding to the side of the brain involved.

Nausea and vomiting were present in eleven cases, and doubtful in two cases. In one case the patient asserted that the vomiting was not at all unpleasant or disagreeable, and that the matter vomited (generally a watery fluid) was sweet and pleasant to the taste. As a rule the vomiting occurred in the morning, less frequently after a meal, and never at night. In the cerebellar cases vomiting occurred in two of the three.

Mental hebetude, apathy, or mental depression was found in ten of the cases and absent in two. In one case (tumor of the right frontal lobe), where a very marked change in the mental powers of the patient would be expected, it was not particularly developed. This might be explained thus: The centres of speech and those by which speech is made manifest—as lips, tongue, and larynx—are in close proximity, being located in the third frontal convolution and in the central convolutions at the same relative height; the centre of writing and the one concerned in making writing possible—the fingers and hand—are in close proximity in the second frontal and the central convolutions also at the same relative height; hence it is not too presumptuous to say that the centre presiding over intelligence should be found near the writing and speech centres, and therefore located in the left frontal lobe.

Vertigo, which was always reckoned along with the head pain, nausea, and optic neuritis as the four cardinal symptoms, was found in only six of the thirteen cases, and absent in seven, and should therefore not be included among the reliable symptoms of brain tumor. In an analysis of one hundred cases of brain tumor now being made, I find it present in only about fifty per cent. of the cases.

The tendon reflexes were found exaggerated in seven cases—normal or slightly increased in six. In the cases where exaggeration was found, a paralysis of the leg or arm was always present, and being of cerebral origin accounted for the re-enforcement. In no case were the reflexes abolished. It is not probable that brain tumors exert much if any influence over the condition of the reflexes, provided they in no way interfere with the motor centres or motor paths, directly or indirectly through pressure.

The pupils in every case reacted to light and accommodation, and some degree of dilatation was present in every one. As there is no fixed limit of the normal pupil in healthy individuals, it is impossible to say what the abnormal pupil should be.

Fainting Spells.—In three of the cases syncope was an important and material symptom. Whether it was due to weakness or to some special brain influence can not be determined.

Of the special or localizing symptoms, paralysis was the most frequent, being present in one form or another in ten cases, and absent in three; hemiplegia in five, diplegia in two, and monoplegia in three. Aphasia was present in two cases, hemianopsia in one, convergent strabismus in one, ptosis and strabismus in one.

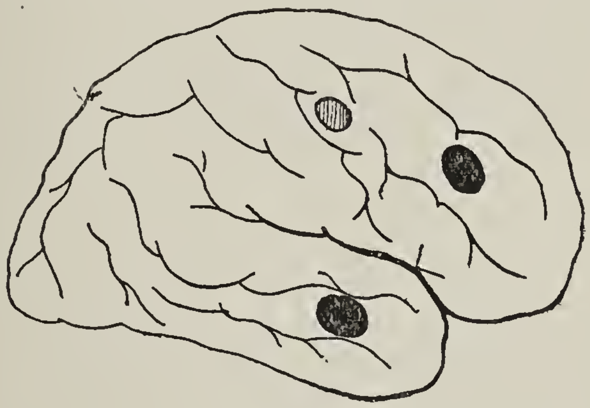
In one case the patient complained of central pain referred to the arm.

From my study of these cases I would regard as the classical symptoms of brain tumor, in the order of their importance, (1) head pain, (2) optic neuritis, (3) mental apathy, (4) nausea and vomiting. As a special localizing symptom to be added to this group must be included (5) paralysis.

The early symptoms are similar to those met with in neurasthenia—as headache, incapacity for mental work, disordered digestion, nervous irritability, and a general malaise.

The decisive symptom must always be the choked disc or optic neuritis—found so rarely in other diseases that it must almost be considered pathognomonic of cerebral tumor.

CASE II. *Multiple Sarcoma of the Brain; Operation; Death; Autopsy.*—E. K. M., aged forty-five years; farmer; height, five feet seven inches; weight, one hundred and forty pounds; complexion, dark; constitution, robust.



CASE II.—The striped area indicates the tumor removed at the operation.

Family History.—Father died of cancer of the right superior maxillary bone; mother died of stomach trouble, probably cancerous; otherwise family history is negative.

Patient never contracted syphilis or gonorrhœa, and shows no evidence of tuberculosis.

Present History.—The first indication of any trouble was on July 1, 1894, when he found that the left leg and arm were becoming weaker and that he could not use the left hand as dexterously as before. He also noticed that he would incline toward the left side in walking, and that the left leg appeared heavier and more cumbersome than the right. These symptoms did not alarm him any, as he ascribed them to overwork during the busy season on the farm. Soon he began to complain of nausea, and occasionally had fits of vomiting, coming on without warning and when the stomach was empty. Headaches also made their appearance, being most intense over the right parietal region and at the vertex. The pain at the vertex seemed to be more of a dull, heavy pressure, while the ache over the ear was sharp and neuralgic in character.

Failing to obtain relief from his family physician, he was referred to me by Dr. C. S. Albertson, of Buffalo, on September 25, 1894.

After listening to the symptoms as just noted, I undertook a cursory examination and made a *conditional* diagnosis of hystero-neurasthenia. The absence of optic neuritis, increase of pressure of left hand and leg with dynamometer when he was directed to exert himself, absence of spasms on the affected side, history of sexual excesses, and the general appearance of the patient diverted my attention from thinking of a cerebral growth, although my plan of examination was followed with that end in view. Within the first ten days of treatment, which consisted of galvanism to the head and spinal column, nerve tonics and baths with massage, there seemed to be some improvement, so that he was able to walk down stairs to his meals unaided. His appetite was good, the fits of vomiting occurred less frequently, and the headaches were considerably lessened in intensity. Thus, with improvement of all the symptoms, the absence of optic neuritis, and localized spasms, I was still inclined to think of functional disease, although not perfectly agreed upon it. The dull, heavy, lustreless eyes, the expressionless face and dulled intellect forbade me to abandon the idea of cerebral disease, and at every visit of the patient a careful examination of his system was made, especially of the background of the eyes.

About the middle of October, 1894, the symptoms grew rapidly worse; the weakness of the left leg and arm was increasing, so that it was with much difficulty that he walked from the carriage into my office. He had been having several falling spells, the left leg giving way, precipitating him to the floor. He began to notice twitchings of the flexors of the left arm and leg, and would feel them drawn up but never contracted. The eyes were growing heavier, but were normal in their movements, while the pupils reacted to light and accommodation, and vision remained unimpaired. The fundi of the eyes were also normal, the outlines of the discs being sharp, with no swelling, haziness, or hæmorrhages. The grip of the left hand was much weaker than the right, and the tendon and muscular reflexes were slightly exaggerated. Sensory disturbances could not be detected; the rectal and vesical reflexes were unimpaired; the mind at times was dulled and stunted, then again he would brighten up, talking intelligently and entertainingly on many subjects. On the other hand, his voice was growing feeble and husky, and his general physical condition seemed to be declining, despite the careful stimulating treatment he was receiving. I no longer hesitated in regarding the case as one of cerebral tumor, the growth starting subcortically in the right motor area of the brain, presumably centring in the left leg centre, growing toward and involving the cortex. On communicating the diagnosis to Dr. Albertson, it was determined to resort to surgical interference, Dr. Dewitt G. Wilcox being the surgeon chosen by the family.

On the following day, October 18, 1894, I discovered for the first time the presence of choked discs, and the first intimation of any disturbance of vision. On October 21, 1894, he was transferred to the Lexington Heights Hospital, where the following additional information was obtained:

Temperature of the left side of the head, 98.8° F.; right side also 98.8° F.

Dynamometric test: Right hand, 35; left hand, 15; right leg, 56; left leg, 40.

Sensory conduction remained unaffected; no anæsthesia, thermo-anæsthesia, or analgesia could be detected. The optic neuritis had developed rapidly, and vision was considerably lowered. Tendon reflexes on the left side were exaggerated; also ankle-clonus was now obtainable, although absent a few days ago.

The diagnosis of cerebral tumor being now conclusively proved, the operation was undertaken without further delay, October 23, 1894.

After the customary preparation of the head and scalp, the trephine was applied over the left leg centre and a button of bone removed. The opening was enlarged laterally and inferiorly and the dura and underlying brain substance protruded into the trephine opening. The dura was laid open, and there was found a small grayish-brown mass about the size of a marble, not circumscribed but merging into the surrounding healthy tissue, in the ascending frontal convolution. This, to me, could not account for the severity and magnitude of the symptoms, and suggested the presence of other growths situated interiorly and affecting the motor paths. As there could be no hope of removing successfully such central tumors, the small growth was removed, the dura sutured, the wound aseptically dressed, and the patient removed to his room. He recovered rapidly from the anæsthesia, the wound healed by first intention, and he seemed to improve generally. He moved his left leg and arm for several days after the operation, but on October 26, 1894, he lost complete control over them. His condition from this time on grew daily worse, he becoming delirious, then comatose; difficulty in breathing, incontinence of urine, severe head pains, and spasms of the left arm were noted. The temperature varied from 99° to 107° F.; pulse, 80 to 100; respiration, 30 to 35. He died on November 6, 1894, and on the following day I made the autopsy.

The scalp wound had closed nicely, a dense fibrous pad having filled up the trephine opening. The skull was of usual thickness, the dura adherent only at the seat of operation, the pial vessels injected, and the longitudinal sinus engorged with blood. The left side of the brain appeared normal, but not so with the right hemisphere. A small, oval-shaped, dark-colored tumor, about two centimetres long and one centimetre wide, was found in the second frontal convolution; another, somewhat smaller, in the second temporal convolution; while the remains of the one removed at the operation could be seen in the ascending frontal. On cutting through the callosum, a large tumor mass was encountered, implicating the genu callosi and the gyrus fornicatus, extending from one hemisphere into the other, the bulk of the mass about the size of a small hen's egg, situated on the right side. A large, irregular-shaped, broken-down mass, and showing the appearance of a recent hæmorrhage, was found in the right lenticular body, involving the right optic thalamus. This mass extended peripherad and was a direct continuation of the tumor removed at the operation. With the exception of the tumor projecting from the right side into the left gyrus fornicatus, the left hemisphere was unaffected.

Microscopical examination of the tumor tissue showed the presence of the small round granular cells characteristic of the small round-cell sarcoma, intermingled with a variable amount of connective tissue and blood-vessels. The hæmorrhage into the right corpus lentiformis was perhaps not more than six or ten days old, and undoubtedly of post-operative occurrence.

CASE III. *Calcareous Infiltration of the Pituitary Body; Death; Autopsy.*—This case was reported before the Buffalo Pathological Society, November, 1890 (December, 1890, number of the *Buffalo Medical and Surgical Journal*), and the history is briefly as follows: A laborer, forty-eight years old, without any known cause began (in July, 1888) to complain of pain in the back and base of the head, becoming excruciating, attended with dizziness, neuralgias, and failing eyesight. He consulted Dr. A. A. Hubbell, of Buffalo, who made the following report:

"Vision of both eyes impaired, but that of the left eye most. Vision of the right eye equaled No. 12 D. of Snellin's test types at five metres, or V. = $\frac{5}{12}$. With a + 0.75 D. glass he could read a few letters of No. 5 partly). With the left eye he could read No. 24 at five metres (L. V. = $\frac{5}{24}$), and glasses' aid did not make any improvement.

"Both visual fields were contracted, especially at their outer parts (temporally). The visual field of the right eye was almost entirely lost in its outer half, while that of the left eye was only partially lost. The patient thought he was nearly blind in the right eye, and yet this was the eye in which the vision was much the better. With + 2.5 D. glasses he was able to read No. 1 Jaeger's test types at eight inches.

"Ophthalmoscopic examination showed the margins of the optic discs somewhat indistinct and fuzzy, while the surfaces of the discs were markedly pale, especially at their outer halves. The vessels were diminished in size, but otherwise normal. The rest of the fundus was in a normal condition. The appearances of the discs were those of a receding optic neuritis and resulting atrophy.

"The double optic neuritis, passing into atrophy of the optic nerves, taken into consideration with the dizziness and excruciating headaches, led me to diagnosticate a tumor of the brain. The bilateral temporal hemianopsia, partially apparent on the left side and well defined on the right side, suggested its location at the base of the brain, and involving the optic tracts or nerves near the chiasma."

The pain soon spread over the whole head, and he suffered much from a sense of fullness and dizziness. He passed into a comatose state on August 4, 1890, after several days of agonizing pain, and died on August 5, 1890.

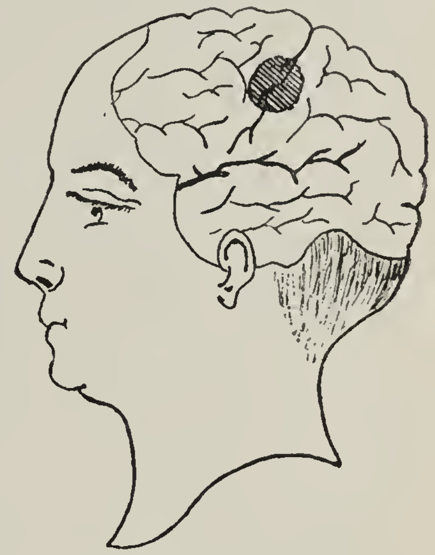
The brain cortex was devoid of anything unusual, but the pituitary body was of unusual size. Normally about the size of a bean or large pea, it had attained in this case the size of a marble, producing pressure upon the optic chiasm. On section it was found to have undergone calcareous infiltration, as evidenced by the microscope and the use of nitric acid, which resulted in the evolution of carbonic-acid gas.

CASE VI. *Infiltrating Glioma of the Left Motor Areas; Operation; Death.*—Mrs. K., age forty-two years; height, five feet four inches; weight, one hundred and twenty pounds; complexion, dark; constitution, frail, delicate.

Family History.—Parents living and healthy; age, seventy-four and sixty-six years. Grandparents lived to old age. No history of cancer, tuberculosis, or syphilis obtainable.

Early History.—She did not have any of the diseases of infancy; menstruated at seventeen; worked very hard as a servant, and married at twenty-three. Gave birth to two children, both living and healthy.

Present History.—In May, 1893, she began to have frequent severe pains in the head, beginning in the frontal region and extending over the whole head to the occiput. She says the pain was much more powerful than an ordinary headache, especially after a hard day's work. For the past year the pain in the head has been constant, accompanied very frequently with nausea and vomiting. The vomiting occurred generally in the morning, and afterward she would feel better and be able to prepare breakfast.



CASE VI.—The striped area shows the tumor removed.

In December, 1894, she began to lose the use of the right eye—noticed it especially when she tried to thread a needle. About this time she noticed that her right hand, arm, and leg would twitch and draw up spasmodically, and at other times would become numb. These attacks would be preceded by a feeling of dizziness, nausea, and faintness, and would occur at intervals of a week or ten days; sometimes she would have several attacks in succession, then would not have another for some time. She says that fatigue would generally bring on or else aggravate the attack. After seeking the advice of several physicians, among whom were Dr. Buswell and Dr. Ingraham, of Buffalo, who pronounced the case one of brain tumor, she entered the Lexington Heights Hospital (July 10, 1895) for operation.

The head pains, nausea, and vomiting occurred nearly every day, and whenever she tried to sit up she would have a fainting spell and be obliged to go to bed. She also complained frequently of a feeling of numbness affecting the whole right side of the body—face, arm, and leg. At times the arm and leg would contract spasmodically, and usually be followed by a feeling of great depression or fainting spell.

On July 17, 1895, I was called to examine her condition, and, if possible, to locate the tumor.

Status Præsens.—Mind: Her intellect is somewhat dulled, it apparently hurting her to think. Her memory is poor, and the family history was only obtainable from the mother. She talks slowly and with some hesitancy, oftentimes unable to find the word she wishes to use. This mild form of aphasia has existed, she says, for some weeks. Paraphasia was not noticed. Head is sensitive to percussion.

Face: The expression of the face is dark, dull, and heavy, the face lines being deeply drawn. The eyes are lustreless. Pupils react to light and accommodation but are somewhat dilated. The orbital muscles functionate normally. The vision of the right eye began to fail in December, 1894, and has gradually grown worse.

The left eye is still serviceable, but vision is greatly impaired.

The eyes were examined ophthalmoscopically by Dr. F. Park Lewis, of the hospital staff, on July 12th, and his report is here appended.

There is an atrophic condition of the right optic nerve, with vision reduced to quantitative perception of light.

The left has a condition of combined congestion and atrophy. The nasal side of the nerve is reddened, the outline indistinct, and no limiting line between the disc margin and the retina, being a condition of interstitial neuritis. The temporal side is blanched, the arterial circulation being reduced, the veins congested and tortuous. She has very imperfect vision on the nasal side, On the temporal side she counts fingers at two feet. The dividing line is quite clearly marked.

Olfaction, audition, gustation, and the movements of the facial, lingual, and laryngeal muscles are normal.

Extremities: The movements of the right arm and leg are greatly hindered; the grip of the hand and the leg push are greatly weakened. The left arm and leg retain considerable strength, and in the patient's estimation are not affected.

Sensation.—There exists no appreciable anæsthesia, not even on the right side, where she complains so much of numbness.

Bowels are sluggish; appetite is poor; urine, 1.017; no sugar or albumin; pulse and temperature are normal.

The history of head pain, vomiting, failing eyesight, with dulled intellect, weakness and numbness beginning with the right hand and later affecting the right leg, followed by contractions, and optic neuritis, left no doubt as to the diagnosis of a cerebral growth affecting the motor areas of the right arm and leg, and extending close to the centre of motor speech or else by pressure affecting this region slightly.

I advised an operation as soon as possible, and on July 25, 1895, Dr. Wilcox, of the hospital staff, trephined over the junctions of the arm and leg areas on the left side of the skull. The trephine opening was enlarged downward toward the arm centre and the dura opened. The brain pulsation was quite pronounced, and the cortex protruded into the trephine opening. A dark, cellular mass, infiltrating into the neighboring healthy brain tissue, was found, richly supplied with blood-vessels and containing very little connective-tissue stroma. As much of this mass as was thought wise was spooned out, amounting to about the size of a pigeon's egg, which proved to be, by careful microscopical examination, a glioma. Drainage lint was inserted into the cavity, the dura carefully united, and the wound closed under careful aseptic procedures. She rallied from the shock nicely, but vomits, yawns, and hiccoughs most of the time. Her speech, entirely gone after the operation, returns somewhat, but is more aphasic than before the operation. Pains in the head still continue with their usual severity, and the numbness of the right leg, arm, and right side of the face is still present. She can not move the right arm at all. The sensibility of the arm to the needle, brush, heat, and cold on July 31, 1895, was undisturbed. Careful attention was paid to any disturbances in the sensibility of the right side, and although at times she was unable to locate exactly the part irritated, or unable to tell the degree of irritation, yet on the whole no distinctive sensory failure could be distinguished. She had considerable mental symptoms, such as fears, hallucinations of sight, etc., and died from a slowly developing catarrhal pneumonia on August 13, 1895.

The husband refused absolutely a necropsy, and the exact extent and distribution of the tumor can only be surmised.

CASE VII. *Subcortical Tumor of the Right Central Convolutions; Operation; No Improvement.*—C. D., Italian, aged forty years; occupation, laborer; height, five feet six inches; weight, one hundred and sixty pounds; complexion, dark; constitution, strong.

Patient was admitted to the neurological ward of the Erie County Hospital on October 19, 1894.

Family History.—Parents are dead; has no brothers or sisters.

He gave a history of alcoholism in his earlier years, but denies syphilis. The history of the case is quite meagre, the patient not being able to converse in English, and not seeming to comprehend the questions asked him by the interpreter.

He says that on July 4, 1894, he awoke in the morning and was unable to move his left arm. Prior to this he was irritable, peevish, nervous, complained much of headaches, with spells of nausea and vomiting. The pain seemed most intense over the occiput, but was also severe over the temples. He also had considerable pain in the eyes, and a dull, heavy, aching pain in the left forearm. His eyes began to trouble him; he would have flashes of light, and gradually his eyesight grew dimmer until he became totally blind. He has had many dizzy spells, but never fell to the ground.

Status Præsens.—The patient, despite his severe pains in the head and arm, is cheerful and hopeful of improvement. His mind is dull and sluggish, and he appears to be best suited when left entirely to himself. Sleeps well.

Head: Percussion of the head is exceedingly painful—not localized, but involves the whole cranium.

Eyes: Pupils are dilated equally; no defect in the movements of the orbits. Ophthalmoscopically, double optic atrophy is found.

The muscles of the face and the senses of smell, hearing, and taste are unimpaired.

Arms: The left arm is exceedingly painful even to the touch, and the patient is very cautious in its use. He says it draws up occasionally, and has lost in power. The right arm has its strength and muscle tonus well preserved. The tendon and muscle reflexes of the left arm are increased.

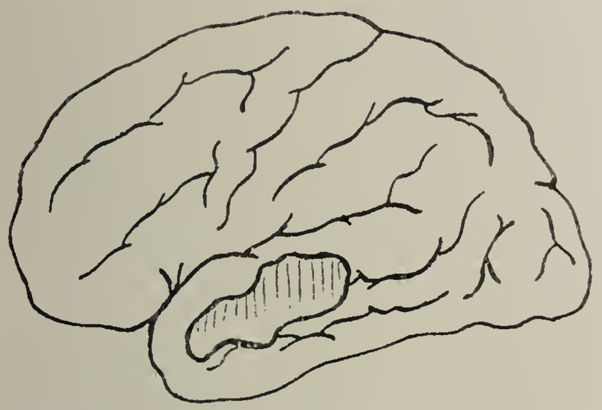
Legs: The legs do not seem to be involved. He walks quite well when guided, and complains neither of weakness nor contractions. Reflexes, both muscle and tendon, are present and not materially increased.

Sensory disturbances of the face, arms, and legs are absent. Appetite is good, bowels are regular, urine normal, likewise temperature, pulse, and respiration.

On February 23, 1896, an operation was undertaken to relieve pressure, if nothing more, and the trephine was applied over the left arm centre. The dura was incised and the brain substance was found to be healthy. Introducing needles carefully rendered aseptic into the brain revealed a hard mass in the central convolutions, an inch beneath the cortex, of irregular extent. Not deeming it prudent to remove or to attempt removal of such a subcortical growth, the wound was closed and the patient made a quick recovery. For a time the pain in the head seemed relieved, but gradually resumed its former severity. He grew impatient at the delay in a second operation and left the hospital on July 20, 1896.

Nothing has been seen of him since that day, and his present condition is unknown.

CASE XIII. *Abscess of the Left Temporal Lobe following Otitis Media Purulenta; Death; Autopsy.*—The history of this case is very meagre, as the patient was brought to the City Hospital of Buffalo in a semicomatose condition, and but little information could be gleaned from him.



CASE XIII.—The striped area shows the large abscess opening.

John E., aged twenty-one years; height, five feet eight inches; weight, about one hundred and forty-five pounds; complexion dark; constitution robust. He entered the hospital September 23, 1892, with a history of severe head pains, especially over the occiput, uncontrollable vomiting, purulent discharge from the left ear with pain over the left mastoid process. Two days before entering the hospital his condition grew rapidly worse; his mind seemed to go "all to pieces"; the head pains grew intense and extended down the back, and it was thought advisable to send him to the hospital. Just how long these symptoms had lasted I was unable to learn, but his friends claim that for three or four months he complained of the pains in the back of the head following an accident on a street car.

Examination, September 25, 1892.—Patient lies in a semicomatose condition, unable to respond to questions put him. When the head is percussed, especially over the left occipital region, he moves the head and draws the face as if in pain. He also shows his disapproval when the left mastoid process is percussed. Examination of the senses is unsatisfactory. The pupils are dilated, and the optic discs appear normal. A thick, foul-smelling, purulent discharge comes from the left ear. The examination of the remaining organs and the extremities is uneventful.

Temperature ranged from 99° to 100.5°. Pulse, 80 to 90 in the minute.

The diagnosis of a cerebral abscess of the left temporal bone was very evident from the objective symptoms, and an operation was arranged for on the following day. During the night the coma grew more profound, and early the next morning the patient expired.

Autopsy.—The scalp and cranium offered nothing unusual. The dura was somewhat adherent, and the sinuses engorged with blood. Removal of the dura from the left temporal lobe was followed by a gush of thick dirty-greenish pus. Examining the lobe more closely revealed a medium-sized abscess cavity in the supratemporal convolution. The walls of the cavity were ragged, irregular, and extended ventrad toward and into the meditemporal convolution. The mastoid cells were also affected, being filled with the same character of pus as found in the brain.

SANITARIUM TREATMENT OF PULMONARY TUBERCULOSIS.

By J. EDWARD STUBBERT, M. D.,
LIBERTY, N. Y.

So much is at present being written regarding the prognosis and treatment of pulmonary tuberculosis that a few clinical remarks on the advantages of sanitarium treatment, gleaned from two years' experience in the Loomis Sanitarium, may possibly be of interest to your readers.

In the *Medical Record* of September 25, 1897, a writer, under the heading of Some Observations on the Management of Early Phthisis, took occasion to inveigh against sanitarium treatment of tuberculosis.

It hardly seemed necessary to reply to him at the time, but it may now be well to refute a few of his statements in an incidental manner, as bearing upon the subject of this paper. Intelligent readers will not indorse the view taken by the writer that "ninety per cent. of cases of incipient tuberculosis can be *cured* by climatic treatment." The consensus of opinion and the weight of clinical evidence are, I believe, in opposition to such a statement.

Statistics compiled under most favorable circumstances, hygienic surroundings, regulation of diet, and constant supervision over and education of the patient, obtainable in properly conducted sanitariums, show that the *cured* incipient cases are estimated at fifty-nine per cent. In results quoted among patients outside of sanitariums it must be remembered that a large percentage of those reported cured are really only *greatly improved.* It is almost impossible to subject private patients to rigorous tests of cure, and the general practitioner has not the means at command of so doing. The highest rate of *improvement* is eighty-six per cent. These percentages are taken from favorable cases, while if we strike an average of all cases from different health resorts it will be as follows: Cured, forty-one per cent.; improved, sixty per cent. So eminent an authority as Dr. Trudeau says: "*Early* phthisis is therefore a disease which should be treated, and which yields, under intelligent management, *a fair proportion of cures.*" This percentage will be usually lower under less favorable environments. Statistics from all sources, American and European, will bear out these figures.

The writer refers to the "intolerably tedious and obnoxious life of sanitariums," and that "death would have been a blessing." He further adds: "I find this is invariably the case with those who have once been in such an institution and live to tell the story. Usually nothing could induce them to repeat the experience."

Such surprising statements show a lamentable ignorance of the life in a sanitarium. No one familiar with the noble work carried on for years by Dr. Trudeau in the Adirondack Sanitarium would give a second or serious thought to such perversions of facts. We can easily imagine the unanimous protests of the hundreds of grateful patients who have enjoyed the privilege of a sojourn at that sanitarium, of the large number who have returned thence to their homes greatly improved, and of the many actually cured under its judicious and scientific management.

At the Loomis Sanitarium, since June, 1896, we have admitted two hundred and fifty patients. From this number I can recall but three among the more intelligent who complained on account of "hospitalism or institutionalism." We find three classes of patients: 1. Those of exceedingly nervous temperament, lacking in self-control, who would not remain long on any spot in the civilized world; these leave a sanitarium. 2. The dissipated, quarrelsome, or otherwise objectionable, who possess neither moral stamina nor consideration for the comfort and welfare of self and neighbors; this class, if not discharged as "objectionable features," leave of their own free will to avoid attempting recovery of their health. 3. Those realizing their condition, are imbued with a full sense of responsibility to themselves and their families, and come here for the single purpose of regaining their health. Whether rich or poor, they are possessed of innate refinement of character and action, and their universal testimony is always in favor of sanitarium life and surroundings; they consider it a home. Two charming young girls, a patient accompanied by her cousin as companion, made this remark: "If we must be absent from home, there is no place so attractive as this for a sojourn." These young persons, on account of an idea of "hospitalism," had previously spent some months in the largest hotel in the town and at a comfortable boarding house in the suburbs. I do not care to go further into details, but can only repeat that their verdict agrees with that of the large majority of those who, knowing both sides of the question, are competent judges.

For a moment compare these two pictures: A sanitarium patient lives in a snug cottage, charmingly arranged and luxuriously appointed, every group of four to eight having their private parlor and bath. The bedrooms are retired and bright, the reception rooms homelike; every cottage has electric lights, most have a modern hot-water heating plant and broad verandas facing the south. A complete telephone system connects all cottages with the administration building. A capacious casino provides a place for lounging and amusement, and a large, carefully selected library, pianos, billiard room, etc., furnish recreation. In the administration building are found all the appliances for the most modern and scientific treatment of cases, including an infirmary, solarium, laboratory, and throat room. At any time during the day or night physicians and nurses are available, but, excepting on regular examination days or in an emergency, patients need not speak to any one professionally; they simply know that such help is available; and yet so thorough is the unobtrusive oversight maintained that if a patient is likely to harm himself by well-meant but injudicious action, a word in time saves subsequent trouble and sickness. The rules and restrictions are few; regular hours for meals and retiring, out-of-door life during the daytime, no smoking indoors, absolute care *regarding disposal of sputa,* hæmorrhagic and fever cases not to walk beyond certain limits. Aside from these rules patients come and go at pleasure. Some walk miles at a time over the hills, and think little of the trip to the village and return, a distance of seven miles. They fish, hunt, play croquet, and ride bicycles in the summer, while during the winter months tobogganing and sleighing take the place of other sports. During evening hours debating societies and social functions in the different cottages are frequent, and many a happy hour is whiled away with mandolin, guitar, or piano. Is there any "all-pervading and ever-present depressing effect of hospitalism" in this picture?

Look at the other side: A patient locates in a farmhouse where he obtains but one thing—good, plain food, and not too much of that. The rooms are arranged, not for light, ventilation, warmth, or comfort, but with the single idea of crowding in as many boarders as possible. The patient may spend his evenings in the common family room, heated from 75° to 85° F. by a large stove, and not ventilated. Then, after the social and intellectual feast to be expected, he goes to his cheerless room, passing on the way through cold, dreary halls. His room is likewise cold, or else is heated by that abomination of civilization, a stove. Does he require to visit a closet before retiring or during the night (such emergencies *do* occur with consumptives), he may wander down stairs and out through the snow. However, this may toughen him. Does he require a nurse? There are none. A physician? Instead of telephoning from his cottage to the main building, as at this sanitarium, and receiving immediate attention of both physician and nurse, he must arouse one of the family, wandering again through cold hallways to do so, and wait from one to four hours until the doctor arrives. If the patient is in a large boarding house or hotel, his surroundings are better, but not inspiring. From the vantage ground of a busy practice among both sanitarium patients and private cases distributed among hotels, boarding and farm houses, I am certain that the life in a sanitarium is less depressing; there is more real happiness and less consideration of self among the patients; there is infinitely less conversation relative to disease; I hear far more complaints from my outside patients of "disgusting familiarity" in discussing symptoms than from those within the sanitarium. The reasons are self-evident: In the sanitarium the patients are grouped in small cottages, and, having the entire surrounding country over which to roam, are scattered during the day. In boarding places they are herded on a common veranda or in a parlor; and when they walk out are constantly meeting with others more ill, perhaps, than themselves.

In the Loomis Sanitarium, out of seventy-five patients to-day, all excepting nine are able to walk at pleasure from one to five miles at a time, up hill and down. In a town at least forty per cent. of patients congregated will not be able to walk more than half a mile. Among the seventy-five patients at the sanitarium a stranger would pass by at least eighty per cent. as healthy people. In town, fully sixty per cent. of the sick show traces of their sad illness. Where, then, are comparatively depressing influences to be found—within or without the sanitarium?

Routine examination of patients, carefully carried out in all its details, is the first essential in a sanitarium. This includes full family and personal histories, wherein they relate to disease; physical examination of lungs and heart, and examination of these organs by the Röntgen rays; bacteriological examination of sputa and blood, uranalysis, and careful laryngoscopic examination of pharynx and larynx. Finally, all cases in which tubercle bacilli are absent are subjected to the tuberculin test. Temperature and pulse observations are made morning and evening for one week, and subsequently, if there be found a thermal movement. All the facts elicited by these various methods are recorded, and we are able to make once a month, or oftener if necessary, comparative records. Thus it would appear that a patient in a sanitarium makes the start in search of health under more favorable auspices and on a more scientific basis than would be possible outside.

Having thus classified the patient, he is put under treatment deemed desirable, and, unless there is some especial reason in individual cases, is free to come and go as he pleases, subject only to the few rules which are in force for their individual and collective benefit.

The treatment of all cases is based upon climatic, hygienic, and dietetic influences. At Liberty the climate is dry and bracing in winter, cool and refreshing in summer, with prevailing northwest and southwest winds. The elevation at the sanitarium being twenty-three hundred feet, all desiderata seem to be met.

It is unnecessary to state that the hygienic arrangements of well-appointed sanitariums are as perfect as science can make them.

Diet is an all-important factor in the treatment of tuberculosis; indeed, were we restricted to three curative agents, they would be the three named above. Physic must be merely an accessory. The culinary department of a sanitarium should be under the supervision of a capable hotel steward, the table equal to those of the best hotels in cities, and the bills of fare supervised occasionally by the medical director.

Increase of weight is a prognostic factor of great importance. The writer referred to early in this paper speaks of five pounds gain in weight in a month outside of a sanitarium in this climate evidently as a maximum one. The average *weekly* gain of our patients is two pounds; the maximum for a month of one patient, eighteen pounds; the maximum total gain, forty pounds.

I will now note concisely the results of treatment among two hundred cases at the Loomis Sanitarium, believing that the results obtained will fairly represent the percentages of any scientifically conducted sanitarium in a good climate. The patients upon admission were divided into four classes:

Incipient stage without bacilli	11
Incipient stage with bacilli	68
Moderately advanced	81
Far advanced	40

Incipient Stage.—Slight localized involvement of lung, with little or no constitutional disturbance.

Moderately Advanced.—More general consolidation of lung, with constitutional disturbance and beginning of softening or single cavity.

Far Advanced: Softening and excavation, with marked constitutional disturbance.

Treatment.—After a patient is classed, as has been said, he is placed upon treatment which shall be auxiliary to climatic, hygienic, and dietetic influences.

Exercise and Fresh Air.—All patients, except when temporarily excused for sufficient reason, such as slight indisposition, high temperature, or hæmoptysis, are required to remain out of doors at least eight hours daily. This does not mean, as the writer before referred to says, "curling up in furs in torpid inactivity, like a hibernating animal, on glass-inclosed balconies." The large majority of our patients, within a month after arriving, are able to walk from one to seven miles a day, *and they do it.* Sitting on the veranda is better than remaining indoors at such times as they become tired of walking, or upon their return from fishing, hunting, etc., to await there the meal hour.

The temperature of rooms is not allowed to be higher than 65° F. during the day, and at night all the windows are left open. The result is soon apparent, in that the patient insists that closing his window at night renders him ill the following day.

Inhalations.—Many cases have been benefited by hot-air inhalations. The temperature of the machine should range from 350° to 550° F. These inhalations are of most value in cases of mixed infection; before using them in any given case there should be a careful laryngeal examination of the throat and microscopical examination of the sputa. Combined with oxygen, these inhalations give great relief in many cases of pleurodynia and asthmatic dyspnœa. They are also indicated in profuse and purulent bronchorrhœa. Hæmoptysis and scanty expectoration would seem to be contraindications for their use. Streptococci, diplococci, and staphylococci are often diminished by this remedy.

Number of Cases Treated, 50.

Cough decreased in	39	Expectoration decreased in	37
Cough increased in	3	Expectoration increased in	3
Cough stationary in	6	Expectoration stationary in	10
Discontinued on account of hæmoptysis	2		50
	50		

Antitubercle Serum.—The future of serum or tuberculin treatment is problematical; still, the general trend of opinion seems to be toward one of these lines. Maragliano has certainly shown a few good results with serum; Hirschfelder receives the countenance of his colleagues in reporting marvelous results for oxytuberculin; Dr. de Schweinitz, chief of the Biochemical Laboratory of the United States Government at Washington, has furnished the Loomis Sanitarium, *on purely scientific, non-commercial grounds,* antitubercle serum, which has been used in forty-seven cases with the following results:

Classification of Cases:

Incipient cases	20
Moderately advanced	18
Far advanced	3
	41

Results:

Expectoration decreased in	31	Temperature decreased in	25
Expectoration stationary in	10	Temperature stationary in	16
	41		41
Appetite improved in	30	Tubercle bacilli disappeared	7
Appetite unchanged in	11	Tubercle bacilli decreased in	10
	41	Tubercle bacilli stationary in	20
		Tubercle bacilli not present in	4
			41
Weight gained in	30	Cough decreased in	31
Weight stationary in	6	Cough stationary in	10
Weight lost in	5		41
	41		
Physical signs improved in	31	General condition improved in	35
Physical signs stationary in	5	General condition stationary in	1
Physical signs increased in	5	General condition worse in	5
	41		41

The advantages of serum treatment are: 1. It does not tax the functions of digestion or produce gastritis, diarrhœa, or loss of appetite.

2. In cases wherein the bacilli have disappeared, they have been lost *while sputa were still present,* whereas in creosote cases the last specimens of sputa contained bacilli.

3. Up to the present time no relapses have occurred among our patients declared *cured* by serum treatment; they are occasionally met with in creosote cases.

Some of our serum patients after leaving here have been subjected to rather serious climatic and hygienic tests without mishap. There would appear to be established a certain immunity in cases cured by serum, but how lasting this may be is still to be determined.

Antistreptococcic Serum.—While the results from the antitubercle serum have been exceedingly gratifying, its use would generally seem to be restricted to the incipient stage and those cases showing a pure culture. The most alarming symptoms and trying complications with which the physician meets in tuberculosis are due, not to the tubercle bacillus, but to the cocci of mixed infection. The most virulent one of these seems to be the streptococcus, and the profession is watching with great interest the result of the use of Marmorek's antistreptococcic serum, in the hope that in tuberculosis with mixed infection (the most common variety met with) the disease may be reduced to one of simple tuberculous infection that would readily yield to antitubercle serum. This hope is a legitimate one in view of the excellent results reported from its use in erysipelas, active abscesses, pelvic inflammation, otitis media, and acute and chronic suppurative processes generally.

Knopf, in the *Medical Record* of February 13, 1897, recommends its use in early cases, remarking that generally good results are not to be looked for when the temperature is higher than 101° F. Weaver, in the American Medical Association's *Journal,* reports a case in which one dose of this serum reduced the temperature from 105° F. to nearly normal. He fails to state whether it remained so. Cox, in the *Journal of the American Medical Association* for September 11, 1897, refers to three successful cases of Weaver, and beyond that deals in generalities and hopes. The question would seem therefore to still be *sub judice;* but in all sanitariums where a sufficient number of cases of this infection can be found a careful investigation should be carried on.

At the Loomis Sanitarium, Marmorek's serum is being used in one case; after the first injection the expectoration ceased for three days, and the specimen then obtained was less purulent in character and the number of streptococci was markedly diminished. We hope to be able to present before many months a series of cases treated with this serum which will prove or disprove its efficacy in tuberculosis. Perhaps more valuable information might be derived from statistics compiled at a lower altitude, say in our city hospitals, on account of the rapidly destructive effect of high altitudes upon the streptococcus.

Ichthyol.—This drug as prepared in enteric coated pills, two grains each, has been used with considerable success, especially in cases showing intestinal complications. The initial case was as follows: Patient far advanced, pulmonary lesions, with secondary deposits in the intestines; seven or eight watery evacuations a day with tenesmus, general abdominal tenderness, tympanites, etc.; could not tolerate any preparation of creosote. Keratin-coated pills were prescribed with the purpose of passing the remedy to the intestines before its coating became dissolved. In a short time the evacuations were reduced to one or two a day, and tenderness became localized at one point. A number of patients have since been treated with ichthyol in daily doses of six to ten grains, and the results obtained have been better than those from creosote or any of its derivatives.

NUMBER OF CASES TREATED, 36.

Classification of Cases:

Incipient cases	11
Moderately advanced	12
Far advanced	13
	36

Results:

Expectoration decreased in	26	Cough decreased in	25
Expectoration stationary in	10	Cough stationary in	11
	36		36
Bacilli not present in	1	Weight increased in	26
Bacilli disappeared in	3	Weight decreased in	5
Bacilli decreased in	16	Weight stationary in	5
Bacilli stationary in	16		36
	36		
Physical signs improved in	23	General condition improved in	28
Physical signs increased in	5	General condition unimproved in	8
Physical signs unchanged in	8		36
	36		

Creosote.—The table below shows fairly good results from treatment with creosote, but many disagreeable complications arise during its administration, making it, to my mind, daily of less value in the treatment of tuberculosis. It should never be given in liquid or pill form. It has been claimed that many cases of laryngeal tuberculosis are traceable to the irritating effects of creosote taken in liquid form, and there have come under the writer's notice a few cases that would seem to substantiate this theory. The best way to administer it is in capsules of bismuth subcarbonate, five minims of Merck's creosote to each capsule. These should be freshly prepared each day. Given in this form it is less apt to cause gastritis.

Our experience with creosote and its derivatives seems to disprove the rather wild statements of some writers that large daily doses are either tolerated or comparatively beneficial. I believe that from fifteen to forty drops daily is all that any patient can take safely, and that the toleration of every case will be found between these points. I remember a good old gentleman who took an annual dose of fifty grains of calomel because his father and grandfather had been in the habit of so doing; the poor man was ignorant of the fact that the physiological dose of the drug was all that was necessary. Just as senseless seem the enormous doses of creosote advocated by some.

NUMBER OF CASES TREATED, 66.

Classification of Cases:

Incipient cases	22
Moderately advanced	29
Far advanced	15
	66

Results:

Expectoration decreased in	52	Cough decreased in	52
Expectoration stationary in	14	Cough stationary in	14
	66		66
Bacilli not present in	3	Weight increased in	46
Bacilli disappeared in	9	Weight decreased in	10
Bacilli decreased in	26	Weight stationary in	10
Bacilli stationary in	28		66
	66		
Physical signs improved in	52	General condition improved in	52
Physical signs increased in	14	General condition unimproved in	14
	66		66

Valerianate of Guaiacol.—This is an excellent form for administration; the results as to increase of weight, appetite, and general nutrition are about equal to those derived from Merck's creosote, and less gastric disturbance ensues; it is a more elegant preparation.

Laryngeal Phthisis.—No form of tuberculosis presents more difficulties of treatment than that involving the larynx; none is so readily affected by changes of atmosphere or indiscretions of the patient; no form of tuberculosis requires as careful and constant watchfulness on the part of both physician and patient. We are all familiar with the generally unfavorable prognosis given in such cases.

Solly, of Colorado, states that only twenty-five per cent. of persons with ulceration were *improved* by climatic influences, and ten per cent. were cured. The total average duration of such cases he gives as three years and two months. Bosworth allows only about two years' limit of cases with or without ulceration. Solly again states that of all, ulcerative and non-ulcerative, only forty-nine per cent. were improved. These percentages are better than those obtained in lower altitudes, and he goes on to say: "It is nevertheless true that no such results as I report could be reached in the majority of cases without careful local treatment."

Bosworth says: "In no ulcerative process, probably, are we able to detect in a less degree any reparative effort on the part of Nature." The observations of these two eminent authorities coincide with those of all medical men of note and experience, and the logical conclusion is that cases of laryngeal tuberculosis above all others require the constant care obtainable only in sanitariums. Only the wealthy can afford to demand outside the frequent and skillful treatment which is a *sine qua non* in such cases.

Dr. Chappell, of New York, speaks very highly of the effects of the climate of Sullivan County upon laryngeal tuberculosis, preferring it to the Adirondack climate. The perusal of our statistics shows that most encouraging results have followed the combined influences of climate and local treatment in these cases. The percentages of good results among the Loomis Sanitarium patients is somewhat higher than those recorded in Colorado, and I believe superior to those obtained in the Adirondack region.

The percentage of good results among my outside private patients is necessarily lower than those reported in the sanitarium.

RESULTS IN FOURTEEN CASES OF LARYNGEAL TUBERCULOSIS.

First: Three Cases of Infiltration.

Second: Eleven Cases with Ulceration.

Infiltration.		With Ulceration.	
Cured	1	Healed	5
Improved	1	Improved	3
Stationary	1	Stationary	1
	3	Worse	2
			11

It will be seen that forty-five per cent. of ulcerated cases were healed.

Dr. Chappell, our consulting laryngologist, has reported more fully the results in this department.

To summarize:

1. All treatment should be based upon climate, hygiene, and diet.

2. The largest percentage of good results of auxiliary treatments have been derived from antitubercle serum, both as to immediate results and to future immunization.

3. Ichthyol is efficacious in a larger percentage of cases than creosote.

4. Hot-air inhalations are of great value in certain cases.

5. The results of treatment and sojourn at this sanitarium of cases of laryngeal phthisis show flattering results, proving the advantages of sanitarium treatment for this grave disease.

Antitubercle Serum:		
Expectoration decreased in	75	per cent.
Bacilli disappeared in	17	" "
Bacilli decreased in	24	" "
Weight gained in	73	" "
Physical signs improved in	75	" "
Apparent immunity established in	17	" "
Temperature decreased in	62	" "
Temperature reduced to normal in	41	" "
Ichthyol:		
Expectoration decreased in	72	per cent.
Bacilli disappeared in	$8\frac{1}{3}$	" "
Bacilli decreased in	44	" "
Weight gained in	72	" "
Physical signs improved in	64	" "
Temperature reduced to normal in	30	" "
Creosote:		
Expectoration decreased in	78	per cent.
Bacilli disappeared in	13	" "
Bacilli decreased in	36	" "
Weight gained in	69	" "
Physical signs improved in	78	" "
Temperature reduced to normal in	$31\frac{7}{10}$	" "

The writer treats about an equal number of patients suffering with tuberculosis in the sanitarium and outside, and from this vantage ground it is not difficult to decide in which place the majority of patients progress the more rapidly toward recovery. Incipient cases all do better within a sanitarium—*i. e.*, one built on the cottage plan. A certain smaller percentage do well outside, but in any given case the recovery is more rapid within a sanitarium. Statistics show that about eighty-six per cent. of patients treated in a sanitarium improve, but only fifty-eight per cent. outside; that in forty-one per cent. the disease is arrested and cured within, but in fewer outside.

Prudence on the part of the patient is essential, as is shown by the fact that sixty-eight per cent. of wise patients in the first stage recover, and but thirty-one per cent. of the unwise in the same stage of the disease. Professor S. E. Solly, M. D., of Colorado, says: "Dr. Trudeau, Dr. Von Ruck, and Dr. Bowditch all believe that they obtain better results, other things equal, in the sanitarium than outside. My own personal experience in sanitarium treatment, though not sufficient to furnish statistics, confirms the opinion; and I believe the great hindrance in all climates in getting better results is due to the mistaken repugnance of most well-to-do patients to enter sanitariums, and to the criminal apathy of the State in neglecting to furnish them for the poor, so that their use is extremely limited. My observations as to the influence of prudence upon the progress of phthisis corroborate these opinions of the value of sanitariums."

Dr. George F. Shrady, whose particular work brings him constantly in touch with the best minds and most careful observers in the profession, says: "The treatment of phthisis in special institutions has met with a large measure of success abroad, as our readers may have gathered from the discussion on this subject at the Moscow Congress, and there would appear to be no reason why similar establishments should not have equal success in our own country. The rational method of treating tuberculosis is, without doubt, for the sufferer to live under those conditions which fulfill in the highest possible degree the laws of hygiene and diet. In private life, except by the very rich, these conditions are very difficult to attain."

The writer can heartily indorse these statements and add from careful observation of all cases treated in the sanitarium and outside, in those cases that improved the average gain in weight was greater and the improvement in physical signs, cough, and expectoration was relatively more rapid among the sanitarium inmates.

In far-advanced cases the patients are better off at home, and it is wrong to send them on a quest for health that is foreordained to be futile.

PROFESSOR BEHRING'S PATENT ON DIPHTHERIA ANTITOXINE.

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MEMBER OF THE AMERICAN MEDICAL ASSOCIATION,
OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION,
OF THE CHICAGO MEDICAL SOCIETY, ETC.

PROFESSOR EMIL BEHRING makes an absurd, unjust, and untrue contention that he is the sole inventor of diphtheria antitoxine, and that he and his commercial associates of the Höchst Farbwerke have the exclusive and undisputable right to manufacture serum for sale in this country. It is true that Professor Behring last month obtained a United States patent on a process of manufacturing diphtheria antitoxine, the result of six different attempts made by him to establish his claim in Washington, the first application for a patent having been filed in January, 1895. For nearly four years the patent office saw fit to resist this claim. It refused his application five different times, setting forth on each occasion in ample and emphatic terms that he was not entitled to the exclusive credit of inventing the antitoxine, and seeming each time to render hopeless the effort he was making to establish a monopoly of the discovery. Roux, who shared with Behring the French Academy of Science's prize for antitoxine, and who was a follower of the ethics governing all truly scientific men, announced that he gave his discovery freely to the profession, but now comes Behring and says that he did it all, that he was the sole discoverer of antitoxine, and that Roux, Chamberland, Kitasato, Fränkel, and all the others were either a lot of uncommercial idiots or scientific impostors. Of course, there is no other country in the world except the United States that would recognize such a contention or give this man a right to personally profit by a discovery that science has been perfecting for many years, the initiative having been taken long ago by Pasteur in his well-known method of inoculation against chicken cholera and anthrax. Diphtheria antitoxine has been sold for years in France, England, Italy, Russia, Switzerland, and Japan, and several boards of health in this country, as well as commercial houses also, have provided it. The thought that anybody would have the audacity to claim the sole credit for its invention was never dreamed of, and such a thing, as before stated, could not have happened anywhere else except here.

The board of appeals in Washington granted the patent finally, they say, on the ground that Behring's work was a factor in reducing the mortality from diphtheria. It was not the only factor, though, as the records of the French Academy show, and consultation of Sternberg's valuable and comprehensive book on *Immunity and Serum Therapy* will fully disclose. A complete and interesting history of serum therapy is set forth in this volume, and by perusing the chapter on Acquired Immunity the board of appeals in Washington can see that they ignored such distinguished workers in this beneficent field as Pasteur, Roux, Sewell, Fränkel, Foa, Kitasato, Wernicke, Aronson, Héricourt, Richet, Emmerich, Ogato, Tizzoni, Ehrlich, and others.

Professor Behring's application for a patent states that he has invented:

"1. A process of producing diphtheria antitoxine which consists in inoculating horses, or other animals capable of being infected with diphtheria, with repeated doses of diphtheria poison or living diphtheria bacilli of gradually increasing quantity and strength so as to immunize them and form in the blood a counter-poison for destroying the poison secreted by said bacilli, drawing off the blood from said animals, separating the serum from the blood corpuscles, and concentrating the former for use substantially as set forth.

"2. As a new substance diphtheria antitoxine consisting of the concentrated serum of the blood of animals treated with diphtheria poison and having the characteristic of immunizing test animals against infection with diphtheria, and curing them when artificially infected with diphtheria, said serum containing a counter-poison having the property of destroying the poison secreted by the diphtheria bacilli substantially as set forth."

Behring did not invent inoculation, for that idea took form under Pasteur, as I have already stated, when he succeeded in immunizing against chicken-pox and anthrax, and Behring deliberately appropriates that distinguished scientist's work when he sets up an exclusive claim to a process of immunizing against diphtheria. He sets aside the claim of Sewell, who in 1887, three years before Behring's pretensions were even heard of, immunized pigeons against the poison of rattlesnakes. In the same year Roux and Chamberland immunized animals against malignant œdema, using sterilized anthrax cultures as a counter-poison. It was not until 1890 that Behring, applying the principles made use of by each of his predecessors in this line, announced the results of his tests in immunizing animals against diphtheria and tetanus; and Kitasato was successful in exactly the same field at the same time; while Fränkel in the same year treated animals for diphtheria by inoculating them with weakened germs and filtered cultures. It is plainly evident from these facts that Behring had no priority of claim to the principle of serum immunization. Then there were Roux and Aronson and Emmerich who disputed this priority, whose serums were used in 1894 in certain hospitals in Paris and Berlin. Such an eminent body of experts as the French Academy of Science could not adjudicate this matter of priority in connection with diphtheria antitoxine, and finally effected a sort of compromise by dividing the antitoxine prize between Roux and Behring.

There the history of the contest of these scientists rested until Behring filed his application for a United States patent in January, 1895. Immediately he did this he decided the contest against himself, for, while the question of diphtheria antitoxine's inventor might be in dispute, the idea upon which antitoxine rests, the principle underlying and making it and all other serum treatment possible—and after all the principle is the thing in the case—was not disputed by anybody; it antedated Behring and overshadowed him with the greater reputation of Pasteur.

It is pitiable to think that the laws of the United States make it possible for Behring to profit by the discoveries of his unselfish brother scientists. It is a consoling fact, though, that the courts often correct the mistakes made by the patent office, and there is no doubt that in this case Behring and his associates—the latter of whom are only constructively blamable, as they are not in the manufacturing business either for the good of science or for the promotion of health—will discover that the American manufacturers of antitoxine, who have never sought to turn beneficence into monopoly, will not permit a foreign concern to place the people of the United States at its monopolistic mercy in the dispensing of diphtheria antitoxine.

Therapeutical Notes.

Impetiginous Syphilides.—L. Phillips (*Gaceta médica de Caracas,* April 30th) gives the following prescription for a topical application:

℞ Red oxide of mercury, Oxide of zinc,	each.... 22½	grains;
Resorcin	9	"
Vaseline	450	"
M.		

Intestinal Catarrh. — According to the *Riforma medica* for June 13th, Liebrich recommends the taking four or five times a day, in cases in which it is inadvisable or impossible to give opiates, twenty drops of the following mixture:

℞ Tincture of colombo, Tincture of cascarilla,	.......equal parts.
M.	

Treatment of Hepatic Congestion.—Monin (*Indépendance médicale,* June 29th) recommends the following:

1. Let the patient take daily in a wineglassful of hot water a teaspoonful of the following powder:

℞ Bicarbonate of sodium, Sulphate of sodium,	of each, 900	grains;
Phosphate of sodium	600	"
Benzoate of sodium	300	"

2. Before meals in a cachet:

℞ Powdered ignatia amara	1½	grains;
Powdered squill	1½	"
Sulphate of sparteine	¾	grain;
Amorphous quassine	¾	"
Theobromine	3¾	grains.

Two cachets to be taken daily.

3. After each meal in a wineglassful of water a teaspoonful of the following mixture:

℞ Pure glycerin	6¼	ounces;
Tincture of boldo	3⅛	"
Lactic acid	225	grains.

Broncho-pneumonia in Children.—According to the *Dublin Journal of Medical Science* for July, Dr. Gaston-Lyon (*Revue de thérapeutique*) recommends the following prescription:

℞ Syrup of gum, Syrup of Tolu,	of each...... 2	ounces;
Cognac	150	minims;
Acetate of ammonium, Benzoate of sodium,	of each, 22½	grains.
M.		

A dessertspoonful every hour or two hours according to age. If the cough is very troublesome a little of the tincture of belladonna may be added to the above prescription.

Suppository of Anusol.—Buchka (*Journal des praticiens,* June 25th) gives the following formula:

℞ Anusol	112	grains;
Oxide of zinc	90	"
Balsam of Peru	22	"
Cacao butter	285	"
Simple cerate	37	"

Make into twelve suppositories.

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THE HEALTH OF OUR LAND AND NAVAL FORCES.

With the exception of the unfortunate prevalence of yellow fever at Juragua, the health of our land forces in Cuba, so far as is now known, is not seriously threatened. It is difficult to see how the outbreak could have been avoided under the circumstances that have existed—conditions brought about by what we may suppose to have been the military necessity of making haste in our offensive movements. No sooner had a foothold been obtained than residences that might, as it turns out, better have been burned were seized upon by some of the officers for quarters, and some Spanish supplies that it is thought may have been contaminated were made use of. Then from Santiago there came a rabble of refugees to mingle with our troops. It would have been strange indeed if the disease had not broken out among them. At present accounts the number of cases seems to be increasing with unwelcome rapidity, so that it is feared that the hospital established in Juragua, now represented to be in an excellent condition, can not be kept so. On the other hand, the mortality appears to be low, and a large proportion of the patients who have shown symptoms usually taken to have a fatal import are reported to be doing well. Taking everything into consideration, we think there is good ground to hope that the disease will prove exceptionally mild.

If, as has been stated, typhoid fever is raging in Camp Alger, it can not so confidently be attributed to unforeseen circumstances, for that disease is among the easiest of the infectious fevers to be guarded against. The channels through which it has gained access to the camp ought to be made the subject of a rigid investigation, and we have no doubt they will. Certainly it ought to be quite practicable, we should say, to limit it to the men already infected, so that, with reasonably proper management from now on, an unknown increment is not to be dreaded.

No intelligence of any serious prevalence of disease among our other bodies of troops has been received, and the health of the navy, both in Asiatic waters and in and about the West Indies, is excellent. It is reasonable to expect that hostilities in Puerto Rico will be of short duration, and that our forces there will be spared the unfavorable influences under which the men in eastern Cuba had to fight. The same may be said of Manila. When Puerto Rico and the Philippines have been taken, there will remain only the reduction of Havana to be achieved, and that task may very well be deferred till the season of danger is over. So, on the whole, we think it is safe to assume that we are now seeing the worst of the dangers to the health of our forces, and that the autumnal campaigns, if there are to be any, will be free from serious outbreaks of disease.

THE CIGARETTE QUESTION.

Some time ago we received a brochure entitled *The Truth about Cigarettes,* consisting of papers read and discussed by the Medico-legal Society of New York. It consists of a powerful traversing of the sensational rubbish that has at times appeared upon the deadliness and immorality of cigarette smoking, and which has been exploited *ad nauseam* by many members of the "yellow" journalism. The argument is clear, trenchant, and to our mind convincing, and is put with forcible lucidity, logical coherence, and the strictest regard to the laws of evidence.

The inquiry originated in a paper by Mr. William H. Garrison read before the Medico-legal Society of New York in November, 1897. The principal charges brought by those who would forbid altogether the manufacture and sale of cigarettes are that the use of them causes insanity, phosphorus, opium, arsenic, or other poisoning, the production of tumor on the brain, paralysis, suicide, beggary, and death. The absolute untruth of all these statements is clearly shown by a searching investigation of the reported cases upon which they are founded.

We are glad to see that, generally speaking, the medical press takes a moderate and sensible view of the question. It is pretty well proved that tobacco does not directly produce insanity, whether smoked in cigarettes or in any other form. The *Lancet* commission of experts which examined many brands of cigarettes reported that in no case did it find any trace of opium or any unclassified alkaloid or any trace of chlorine or arsenic, though some cigarettes showed a faint trace of copper, due, no doubt, to the metallic label on the wrapper. That the excessive use of tobacco might produce paralysis may be inferred from its known physiological effects, though that result is far more likely to follow the habit of chewing than that of smoking. As to the assertion that the nicotine is volatilized and is drawn into the air vesicles, where it finds an easy entrance to the blood, and that particles of carbon are also inhaled into the air vesicles, it is probable that they do not penetrate beyond the larger bronchial tubes at all. Further, the amount of carbon that could pass into the lungs from cigarette smoking would be so small that it may be neglected as an appreciable increment on that which every dweller in a large city habitually inhales.

Process reproductions of some of the startling newspaper reports are given, and on the opposite pages are statements of the actual facts of the case as borne out on investigation. In every instance it is clearly shown that there was no connection whatever between cigarette smoking and the results attributed thereto, and in many cases it was shown that the victims did not smoke cigarettes at all.

So much for the paper. Now as to the question itself. We do not believe that it has been shown that cigarette smoking is specially injurious to a healthy adult. Like many other things, if there is a constitutional taint it may bring it out when tobacco is used to excess, but we do not believe that it is essentially more injurious in the form of cigarettes than in any other form. Bicycling has been largely credited with inducing masturbation in girls, but, as Dr. Ballantyne has pointed out in his very able article on Bicycling and Gynæcology in the *Scottish Medical and Surgical Journal* for June, "perhaps the best summary of the matter is contained in the following statement made by Verchere (*Progrès médical,* 2. S., xx, 306, 1894) at a meeting of the *Société de médecine publique et d'hygiène professionelle:* "Quant aux sensations voluptueuses qui peuvent se produire, elles n'apparaissent que lorsque la femme le veut bien." In other words, where a taint exists in the psychical or physical nature certain things, otherwise innocuous, may become exciting agents. But that is a reason only for prohibiting their use to individuals, and not for depriving the large mass of people of a legitimate enjoyment, which in the case of bicycling is also for the majority a healthful exercise. Certain forms of food are poisonous to certain people, yet that is no argument for prohibiting their general use. Even unobjectionable foods, if eaten to excess, may become sources of injury to the individual. Because some people will not refrain from eating shellfish, knowing, as they do, that they invariably suffer from it, are oysters, crabs, clams, etc., to be prohibited by law to all people? Because some people surfeit themselves with food till they become confirmed dyspeptics, a misery to themselves and those around them, with wrecked constitution and impaired mentality, is eating to be henceforth altogether prohibited by law?

We might produce instances innumerable, but these are sufficient to establish our point.

The actual facts are: Tobacco is harmful to most neurotics, though even among these we have known a few exceptions, to whom, when used in moderation, it seems decidedly beneficial; it is harmful in certain cases of cardiac affections; it affects the sight injuriously in some few people, and the throat, producing follicular pharyngitis, in others. These people should not use it. Used to excess it is bad for every one, as is everything else, even such wholesome things as bread or water. What constitutes excess is an individual question to be determined for each person either of himself or with the advice of his physician. Cigarette smoking is not of itself more harmful than any other form, but is subject to the above-mentioned general law-facts. It has, however, two special dangers: 1. The smallness of the cigarette and its convenience may perhaps induce inordinate use; but that, as we have said, is a question for the individual, not the public. 2. The injurious practice of inhaling the smoke is more likely to take place with the mild cigarette than with the stronger pipe or cigar. That again is a question for the individual. The asserted increase of cigarette smoking among boys, if true, is an evil, for people of immature age, as well as those of impaired constitution noted above, ought not to smoke at all. But, for the reasons already mentioned, that is no argument for the prohibition of the proper use of the cigarette or any other form of tobacco by the world at large. We have had a great deal too much of this prohibitive legislation, as in a note on Undue Restrictive Legislation, in our issue for June 4th, we have already had occasion to point out, and we are decidedly opposed to any more of it.

MINOR PARAGRAPHS.

THE RESTORATION OF BLEEDING AND INDICATIONS FOR VENESECTION.

The *Journal des praticiens* for July 9th says that at a time when the masters of French medicine are laboring for the rehabilitation of bleeding, it is interest-to note that an analogous campaign is being carried on abroad. According to M. Kaczer (*Wiener klinische Rundschau*), the principal indications for phlebotomy are: 1. Among diseases of the nervous system, meningeal inflammations, cerebral congestion, and apoplexy furnish positive indications. 2. In diseases of the kidneys, with generalized œdema and with uræmic symptoms, bleeding acts in two ways—namely, as a depleting process and as a sudorific. 3. In circulatory troubles consecutive to cardiopathies, it unloads the venous system and augments the arterial tension. 4. Its efficacy in pneumonia is remarkable. It should be had recourse to at the outset. It eases the patient by suppressing the pain in the side and rendering the respiration and circulation freer. It diminishes also the engorgement and pneumonic exudation. If the heart should ultimately flag, there need be no hesitation in repeating this little operation. 5. In chlorosis, one or more bleedings at from four to five weeks' interval are a sovereign remedy. The more the blood is altered, the more is bleeding indicated. A simple method of appreciating the alteration of the blood without the hæmatoscope and the hæmatometer, which are but little used, is as follows: Some cubic centimetres of blood are collected in a straight tube and allowed to remain for twenty-four hours; two thirds should then be occupied by the clot, above which should be seen a fine red layer composed of leucocytes, while the upper third is occupied by serum of a straw-yellow color. The more the appearance differs from this type the more the blood is altered, and the more is bleeding indicated. We fancy this new propaganda will find the invincible prejudice of a large mass of heathen very difficult to overcome.

PROFESSIONAL SECRECY IN FRANCE.

The *Echo médical du Nord* for July 3d records a legal decision in the French court of appeal which is of great interest professionally. According to article 378 of the French penal code, a physician is forbidden to reveal any secrets confided to him, or of which he becomes cognizant, in the exercise of his profession. A married woman, applying for a divorce from her husband, sought permission to introduce in evidence certain letters addressed to her by Dr. Cordonnier, who had attended her husband, to show the nature of his malady. The court commenced by laying down that the physician does not exceed the limits of his rights when he informs by letter the wife of a man whose husband he is attending of the causes and nature of his disease. But it adds that these letters must not be divulged, even by agreement between the sender and the recipient; as the obligation to professional secrecy imposed by the law does not permit of his consenting to their publication. This rule permits of no exception, and must be applied even where the applicant for divorce wishes to put them in evidence as proof of her wrongs; for confidences which the interest of the patient can alone justify, must not, under any pretext, be used against him.

SALIVATION IN THE COURSE OF CHRONIC URÆMIA.

At a recent meeting of the Paris Hospital Medical Society (*Journal des praticiens,* June 11th) M. Renon spoke of a case of Bright's disease with cardiac symptoms in which there was intermittent sialorrhœa. The salivation came on whenever the patient exerted himself, also whenever the urine was less than usual in amount. There was no stomatitis. The flow of saliva, although very annoying and perhaps capable of becoming so severe as to weaken the patient, was looked upon as salutary to the extent of postponing grave uræmia.

THE RESULTS OF LAXITY IN THE CARE OF NEWBORN INFANTS' EYES.

Why is it, asks Dr. H. Cohn, of Breslau (*Deutsche medicinische Wochenschrift,* 1897, No. 50; *Centralblatt für Gynäkologie,* July 9, 1898), that newborn infants' eyes are still destroyed by suppuration? He answers the question by saying that the care of them is generally undertaken by the mother's neighbors, and they soon grow negligent. He suggests the establishment of a special sisterhood of nurses trained to this one function, and thinks it should be maintained by some charitable organization.

CHOREA MINOR DUE TO A FOREIGN BODY IN THE EAR.

Dr. Max Breitung, of Coburg (*Centralblatt für innere Medicin,* 1898, p. 235; *Gazette hebdomadaire de médecine et de chirurgie,* May 1st), relates the case of a girl thirteen years old who was brought to him on account of nervousness. He found that she had chorea minor, and he observed that one of her ears was indurated. On examining the ear, he found a little piece of lead resting on the membrana tympani. This he removed, and in three weeks the chorea was at an end.

BUTLER'S "RESURRECTION BONE."

The *Journal of the American Medical Association* not long ago quoted the following from the *St. Thomas Hospital Gazette:*

"A rabbinic name for the os sacrum was 'luz,' or the 'resurrection bone,' it being a bone especially difficult of destruction, and therefore the supposed germ of the survival of the body, and in this connection Dr. Cormer unearths the following from Butler's *Hudibras:*

> "'The learned Rabbins of the Jews
> Write there's a bone, which they call Luz,
> I' the rump of man, of such virtue
> No force in nature can do hurt to.
>
> "'From whence the learned sons of Art
> Os sacrum justly call the part.'"

We may remark that it was hardly necessary for anybody to "unearth" the passage in the interest of medical readers, for it is given in Ramsbotham's work on obstetrics, a text-book that has been in extensive use for many years.

THE QUESTION OF MALARIAL INSANITY.

At the Fourth French Congress of Internal Medicine, recently held in Montpellier (*Gazette hebdomadaire de médecine et de chirurgie,* April 28th), two observers, Dr. Boinet and Dr. Ray, of Marseilles, expressed their conviction that malaria was an important cause of insanity, and that the psychical trouble induced by it was of more rapid development, graver, and more rebellious than that due to either alcoholism, degeneration, sunstroke, over-work, or syphilis. On the other hand, Dr. Maurel, of Toulouse, remarked that very little insanity was seen among the deported criminals in Guiana, even those that had for a very long time been the subjects of malarial poisoning.

THE ROOT OF THE DAHLIA AS A PROTECTIVE AGAINST SNAKE VENOM.

Phisalix (*Revue scientifique,* 1898, No. 10; *Deutsche Medizinal-Zeitung,* July 4th) finds that tyrosine, injected into guinea-pigs, is capable of rendering them proof against serpents' venom. He remarks that tyrosine is particularly abundant in the root of the dahlia, and that the fresh expressed juice of the root may be used instead of a prepared solution of tyrosine.

THE USELESSNESS OF CALOMEL INJECTIONS IN LUPUS.

The inefficiency of the calomel-injection treatment of lupus seems to have been shown in three cases by Emery and Milian, who exhibited the patient at a recent meeting of the French Society of Dermatology and Syphilography (*Presse médicale,* April 24th). Photographs taken before and after the treatment showed that there had been absolutely no improvement.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 23, 1898:

DISEASES.	Week ending July 16.		Week ending July 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	4	18	4
Scarlet fever	125	11	87	8
Cerebro-spinal meningitis	0	12	0	9
Measles	154	10	130	8
Diphtheria	172	23	150	19
Croup	8	3	7	3
Tuberculosis	153	134	167	145

Precautionary Measures against Yellow Fever in Philadelphia.—A Philadelphia correspondent writes that if yellow fever gains entrance into the State of Pennsylvania it must slip in through some of the smaller ports or else come in through the lines of railroad. The governor recently instructed the health officer of the city to take all precautions against an invasion of that disease. The local health board therefore decided to investigate the matter, and a house-to-house inspection is now being made for any suspicious cases, but none had been found up to July 25th. The city has been divided into northern and southern sections, and thirty-five men are searching along the various wharves and lowlands for anything approximating the symptoms of yellow fever. In making the investigation Dr. J. Howard Taylor, of the health board, is reported as having said: "We have determined to institute this investigation in order to prevent the disease getting into this city. We do not expect it here and the precaution is taken simply as the result of many years of experience in the regulation of health matters. If a disease, no matter how easy it may be to control, gets the start of the authorities it will reach such proportions that the ultimate result can not be conceived of; but if it is broken at the start we can so regulate it that it will not get beyond control. That is the intention with regard to yellow fever. I want to say most emphatically that we do not expect an outbreak. We do not even expect one case, but we will make this inspection and observe every precaution in order to insure immunity from the disease. How we are to guard against fever victims coming in by train is difficult to determine, and if the disease does get into the city it will be in all probability by means of railroads." Provision has been made at the Municipal Hospital for the care of any cases considered suspicious.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon-general during the week ending July 23, 1898:

Small-pox—United States.

Present in epidemic form in Clay, Jackson, and Laurel Counties, Kentucky, southeastern part of State.			
Dunbar, Pa	June 23–July 22	6 cases.	
Memphis, Tenn	July 14	1 case.	
Negro settlement six miles from Memphis		1 "	

Small-pox—Foreign.

Hong Kong, China	May 14–21	2 cases.	
Hong Kong, China	May 21–28	1 case.	
Calcutta, India	May 28–June 4		3 deaths.
Calcutta, India	June 4–11		2 "
Awamori Ken, Japan	June 6–15	16 cases,	2 "
Fukushima Ken, Japan	June 6–15	1 case.	
Miyagi Ken, Japan	June 6–15	4 cases.	
Shiga Ken, Japan	June 6–15	1 case.	
Tottori Ken, Japan	June 6–15	1 "	
Yamagata Ken, Japan	June 6–15	2 cases.	
Yehime Ken, Japan	June 6–15	1 case.	
The Hokkaido Ken, Japan	June 6–15	1 "	
Moscow, Russia	June 18–25	9 cases,	4 "
Odessa, Russia	June 18–25	4 "	
St. Petersburg, Russia	June 18–25	14 "	8 "
Warsaw, Russia	June 18–25		7 "
Montevideo, Uruguay	June 4–11	1 case.	

Cholera—Foreign.

Calcutta, India	May 28–June 4		7 deaths.
Calcutta, India	June 4–11		14 "
Madras, India	June 4–10		1 death.
Osaka and Hiogo, Japan	May 21–28	1 case.	
Osaka and Hiogo, Japan	May 28–June 11	1 "	1 "
Tokyo, Japan	June 6–15	2 cases,	1 "

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	June 4–11	29 cases,	19 deaths.

Plague—Foreign.

Bombay, India	June 7–14		26 deaths.
Bombay, India	June 14–21		15 "
Nagasaki, Japan	June 6–15	1 case,	1 death.
Taiwan (Formosa), Japan	June 6–15	115 cases,	62 deaths.

Patents in Professional Matters.—Dr. J. Morgan Howe (*International Dental Journal,* July) says:

"If there is anything more inconsistent with professional progress than secrecy it is the revelation of ideas by means of letters patent. There is no doubt that the intention of patent laws is to stimulate invention, and it will not be denied that they have done so to some extent. But it is well known that a decided objection exists in the medical profession against the obtaining of a patent by a physician on any invention pertaining to his professional vocation. Among dentists such objection has not been so generally recognized, and there is probably some difference of opinion among those who have no direct pecuniary interest in fostering the belief that patents are a benefit and not an injury to the true interests of our specialty."

In reference to the plea favoring patents because inventors ought to get the fruits of their labors, he says it is well known to most of us that original inventors really get very little when they patent their inventions. When money is made from patents, it is almost always the business men who buy and exploit them that get it. And then original inventors among us are not so eager to patent their contrivances as are those who appropriate their ideas. Many of our most valuable devices have been freely given, and many patents have been obtained long afterward on things that were originally given to their *confrères* by men of true scientific spirit.

And he adds with regard to the medical profession that among physicians and other scientific men the patent is not a necessary stimulus, because it has been, and is constantly being, shown that they are willing and even anxious to contribute their ideas in tangible as well as in other forms without seeking other reward than that which comes with recognition of ability.

As evidence of this, he points out that one has only to visit the establishment of any large surgical or scientific instrument-maker to see a great variety of complicated as well as simple instruments for all medical or scientific purposes not protected by patent, and these are constantly being modified for improvement and increased in number. Such an exhibit shows that there is no lack of willingness to devise without the stimulus of patents; and it is evident, also, that the manufacturers of these devices are willing to make them, although not protected against the competition of other makers.

The Scientific Value of "Yellow" Journalism.—The *International Journal of Surgery* for July has the following very pertinent remarks: *An Imaginary Accident to an Imaginary Surgeon.*—The lay public has had its feelings considerably harrowed by a vivid description of a sad accident, related in the daily press with great wealth of detail, as having occurred to Dr. Simmons, of the New York Polyclinic Hospital. He was said to have nearly amputated his own wrist with a knife, after being jostled by a stumbling assistant. The doctor fainted, and as the surrounding surgeons decided that sepsis had taken place, Dr. Simmons found his left hand and his further utility considerably curtailed. We are happy to say that, much as we admire the imaginative power of reporters, we must deplore their want of accuracy. The only points in which the story lacks truth lie in the fact that there never was a Dr. Simmons who operated at the Polyclinic, that such an accident never happened to any one, and that all the New York surgeons until the time of going to press still possess their full complement of limbs.

Indications for Operation in Appendicitis.—Dr. John T. Howell (*International Journal of Surgery,* July) quotes the following indications for operation on the authority of McCosh as both representative and as complete as the obscurity of appendicitis allows: 1. If the patient looks ill, and there is vomiting and tympanites with a rapid pulse. 2. If patient looks ill, and there is vomiting, even though pulse and temperature are each under 110. 3. If patient looks ill and pulse is over 110. 4. If there be rapid and feeble pulse and extreme tenderness in the right iliac fossa. 5. If pain and tenderness, at first localized, tend to become general, even though other symptoms may be absent. 6. If local pain and tenderness continue more than two weeks without diminution.

Fracture of the Leg by Rotation.—M. Heydenreich (*Gazette hebdomadaire de médecine et de chirurgie,* July 7th) communicated to the Medical Society of Nancy the case of a man, fifty-six years of age, who walking in sabots fell and sustained a complicated fracture of the inferior extremity of the right leg. Two days later there occurred a gangrenous patch opening the tibio-tarsal articulation, and determining a suppurating arthritis, osteomyelitis, and a true dislocation of the member. Amputation of the leg was performed although the region was already involved in the hard swelling of the lesion. A cure was satisfactorily established. On examination of the limb there was found, besides the osteomyelitis, a type of fracture not hitherto described. In the tibia the course of the fracture was strictly vertical, completely detaching the internal malleolus and opening right into the articulation; on the peroneal side the lower fragment, broken vertically, for about seven and a half centimetres, also opened the articulation. This mode of fracture can only be explained by outward rotation, which hypothesis is founded on the very slight spiral tendency of the course of the tibial fracture.

Definitions of the "Pathies."—The *Clinique* for July 15th says that a jolly correspondent quotes and forwards the following definitions:

Christian Science—Suggestion *plus* absurdity.
Divine Healing— " " faith in God's mercy.
Osteopathy— " " massage.
Hydropathy— " " water.
Metaphysical Healing— " " fog.
Hypnotism— " " sleep.
Spiritualism is somnambulism, and
Theosophy is an intellectual pleasantry.

To this we might add that there are ill-natured people who would say that homœopathy is suggestion in material, plus *drugs* in infinitesimal, doses. There are even members of the "regular" profession, we believe, who would seem to hold all medicine to be principally suggestion. At least, we have heard of a celebrated hospital physician and teacher in London, who, at a clinical lecture, told his students to pay all their attention to diagnosis and prognosis. After an exhaustive dissertation on a case, he was leaving the bedside without prescribing any treatment, when the house physician asked what he should give the patient. "Oh," said the physician, "a hopeful prognosis and anything else you please."

Koplik's Diagnostic Sign of Measles.—The *Medical and Surgical Monitor* for July 15th says: Koplik's sign—the early eruption of measles on the mucous membrane of cheeks and lips—is receiving confirmation from many sources. The Koplik spots are described as "round, slightly raised, bluish-white efflorescences, having minute red centres, about .01 to .03 inch in diameter, occurring on the inner surfaces of the cheeks, less often upon the lips, and rarely upon the tongue, varying in number from six to twenty, though hundreds may be present." The *Monitor* thinks that it is strange that so pronounced a symptom, which must have been noted by nearly every observant physician of experience, should so long have escaped record.

The Apotheosis of Suggestion.—Wealthy patient: I am suffering terribly, doctor. Great physician: What do you complain of? Wealthy patient: My bowels are so susceptible, doctor, that yesterday from only seeing some melon eaten I was taken with colic.—*Révue médicale,* June 29th.

The Treatment of Simple Polyuria.—Cipriani (*Supplemento policlinico,* May 20th; *Clinica moderna,* June 29th) confirms the observations of Cardi and Vallini in their experiments on the renal circulation with liquids containing antipyrine. The patient was attacked with a polyuria to the extent of twelve litres a day, consequent upon a fright. The examination of the urine excluded any renal lesion or compensatory action. Forty-five grains of antipyrine were administered daily without any change in the diet. The quantity of urine decreased, so that in sixteen days it became twenty-five hundred cubic centimetres. Cessation of the treatment resulted in an augmentation of the diuresis. To exclude the possibility of any suggestive influence, in place of antipyrine an indifferent drug was in turn administered, when the diuresis again increased. The author is convinced of the value of antipyrine in simple polyuria of nervous origin.

The Influence of Heredity.—Dr. A. L. Benedict (*Medical Times,* July), as a result of his studies on this subject, emphasizes the following beliefs: 1. Much of what is commonly ascribed to heredity should properly be credited to infection, environment, or even chance. 2. True heredity deals with general and acquired traits, rather than with disease, which is essentially foreign to the organism. 3. On account of the vast number of ancestors involved, the introduction of fresh blood by intermarriage and the crossing of hereditary tendencies from one sex to another, there is, on the whole, a tendency to reversion to general characteristics and to purification from taints. 4. A disease, to be hereditary, must depend on some intrinsic physiological or anatomical abnormity and not essentially on infection; if it manifests itself before the period of reproduction, the tendency must disappear either with the destruction of the family or by the superior force of the normal tendencies; if it does not interfere with reproduction, it is still amenable to hygienic precautions. 5. The only intelligent knowledge of heredity must come from a close study of genealogy, carried on impartially and without the present unworthy incentives.

The Alvarenga Prize of the College of Physicians of Philadelphia for the year 1898 has been awarded to Dr. S. A. Knopf, of New York, for his essay entitled Modern Prophylaxis of Pulmonary Tuberculosis, and its Treatment in Special Institutions and at Home.

Beri-Beri in Philadelphia.—The German bark Steinbeck recently arrived in the port of Philadelphia from Probolingo, *via* Bermuda, having on board seven sailors afflicted with beri-beri. The patients were transferred to the German Hospital and all of them are reported to be recovering.

An Ambulance for the Red Cross of Philadelphia.—The ladies of the North Broad Street Presbyterian Church recently became interested in the problem of first aid to the injured soldiers in the field and began raising funds for the furnishing of a complete ambulance. It is gratifying to state that two hundred and seventy-five dollars have already been raised for this purpose and the attempt has proved a complete success. On behalf of the Red Cross Dr. De Forrest Willard will receive the gift this week.

Thiersch's Solution.—In answer to a correspondent who, with reference to Dr. Rosenbaum's article on the Therapeutics of Carbuncle, asks for information concerning Thiersch's solution, the formula, which is to be found in most modern text-books on surgery—*e. g.,* Gerster's *Aseptic and Antiseptic Surgery*—is as folows: Salicylic acid, 2 parts; boric acid, 12 parts; hot water, 1,000 parts.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 26th inst., Dr. J. N. Upshur was to open a discussion on The Diarrhœal Diseases of Children.

Change of Address.—Dr. Vincent J. Gallagher, to No. 3 Caton Avenue, Brooklyn.

Society Meetings for the Coming Week:

MONDAY, *August 1st:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *August 2d:* Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Cattaraugus, N. Y. (quarterly); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Hampden, Massachusetts, District Medical Society (Springfield); Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *August 3d:* New York Academy of Medicine (Section in Public Health); Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Connecticut, Medical Association.

THURSDAY, *August 4th:* Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Atlanta Society of Medicine.

FRIDAY, *August 5th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

SATURDAY, *August 6th:* Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Born.

LANDRY.—In New Orleans, on Monday, July 18th, to Dr. and Mrs. Maxime Landry, a son.

Married.

BOEKHOFF — MEINECKE.—In Wauwatosa, Wisconsin, on Thursday, July 21st, Dr. Onno Boekhoff and Miss Lorle Meinecke.

GALLAGHER—WALSH.—In Brooklyn, on Thursday, July 7th, Dr. Vincent J. Gallagher and Miss Anna Walsh.

MITCHELL—BONNELL.—In Charleston, South Carolina, on Wednesday, June 22d, Dr. J. Creighton Mitchell and Miss Louise Caroline Bonnell.

Died.

BODENIUS.—In Baltimore, on Wednesday, July 20th, Dr. F. H. Bodenius, of Madison, Wisconsin, in the fifty-fourth year of his age.

HODGMAN.—In Saratoga, N. Y., on Friday, July 22d, Dr. William H. Hodgman, in the forty-seventh year of his age.

MCKENNA.—In East Providence, Rhode Island, on Thursday, July 21st, Fannie A. McKenna, wife of Dr. John B. McKenna.

Book Notices.

On Maternal Syphilis, including the Presence and Recognition of Syphilitic Pelvic Disease in Women. By JOHN A. SHAW-MACKENZIE, M. D. (Lond.). London: J. and A. Churchill. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xi–223. [Price, $3.68.]

IT is strange that so little has been written about syphilis in women. The works on gynæcology are for the most part silent on this subject, while treatises on syphilis and dermatology treat of it in the most cursory manner, if at all. It is true, as the author says in his first chapter, that the primary evidences of syphilitic disease in women are very often overlooked, and that a sore upon the genitals is rarely observed compared with its discovery upon the male genitals. The fault lies partly with the subjects of the disease, who either are ignorant of the presence of the disease or try to conceal it, and partly with the physicians, many of whom fail to find primary lesions because they do not make careful and thorough examinations.

The remarks concerning gonorrhœa and salpingitis as possible evidences of syphilis are somewhat misleading. It is true that these diseases may coexist, and most men who have had years of experience will stumble occasionally upon such cases, in which the syphilis has long been latent. In most instances, however, the history of gonorrhœa or salpingitis is too distinct to refer it to a syphilitic origin or to look upon it as a complication of syphilis. The influence of syphilis in pregnancy, both upon the mother and upon the fœtus, is, of course, referred to, but no new light is thrown upon this subject. The diagnosis of syphilis from malignant disease at the menopause is important and has occasionally given rise to error, but malignant disease of the genitals can not progress very far without giving rise to unmistakable phenomena. The thought is advanced that women are less susceptible to syphilitic lesions than men. This seems to us hardly true. Is it not rather that the lesions in men are more prominent and are more carefully investigated? A large portion of the book is taken up with the narration of cases. These are interesting, but it may be doubted if it is wise to occupy so much space with such material.

The American Text-book of Operative Dentistry. In Contributions by Eminent Authorities. Edited by EDWARD C. KIRK, D. D. S., Professor of Clinical Dentistry in the University of Pennsylvania, Philadelphia, etc. Illustrated with Seven Hundred and Fifty-one Engravings. Philadelphia and New York: Lea Brothers & Co., 1897. Pp. 7 to 702. [Price, $5.50.]

THIS book is published as a companion work to the *American Text-book of Prosthetic Dentistry* recently issued under the editorship of Professor Essig, and is therefore limited to the field of operative dentistry.

The work begins with the microscopic anatomy of the human teeth. This is followed by the embryology of the dental tissues, and the remaining chapters of the work deal principally with the different kinds of cavities and diseases of the teeth, the materials and methods of filling, and the treatment of the diseases and abnormal conditions found in the human teeth. The topics of the twenty-five chapters are treated by fifteen different authors. Each of these contributors has in almost every case made his subject a special study in his profession, and, as the editor remarks in the preface, "in operative dentistry, so rapid has been its growth and so pronounced has been the tendency to specialization in this, as in other departments of dentistry, that the field has grown beyond the capacity of any single writer to represent it adequately."

We think the work as a text-book will be invaluable to the dental student, and, compared with the text-books of twenty years ago, it marks the rapid and great advances the dental profession has made.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Neunte Lieferung. Mit 21 Abbildungen im Text. Zehnte Lieferung. Mit 19 Abbildungen im Text. Jena: Gustav Fischer, 1898.

To say that "modern medicine is cosmopolitan" is to utter a stale truism, the truth of which, however, is not so apparent after examination of a large and representative foreign work on the subject. For the student, while recognizing a broad and rapidly developing tendency to cosmopolitanism, observes constantly differences in theory, to which correspond, as he would be assured by any intelligent patient whose fortunes have brought him under the care of our foreign brothers, greater differences in practice. Examination of the half of this handbook which has come under our observation shows that, while it is cosmopolitan in that it reflects the influence of the medical literature of the world, it is distinctively representative of the leading school of German medical thought. It is, therefore, not only invaluable as a text-book to the practitioner in Germany, but also useful as a work of reference to the physician elsewhere.

The two parts now before us are devoted to the treatment of diseases of the blood-vessels and of the genito-urinary system. Each of the chapters is good, but none is remarkable, unless an exception may be made in favor of the chapter on the treatment of disease of the kidney by Professor Leube. In this there is an unusually clear presentation of the indications for treatment, and it might be studied by the majority of physicians with profit. The free administration of diuretics recommended in the treatment of acute nephritis seems to the writer to be injudicious, and the warning against the use of the more violent diuretics is not sufficiently strong.

The treatment of the other diseases of the kidneys and of the ureters is described by Dr. P. Wagner. Dr. C. Kaufman contributes the chapters on disease of the bladder and urethra.

The chapters on the treatment of gonorrhœa, by Dr. C. Kopp, and on syphilis, by Professor Pick, are conventional in character. It is to be hoped that the student will note gratefully the absence of the usual multitude of prescriptions, and it is to be regretted that Dr. Pick does not advocate the systematic treatment of syphilis after the first year, as it is carried out by French and American physicians generally.

The most noticeable portion of Professor Bäumler's chapter on the treatment of diseases of the blood-vessels is an interesting discussion of the ætiology of arteriosclerosis.

Transactions of the Southern Surgical and Gynæcological Association. Volume X. Tenth Session, held in St. Louis, November 9, 10, and 11, 1897.

This volume manifests a quality of work fully abreast of the customary standard of the society. Noteworthy is the discussion on Dr. H. A. Kelly's paper concerning the manipulative treatment of the ureters. While the possibility of great benefit in rare and unusual cases was conceded, provided the treatment was conducted with unusual skill and dexterity, the absence of these essential qualifications was thought likely to result in positive harm. Probably it has oftener resulted in harm than in benefit. It is a resource which should be employed only when the indications are clear and indubitable, and then only by those who have exceptional skill.

An encyclopædic digest of surgical diseases and injuries of the face, by Dr. Souchon, and an equally comprehensive contribution, by Dr. Gaston, on the surgery of the gall bladder and biliary ducts, will be found most valuable for reference.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. X. For the year 1897.

The papers in this volume cover an unusually wide range of subjects. Obstetrical subjects received more attention than has been the custom within recent years in societies of this character. In most of the obstetrical papers it is noteworthy that the element of sepsis is that to which the thought of the writers was principally directed. The discussions, thorough and extensive, testify to the vitality of the society and to the activity of the individual members in the work in which they are engaged.

A novel feature in the volume consists of a large number of excellently finished photographs of pathological specimens, and the discussion on them formed not the least interesting portion of the deliberations of the society.

BOOKS, ETC., RECEIVED.

Conservative Gynæcology and Electro-therapeutics. A Practical Treatise on the Diseases of Women and their Treatment by Electricity. By G. Betton Massey, M. D., Physician to the Gynæcological Department of Howard Hospital, etc. Third Edition, revised, rewritten, and greatly enlarged. Illustrated with Twelve Original Full-page Chromo-lithographic Plates and Twelve Full-page Half-tone Plates of Photographs taken from Nature, and Numerous Engravings in the Text. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xiv–394. [Price, $3.50.]

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great

Britain, and Canada. Edited by Judson Daland, M. D. (Univ. of Penna.), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. Mitchell Bruce, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and David W. Finlay, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen, etc. Volume II. Eighth Series, 1898. Philadelphia: J. B. Lippincott Company, 1898. Pp. xii–336.

The Mineral Waters and Health Resorts of Europe. The Treatment of Chronic Diseases by Spas and Climates, with Hints as to the Simultaneous Employment of Various Physical and Dietetic Methods. Being a Revised and Enlarged Edition of *The Spas and Mineral Waters of Europe.* By Hermann Weber, M. D., F. R. C. P., Consulting Physician to the German Hospital, etc., and F. Parkes Weber, M. D., F. R. C. P., Physician to the German Hospital. With a Map. London: Smith, Elder, & Co., 1898. Pp. xiii–524. [Price, 10*s.* 6*d.*]

On Cardiac Failure and its Treatment. With Especial Reference to the Use of Baths and Exercises. By Alexander Morison, M. D. Edin., F. R. C. P. Ed., Physician to the Saint Marylebone General Dispensary, etc. London: The Rebman Publishing Company, Ltd., 1898. Pp. xx–256.

Report on the Sanitary Condition of the County Borough of Birkenhead for the Year 1897. The Pathology of Uræmic Intoxications. By C. A. Herter, M. D. [Reprinted from the *Montreal Medical Journal.*]

The Relations of the People of the United States to the English and the Germans. By William Vocke. Serial Publications of the Thursday Club, No. 5.

Appendicitis in Children. A Clinical Paper. By Irving S. Haynes, Ph. B., M. D. [Reprinted from the *Archives of Pœdiatrics.*]

Upon the Existence of a Minute Micro-organism associated with Cases of Progressive Portal Cirrhosis. By J. G. Adami, M. A., M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Complications Affecting the Nervous System in the Treatment of Typhoid Fever. By W. H. Haynes, M. D., of Brooklyn. [Reprinted from the *Brooklyn Medical Journal.*]

Tubercular Peritonitis. By F. G. Finley, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Further Clinical Observations on the Use of the Valerianate of Guaiacol (Geosot). By Dr. Rieck, of Bassum, Germany. [Reprinted from the *Medical Review of Reviews.*]

Miscellany.

The Diagnosis between Dengue and Yellow Fever.—At the American Medical Association's meeting at Denver, Dr. H. A. West, of Galveston, Texas (*Virginia Medical Semi-monthly,* June 24th), said that the following hypotheses had been assumed in relation to the recent epidemic: 1. The disease was dengue only. There was no yellow fever in Galveston, Houston, or the State of Texas in 1897. 2. There were anomalous cases of dengue, presenting all the symptoms of yellow fever, but proved not to be that disease by the indisposition to spread from numerous foci and the low mortality rate. 3. During the progress of an intense epidemic throughout the State, in Galveston, Houston, and possibly other places, yellow fever made its appearance, and in consequence of its mild form and resemblance to the prevalent disease was generally unrecognized. 4. An imputed hypothesis that the epidemic of 1897 in Texas was yellow fever only. 5. A few cases terminated fatally, and others, attended by marked jaundice and albuminuria, were denounced acute infectious jaundice (Weil's disease). It appeared from the above that the symptoms which had heretofore been relied upon to distinguish between yellow fever and dengue were the occurrence in the former of albuminuria, the characteristic facies (inclusive of jaundice), the divergent pulse and temperature, excessive irritability of the stomach, and increased disposition to hæmorrhages. The absence of such symptoms in the main, the presence of an eruption in the large proportion of cases, and the lack of mortality were characteristic of dengue. Admitting that there was a greater similarity in the symptomatology of the two diseases than had been heretofore acknowledged, the question arose, "How could they be distinguished?" In the speaker's opinion, this was to be done chiefly by the symptom-complex of an acute nephritis in yellow fever and its absence in dengue. In the latter, simple parenchymatous changes might occur in the kidneys and be manifested by an evanescent and mild albuminuria, while in the former in a series of cases many would afford incontestable evidence of the occurrence of a severe nephritis—viz., scanty urine of high color and specific gravity, intense and persistent albuminuria, hæmaturia, casts, decided tendency to suppression, and the accompanying uræmia. The diagnosis of these two diseases must be rewritten. The mortality in the epidemic of 1897 was astonishingly low.

A New Hydrotherapeutic Method.—Dr. Fenton B. Turck (*Louisville Journal of Surgery and Medicine,* July) gives the following technique for a new form of hydrotherapeutic bath, which he has not found elsewhere described: The essential part of the hot-water bath, followed by ice massage, is the technique. There is nothing new in the use of water at high temperature, or in the use of ice. The patient is submerged up to the neck in a bath at a temperature of 100° F.; a short piece of hose is attached to a hot-water faucet; the hot water is turned on, and the hose is swept from side to side, up and down through the water, to rapidly diffuse the hot water throughout. As the temperature of the bath rapidly rises to 110° F., the patient is instructed to lie perfectly quiet. Movements, such as reaching the arms out of water, will give a burning sensation, while if the patient remains quiet the contrast in temperature is not so markedly realized. As the temperature rises to 112°, 114°, and 115° F., the pulse and respiration are observed. If at this temperature the whole surface of the body becomes a crimson red, the patient may be removed. The time required averages about ten minutes, and the temperature about 114° F. If after ten minutes' time has elapsed the temperature has reached 115° F., and the surface of the body does not yet show evidence of injection of the peripheral arterioles, "flushing of the capillaries," the temperature may be increased if the condition of the patient permits. Water at high temperature is a stimulant, while at lower temperatures it may become a depressant. He has in some cases given a bath up to a temperature of 125° F. It is essential that the surfaces of the body show arterial injection to gain the full value of the treatment to follow. The patient is then removed from the bath and made to sit on a board placed across the bathtub, the feet extending and resting at the edge of the tub. A piece of ice, weighing a pound or two, is rubbed over the head, face, and neck, then massage over the back up and down, over the breast and abdomen, and arms and legs. This is repeated rapidly, and the patient soon shows signs of exhilaration and a general sense of well-being.

He further states that if these instructions are properly carried out, there is no shock from the use of the ice, as stated. Sometimes he gives an ice-water douche under pressure, if there are no contraindications, but even this is not beneficial in a large majority of cases. In many instances a douche, either hot or cold, or alternated, is better left out, for the bath, such as he has described, will meet the indications. If a douche is given, and there is no mechanism in the plumbing for regulating pressure, the very simple device of a garden pump is used, which can be purchased for about six dollars. If exactness under pressure is desired, a compressed-air tank is used, the closed irrigator filled with water and connected with a compressed-air tank, so that the air will force out the water through the hose connection and thus produce a forced douche. A manometer connected with the irrigator will give the pressure that is being projected. Another method he has before described is the use of a large horse syringe for projecting ice water.

The effect of this bath is to stimulate the skin, and reflexly the vasomotor system, whereby the blood is withdrawn from the congested viscera and distributed over the surface of the body. The time required for producing a "glow" upon the surface of the body varies in different individuals, depending upon the condition of the circulatory system, as well as the rapidity and increase in temperature of the water. One thing is certain, almost every physician can carry out this simple hot-water bath, followed by ice massage, as described, and he can study his cases better. He can have it used upon himself when tired out and depressed by overwork and errors of living, and he will then be able to appreciate and apply a simple and effectual measure in the treatment of a selected class of cases.

As to contraindications, the bath is to be avoided when there is marked fatty heart, diseases of the arteries, or any tendency to apoplexy; but in many cases, when either warm or cold baths given singly are contraindicated, the bath he has above described can be used with great benefit.

Protargol in the Treatment of Gonorrhœa in Women.—Fürst (*Therapeutische Monatshefte,* April) reports upon thirty-six cases, including fourteen of gonorrhœa of both the neck and the body of the uterus, eight of gonorrhœa of the cervix uteri alone, five of gonorrhœal urethro-cystitis, three of gonorrhœa of the vulva, three of gonorrhœal inflammation of Bartholin's gland, two of gonorrhœal endometritis [the reason for separating which from the fourteen mentioned in the first class does not appear], and one of vaginal gonorrhœa. He thinks that the strong bactericidal property of protargol, its non-irritant quality, its non-precipitation by the secretions, and its consequent marked penetrating power render it easy to limit with it the seat of the disease to the primary site of infection and to destroy the gonococci without irritating the uterus or its annexa. In uterine gonorrhœa he irrigates the uterus with a half-per-cent. solution of protargol, and gradually increases the strength to two and a half per cent. Then he inserts a five- to ten-per-cent. soluble bougie of protargol into the cervix, and when this has melted the vagina is irrigated with a ten-per-cent. solution, and a ten-per-cent. protargol-glycerin tampon is inserted. Astringents are used after the second week, and the disease is usually cured in three weeks.

The American Medical Association and the Medical Schools.—On June 30th the permanent secretary sent out the following circular:

"At the recent meeting of this association the following was unanimously adopted:

"*Whereas,* the American Medical Association did, at Detroit in 1892, unanimously resolve to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges; and

"*Whereas,* this demand was sent officially by the permanent secretary to the deans of every medical college in the United States and to every medical journal in the United States, now, therefore, the American Medical Association gives notice that hereafter no professor or other teacher in, nor any graduate of any medical college in the United States, which shall after January 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, shall be allowed to register as either delegate or permanent member of this association.

"*Resolved,* That the permanent secretary shall within thirty days after this meeting send a certified copy of these resolutions to the dean of each medical college in the United States and to each medical journal in the United States."

Post-graduate Teaching in London.—We take the following from the *Lancet* for June 4th:

"The facilities which are afforded to medical men for continuing their education, either in the general curriculum or in special courses, are very limited in Great Britain when compared with those which exist on the continent and in America. The centralization of medical teaching and the treatment of an enormous number of cases under one roof and one state or charitable dispensation, as we find them in many foreign universities and hospitals, can not be imitated in London. We have no central university and the hospitals are scattered, so that each appeals to its own supporters and considers primarily and rightly the comfort of the patients rather than the efficiency of the teaching. The systematic examination of the sick by a large class of students has not been introduced here as it has been in many continental hospitals. Post-graduate teaching has, therefore, in London never been organized on a centralized system, although lectures and demonstrations have been given, generally on special subjects, at our hospitals and in our laboratories to medical men on payment of a small fee. Also, as stated in the *Lancet* of May 28th, a combination of the London general hospitals has lately been formed by which a post-graduate student can attend any special part of the medical course at any hospital which he may choose instead of being limited as hitherto to one hospital. Now our experience leads us to believe that the post-graduate student wishes to attend one or more special departments or special hospitals rather than go through an extended curriculum, and in this matter he has a large choice in London already both of hospitals and teachers, although his clinical material can not be brought to one institution. In fact, we think that under existing circumstances—circumstances, however, of very recent origin—the London post-graduate student can now obtain much of what he wants. But that others think differently is proved by a scheme which has been submitted to us for the foundation of a Medical Graduates' College and Hospital on the American rather than the continental plan—that is to say, a college and hospital where qualified men alone are to be taught. We recognize the difficulties which must attend any attempt to combine teaching for students with post-graduate instruction. Of course, a college and hospital for post-graduates alone would be a more desirable method for giving the special instruction they desire, but in order to do this with efficiency provision must be made on a large scale. Lecture theatres, class rooms, laboratories, a museum, and a library must have places in such a college, and such a hospital must attract by the wealth of its general and special clinical material and by the reputation of its teachers. Public consultations and advice to medical men on the diagnosis and treatment of their cases will require very careful management or they may possibly come to be regarded in a false light. It is hardly likely, therefore, that the scheme will receive much support from the teachers and governors of our general and principal special hospitals, and in many instances an active opposition may be excited. The medical profession may subscribe liberally to the foundation and endowment of such an institution, but as the patients will not be admitted into the hospital for prolonged treatment, but rather for the purposes of teaching, it is questionable whether it will derive much support from the general public. If another Johns Hopkins can be found to provide the necessary founds the scheme will be carried out easily, but unless some munificent benefactor arises we are doubtful whether the project, which has much to recommend it, can be brought to a successful issue."

"Absent Treatments."—"It seems to us," says the *Massachusetts Medical Journal*, "passing strange that so many persons, otherwise seemingly sensible, can be so deluded by what is called Christian science. But that is their affair and not ours. We only referred to this matter to repeat what impressed us as a very funny story, for it is a part of our religion to never lose a good story. A man of the Christian science faith fractured his femur. Under Christian science it united of course, but, of course, there was considerable shortening. Some months later a lady called at his place of business to sell him a book. In the course of conversation he related his experience, bemoaning the fact that the one-time injured limb was so short that he walked with much difficulty. She expressed much sympathy, but assured him that just as Christian science had mended the bone, just so it could lengthen it. She informed him she understood and could give him one treatment then, and after that give him what were called 'absent treatments.' This she did, and departed. A fortnight later the man believed his leg really was a little longer. After another week he was sure that it was. A week later it was still longer, and soon after it was as long as the other, and later still it was longer than the uninjured limb. At last accounts the leg was getting too long; the 'absent treatment' was still going on, and the whereabouts of the woman could not be ascertained."

The Treatment of Pelvic Suppuration.—Dr. Joseph Taber Johnson (*American Journal of Obstetrics,* July), in an article on Pus in the Pelvis, submits the following summary of advantages of vaginal over abdominal section, especially for pus in the pelvis. Dr. Johnson says that it is claimed by too many good surgeons to admit of doubt that: 1. The vaginal section is very much more quickly done than the abdominal, and the convalescence is much shorter. 2. There is little or no shock. 3. The peritoneal cavity being seldom opened in these cases, except when hysterectomy is done also, much less traumatism occurs to intestines, bladder, ureters, omentum, or abdominal wall, to greatly prolong difficult and dangerous operations. 4. Drainage, being downhill, is not opposed by the laws of gravity, and is more natural, safe, and copious. 5. There is no ugly scar to annoy the eye and develop a painful keloid or permit a ventral hernia. 6. The mortality of the vaginal operation for pus is vastly less than in that of enucleation of tubo-ovarian abscesses from above in the badly adherent and complicated cases. 7. Experience has abundantly proved in more than a sufficient number of cases that the removal of the abscessed organs is not necessary to a symptomatic cure, and that a permanent and complete restoration to health is the rule, while a secondary operation later on is the exception. 8. Should a secondary operation from above become necessary, its performance would be much easier and safer, on account of the freedom from pus and the improved condition of the patient. 9. The perfection of the operation for draining double pus tubes through the vagina has opened the way for many other *beneficent* operations from below, including anterior and posterior colpotomy, explorations, hysterectomy, etc. 10. Many patients who fear and will not consent to cœliotomy with its possible accidents, including intestinal injuries, the post-operative sequelæ and the scar, the stitches, the bandages, the troublesome supporter for six to twelve months, and the possible hernia, will readily consent to vaginal incision and drainage, and vaginal hysterectomy when necessary. 11. Vaginal hysterectomy with the ovaries left *in situ* is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus left, or than when they are all removed at the same time. 12. If any or all of these advantages are admitted in favor of the vaginal operation over the abdominal, then it must follow that it is our conscientious duty to operate by this route more frequently in the future than we have done in the past.

What a Small Boy can do: Casualties of One for One Week.—S. M. Worthington, M. D., of Versailles, Kentucky (*Medical Record,* July 9th), writes: "My legacy to posterity, S. M. W., Jr., aged a year and a half, swallowed a pin on Sunday; passed it on Monday. Swallowed three pins and five buttons on Tuesday; passed them all in one action on Wednesday. On Thursday, procuring my hypodermic syringe case, he took an unknown quantity of tablets of morphine, one fourth of a grain, and atropine, one one-hundred-and-fiftieth of a grain. By constant attention through that day and night he sufficiently revived to be taken riding on Friday. The horse shied. The hub shot through, throwing all out of the cart, and, catching in the felloe, dragged the wheel flatwise. When I regained my feet the horse was running furiously up the rocky road, the boy lying on the wheel. Some sixty yards away he slid off on the roadside grass, without injury of any kind. On Saturday he rested from his labors in casualty. Sunday returning, he went with me to church and proved the promise, 'He giveth his beloved sleep.'"

Tempora mutantur, nos et mutamur in illis.—We extract the following from the *West London Medical Journal* for July:

The vast changes which have come over the scene, so far as wound treatment is concerned, within the past quarter of a century, may be illustrated by the following: *Surgeon* (1870): "Well, Mr. Jones, how's the woman with the amputated breast?" *House Surgeon:* "Doing exceedingly well, sir; the wound is suppurating nicely." *Surgeon:* "That's all right." Present day. *Surgeon:* "I suppose the amputated-breast case is going on well." *House Surgeon:* "No, sir, I'm sorry to say it's suppurating." *Surgeon:* "What . . . Who. . . . Let me see it ——Where's the dresser?"

A Medical Duel in Paris.—According to the *British Medical Journal* for June 25th, a duel with swords has taken place in Paris between Dr. Jean Charcot, son of the famous physician of the Salpêtrière, and Dr. Lagelouze, editor of the *Opinion médicale.* "Honor was satisfied" by M. Charcot receiving "on the upper part of the thenar eminence a buttonhole wound four centimetres long, making it impossible for him to go on." While expressing its sympathy with M. Charcot's veneration for the memory of his illustrious father, the *British Medical Journal* thinks he might surely find a better way of showing it than by getting a scratch on the ball of the thumb, and adds: "We venture to suggest that members of our profession who fall out should fight, if fight they must, in some manner likely to advance science. The hypodermic syringe occurs to us as a natural weapon. They might try upon each other the effect of the latest antitoxic serum; in such a contest almost as much blood would be drawn as in an ordinary French duel, and honor would be satisfied in a manner not less heroic."

The Opposition of Certain Medical Women to the British Government's Management of Venereal Diseases in the Indian Army.—A well-informed observer, one whose reason and moral sense are not perverted by the prevalent fads of puritanism, writes to the editor of the *Indian Medical Record,* under the heading of The Ridiculous Memorial of Seventy-nine Medical Women, substantially as follows:

The importance of this memorial does not arise from the influence, power, or number of the feeble hands by which it was presented; it arises from the fact that behind it is arrayed all of what Mr. Rhodes would call the unctuous self-righteousness of England. It arises from the unscrupulous manner in which such literature is distributed throughout the length and breadth of the land, among rectors and curates guiltless of all knowledge of the world, among women of all classes, and even among unmarried girls. Were it merely sent to those who could gauge it at its proper value, nothing would ever be heard of it. It is full of fallacies of the worst kind; its statements are untrue, and its inferences illogical.

This memorial endeavors to show that venereal disease differs in certain respects from other infectious and contagious diseases, so that the methods applied to keep them in check are inapplicable to venereal disease. In the first place the memorial says: "With respect to venereal disease, it lies to a large extent within the power of the individual to avoid infection. With other contagious diseases there is not the same power of voluntary escape." Now this sounds plausible enough, but it is untrue to a very important extent, and it is this very point that these medical women totally ignore, or else they are callously blind to what their natural instincts should have told them was their first duty. Can the woman who marries a diseased man, without knowing that he is diseased, and thereby contracts venereal, be said to contract the disease voluntarily? Can the children born of a syphilitic parent be said to have it in their power to avoid infection?

The authors of this memorial know that some eight thousand cases of venereal disease are imported every year from India to England; they also know the insidious and terrible results that half-cured gonorrhœa may inflict upon women after marriage; but instead of taking every means in their power to protect innocent women and children from these fell diseases, they actually accuse them of being willing participators and of contracting the disease voluntarily.

To sustain the distinction they have set up between venereal and other contagious diseases, they say: "Other contagious (contagious of course meaning 'infectious and contagious,' as stated a few lines higher up in the memorial) diseases are, as a rule, easily recognized, rarely or with difficulty concealed, treatment is voluntarily sought, and no question of conduct or character is involved." Now supposing that all these propositions were true, which they are not, supposing that venereal diseases were very difficult to recognize, that they were frequently concealed, and that treatment was not sought voluntarily, surely if such were the case, it would form no argument to permit these diseases to go free and uncontrolled; on the contrary, it would be an admirable reason for closer and stricter legislative measures. It is, however, manifestly absurd to state that venereal diseases are more difficult to recognize than typhoid fever, for instance, and if it is a fact that the infectious diseases are rarely concealed, and that treatment is voluntarily sought *in England,* it must be remembered that this is so under compulsion, and that it was not the case until concealment was made illegal, and a law passed, with penalties attached to it, for the notification of certain infectious diseases. But England is not India, and we have all had a bitter experience of the talents of the native of India for the concealment of all forms of infectious disease.

Now as for the question of conduct or character, I fear that these medical women hold very narrow views, analogous to their view of the word morality, which has no meaning for them except *sexual* morality. Supposing a person suffering from scarlatina, or in charge of a scarlatina patient, uses a public conveyance, to the danger of the other occupants, is there no question of conduct or character? Supposing a person lets lodgings which have just been vacated by a case of infectious disease, without giving information or having them disinfected, is there no question of conduct or character concerned? Both these acts are contrary to the law of England; is it not immoral to willfully break the law and to endanger the lives of others?

No case can be made out for treating venereal diseases differently, from a legal point of view, from other infectious diseases; the admitted difficulty of dealing with them only renders strict legislative measures all the more imperative. The only logical position that could be taken up by these memorialists is, that prostitution should be made illegal, as it is an immoral trade and one dangerous to health and life; this position is, however, denied to them, and they can not take it up, because exactly the same arguments could be used against the liquor trade, against "file cutters," "button makers," "lead miners," etc., in fact, against some fifty different trades, all of which are known to be injurious to the health and to shorten the lives of those employed in them, but all of which it is impracticable to pronounce illegal. In these cases the law does not stop the trade, but it takes every possible precaution to preserve the health of the workers. No doubt it is very unpleasant for a person carrying on an unhealthy trade to have his premises inspected, but in the interests of others the law considers it necessary, and the law must logically apply the same rules to the trade of prostitution.

Another funny argument used by these medical women virtually amounts to this—it is impossible to *stamp out* venereal disease! therefore you should not try to check it. They maintain that "it is practically impossible to say when any woman, who has once been affected with venereal disease, is free from all likelihood of infecting others." It may be presumed, I think, that French authorities on this subject are quite as well informed as these medical women, and what is their opinion? Dr. Commenge thus states it, in the *Annales d'hygiène publique,* January, 1898: (1) "La syphilis est rarement engendrée par la prostitution réglementée." (2) "La syphilis est presque toujours engendrée par la prostitution clandestine."

These medical women try to make out that soldiers are not properly treated for syphilis. This is utterly untrue; they are treated far more carefully than the same class in civil life; they spend long periods in hospital at the expense and to the loss of the state, which from the necessity of earning their livelihood is impossible for their civil brethren. Of all the curious things in this memorial, the most curious, perhaps, is the assertion that when a woman is diseased, it is better for those who consort with her that she should be allowed to go free, and not compelled to stay in hospital. But enough, the purity intelligence is on a par with the purity conscience, and both are alike incomprehensible.

Let these medical women open their eyes and see what is beyond dispute, that there is more sexual immorality in every large town in England than in any cantonment in India, and that the reason there is less disease is simply that prostitution is more general.

The Treatment of Locomotor Ataxy by Exercise.—Dr. Zenner (*Cincinnati Lancet-Clinic,* July 16th) thus sums up his paper on this subject read before the American Medical Association:

1. All cases should be benefited by the exercise treatment, many to the degree of apparent recovery, unless there are special contraindications to the treatment. Failures under these circumstances usually mean faulty methods or that the treatment has not been persevered in sufficiently long. 2. Contraindications are: Loss of vision, mental impairment, bone and joint disease, spasticity and muscular atrophy, the presence of strong irritation symptoms, rapid progress of the disease, a state of great exhaustibility, and serious organic disease. 3. In cases of anæmia, poor nutrition, and lax joints, these general and local conditions should be remedied before the treatment is instituted. 4. The conditions most favorable for the treatment are, a stationary or almost stationary state of the disease, good general health, intelligence, hopefulness, and perseverance. 5. Light cases are more amenable to a (practical) cure, but bad, even bedridden, cases often give brilliant results. 6. The necessary duration of treatment varies from a month or more for the lightest, to six months or a year for bad cases, but the exercises must be kept up in order to insure the continuance of the improvement. 7. Success of treatment depends upon thorough knowledge of the method. This is especially true of bad cases. 8. Exercises should be chosen most suitable to remedy the existing ataxia, and every effort should be made to do them with greatest precision. 9. The sense of fatigue is often blunted in ataxies, while overfatigue injures them. The patient should, therefore, be guarded against too taxing or too prolonged exercises, or other unnecessary efforts. 10. To obtain most benefit from the treatment the constant supervision of the physician, at least in its early periods, is absolutely necessary.

Peritonsillar Abscess.—Dr. Dunbar Roy (*Atlanta Medical and Surgical Journal,* July), after an extended review of the literature of this subject, says that his own treatment of peritonsillar abscess is governed by a rule which he has adopted in the treatment of all patients, and that is the adapting of all treatment to the individual case and not the patient to the treatment. It is the extreme of folly for physicians to have fixed rules in the management of all cases. Besides, it is equally true that the formation of a peritonsillar abscess is not nearly so painful in some patients as in others, and therefore does not require such active surgical measures. As the majority of abscesses follow from tonsillitis, his efforts are always to the abortion of this inflammation, and this he accomplishes, if at all, by the administration of a good dose of calomel followed by a saline purge. The tonsil and surrounding pillars are painted thoroughly with a sixty-grain solution of nitrate of silver, and this is repeated once daily. He starts early with hot gargles of vinegar and hot water, as hot as can be borne, and then hot fomentations are applied externally. Salol and phenacetine always make the patient feel more comfortable, and for this reason alone he prescribes them.

As to incisions, he has never opened a peritonsillar abscess at any point except above and posteriorly to the tonsil, notwithstanding such eminent authority as he quoted to the contrary. Nor, furthermore, does he make deep incisions with a knife, but simply a small puncture about an eighth of an inch deep, and then, with a strong probe in this opening, he pushes it back into the triangular space described. If there is pus, the probe will readily make its way, and the presence of pus will be detected at the opening. If pus is found, the superficial incision is enlarged and the abscess emptied by pressure. He does this rather than make a deep incision, because he has seen such an incision followed by severe hæmorrhage and no pus found; and if the patient is at all nervous, be it man or woman, the sight of spitting out great clots of blood is extremely alarming.

The question also arises, if the abscess is not opened will it open itself? This it most assuredly would, but the author has never waited for such a result to happen. In the first place, it might open while the patient was asleep and cause some dangerous symptoms. Such cases have been reported. Dr. Dunn, of Richmond, Virginia, has reported the case of a child three and a half years old where a peritonsillar abscess broke spontaneously, followed by such severe hæmorrhage that the common carotid had to be ligated. Norton has also reported a case of acute suppurative tonsillitis in a girl of four years, which ended fatally, the abscess having involved the carotid.

Intraperitoneal Injection of Sterile Broth Previous to Abdominal Section.—Dr. J. W. Washbourn (*Lancet*, July 9th) records a case in which an operation for intussusception was prefaced by the injection into the peritoneal cavity, with strict aseptic precautions and while the patient was under the anæsthetic given for a rectal injection of milk, of five cubic centimetres of sterile broth. The injection was performed by pinching up a fold of the abdominal wall between the finger and thumb of the left hand and transfixing the fold with the needle of the syringe. On loosening the grasp with the finger and thumb the fold sprang back, leaving the point of the needle in the abdominal cavity. This was on the 19th of May. On the 20th laparotomy was performed for the reduction of the intussusception. On the 21st the abdominal symptoms had subsided and the patient appeared better, but toward the evening he became collapsed and died at 1 A. M. on the 22d. At the post-mortem examination the wound looked healthy and there was no evidence of peritonitis. All the organs were normal.

This procedure was due to certain conclusions of Dr. Durham confirming the experimental work of Issaef. From a careful examination of a number of cases of death after abdominal section Dr. Durham showed (1) that various kinds of bacteria might be the cause of death after abdominal section, but that the *Streptococcus pyogenes* was the most frequent; and (2) that death after abdominal section was often attributed to collapse or shock when it was really due to bacterial infection. From these considerations Dr. Durham suggested a preliminary treatment of the peritonæum in certain cases of abdominal section, and he thought that the antistreptococcic serum was perhaps the best substance to employ. As this was only a suggestion which had never been carried out, the notes of the foregoing case in which the method was employed are of interest, if for no other purpose, to show that in certain cases, at any rate, it is practicable.

Bathing in and Drinking from Streams as a Cause of Typhoid.—According to the *Columbus Medical Journal* for July 5th, the Michigan State Board of Health has issued a warning against the drinking of water from the Kalamazoo River, owing to at least two deaths having resulted from that cause. It also points out that bathing in streams that are infected by the reception of sewage is apt to prove dangerous, probably in consequence of the liability to swallow some of the water.

An Almost Perfect Linguist.—He was a very able linguist, and one day a friend said to him: "They tell me, professor, that you have mastered all of the modern tongues." "Yes," replied he, "all but two, my wife's and her mother's."—*Indian Medical Record,* June 16th.

Cyclists' Sore Throat.—Under this heading the *Lancet* for July 9th points out the danger in cycling arising from the bacteriology of road dust, containing as it does microbes of pus, malignant œdema, tetanus, tubercle, etc. It states that riders often experience dry and sore throat, with headache, depression, and other symptoms of toxæmia. It recommends the cultivation of nasal respiration, and the douching of the nasal cavity after a dusty run or walk with weak and slightly warm solutions of some harmless antiseptic.

Four Arguments against Noise.—The *Philadelphia Medical Journal* for July 16th says:

There are four reasons why every physician and every other good man should wage persistent war against unnecessary noises:

1. Because in a certain and an increasing number of sensitive and "well" people such noises distinctly aid in carrying them over the easily passed line between comparative health and the sick and "unfit for service," thus surely increasing the sick-rate.

2. Because they decidedly destroy the vital and restorative powers of the sick, and thus clearly increase the death-rate.

3. Because they dull and brutalize the nervous systems of those who can and do learn to withstand their pathogenic influences.

4. Because they serve to make the sensitive and cultured, who are able to do so, separate themselves in their search for quiet from the masses, who must endure, thus serving to intensify the license of the noise-makers, by lessening the checks upon their crimes. The separation of the community into classes is exaggerated in this way, and these, growing wider apart, make impossible desirable helpfulness, sympathy, and mutual understanding of each other. Noise is undemocratic; it should be un-American.

We indorse these sentiments and think that it might be well to begin with the suppression of the newsboy and the maddening cry of "Extry speshul! jyest aaout."

Threadworms in the Ear.—*Pædiatrics* for July 15th states that an interesting case came to the notice of Dr. Koebel, of Stuttgart: A girl, a year and three months of age, after a violent attack of retching, choking, and sneezing, passed a threadworm more than a finger in length, the worm making its appearance at the external auditory canal, whence it was removed by the fingers. The child had suffered for five days from an otitis media purulenta, as a sequel to an attack of pneumonia, and the drum membrane was undoubtedly already perforated and only served the worm as a means of exit. Before the parasite was passed the child had been rolling around in its bed loudly shrieking for the space of an hour. Within eight days a cure resulted by the closure of the perforation in the drum membrane.

The Bicycle and Sexual Excitation.—Dr. Lévi-Sirugue (*Gazette hebdomadaire de médecine et de chirurgie,* June 26th), in a paper on The Bicycle from a Medical Point of View, says, with reference to the assertion that the bicycle tends to provoke masturbation in women, that the reproach is no more justified than that it produces hernias, which can only occur in those who are predisposed to them. On the contrary, he maintains, by the diversion and physical fatigue which it induces, it is a valuable aid against that practice.

The Positive Side of "Christian Science."—According to the *Chicago Medical Recorder* for July, the Christian-science lunacy is just now invading England. Investigators are taking it in hand, but find difficulty in making much out of it as a real curative factor. There, as here, it is found to offend common sense, contravene human experience, and run counter to infallible writ. An English investigator of the States, in the *Westminster Gazette,* says that he "could extract no coherent scheme of teaching from the mystical negation of matter," and that the one thing "certain about it" is that "fees are charged for the treatment, and persons initiated into the arena of scientific healing are required to pay one hundred dollars for the same." If its money-making features were removed it would soon lose its charm and attraction for its professional advocates.

A Humble Petition to our Exchanges.—It is a common plan with many of our exchanges, especially foreign ones, to paste our printed address on their folded journals for transmission. Unfortunately, it very often happens that the pasting is done *over the date.* If we can not induce our contemporaries to follow our example and print the date of the journal *on each page,* will they at least be merciful enough not to cover up the only place where it does appear? We try always, in quoting from exchanges, to give not only credit but exact reference so far as possible, that those of our readers who are specially interested in a subject, and may have the good fortune to have access to the original, may look it up. But when, as happened among other cases with a recent number of our esteemed contemporary the *Gazzetta medica Lombarda* of Milan, the only place where the date is given is practically obliterated, in this respect "an editor's life is not a happy one."

Inspection of Cattle in Pennsylvania.—As a result of a thorough inspection of 19,000 cattle made from June 1, 1897, to June 1, 1898, Dr. Pearson, State veterinarian, reports that he found only 1,270 infected. He further reports that the greatest number of infected cattle come from the States of New York, New Jersey, and Maryland, and that the smallest percentage come from the West, as shown by the result of examinations of 1,600 cattle which came from Ohio, only six of which were affected.

An "M. D. New York" Prosecuted by the British General Medical Council.—The *Lancet* for June 25th quotes from the *Times* an item concerning John Hamilton, of Bedford Avenue, Tottenham Court Road, who appeared on June 17th before a magistrate in answer to two summonses charging him with falsely pretending to and using the title of doctor of medicine, he being an unregistered practitioner. A medical student gave evidence that he visited the defendant at the address given and paid him two guineas for medicine. There was a brass plate on the door with the words, "John Hamilton, M. D., New York." It was argued on decided cases that the fact that the defendant held a diploma granted in another country did not entitle him to practise as an M. D. in England, but the defendant had never described himself as other than he was, and it was pointed out that two previous prosecutions against him had failed. The magistrate dismissed the summons, saying that there was no evidence to show that the defendant had used this title with intent to deceive and allowing the defense £3 3*s.* costs.

"The General Medical Council," says the *Lancet,* "will not be encouraged by such a result to continue the prosecution of such gentlemen as 'John Hamilton, M. D. New York.' It does not follow, however, that the council is not right in having instituted such a prosecution. For one thing, it will satisfy those members of the council who are anxious that the council should wage war against all questionable uses of medical titles which are not registrable. Then, it is further very important that the present meaning of the law should be ascertained by actual prosecutions even if they are occasionally unsuccessful. How else is the council to found a claim which must some day be made to have the law amended and fortified for the protection of the public? Certainly it does not seem to have been proved in this case that the title M. D. was ever used without the source of it being indicated. This is a weak spot in the prosecution and one which differentiates it from other cases in which the prosecution succeeded."

The Legal Relations of Mania.—Dr. Edward C. Mann (*Virginia Medical Semi-Monthly,* June 24th) says that it is important for the lawyer to bear in mind the following points relating to mania:

1. In mania, consciousness, memory, and reason may remain intact even in the midst of the most violent paroxysms. The patient is whirled about in an emotional storm.
2. The maniac's senses are deceived and confounded. Illusions and hallucinations of sight are very common.
3. The persons with whom the insane man associates are apt to derive their characters from his delusion.
4. Real impressions on the organs of sense become, as in dreams, the materials of imaginary scenes.
5. The strange antics of the insane man are the effects of his delusion.
6. The violence of the madman is often not the effect of mere passion, but of his delusion.
7. The maniac, if of a reserved disposition, or when impelled by a strong motive, can conceal his delusion.
8. The acts of the maniac often evince the same forethought and preparation as those of the sane.
9. The maniac, in spite of his cunning, is easily imposed upon and managed.
10. Maniacs in confinement are often conscious of their state, and know the legal relations in which it places them.

In deciding medico-legal questions, it is quite necessary to know that these are some of the leading characters of mania.

The lawyer should be aware of the fact, which at times is of considerable medico-legal significance, that mental disease may arise as a result of the revolution in the system of either sex occurring at puberty. Masturbation also causes it; uterine or ovarian disease likewise. The condition of gestation or pregnancy may give rise to it. Mental disease may appear after parturition, when it is termed puerperal insanity, and it is not at all uncommon in a mild form. Obscene words and self-accusations of impropriety and delusions connected with sexual matters are all common at this time. The period of lactation may be associated with mental disturbance. The climacteric period in women not uncommonly gives rise to nervous troubles which may end in insanity. Insanity may be among the sequelæ of fevers. The rheumatic and gouty poison may cause insanity at times. Syphilis and phthisis may both give rise to and be associated with mental disease, and alcoholic insanity is very frequent, and is accompanied by hallucination of hearing and other hallucinations. Finally, we have the insanity of old age or senile dementia.

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Original Communications.

THE RESTORATION OF A DEFLECTED NASAL SÆPTUM.

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The nasal sæptum, when normal, divides the nasal cavity into two chambers, and should do so with impartiality, giving equal space to each nostril. It should be perpendicular and of equal thickness—that is, the surface of the right side should be parallel to that of the left. When the sæptum is deflected the earliest symptoms are those arising from obstruction to respiration, and this is apt to be the main and persistent symptom of which the patient complains. Nasal obstruction, with its attendant symptoms, may be caused by other lesions than those of the sæptum—*e. g.*, flaccid nares, foreign bodies, increased size of the turbinated bodies, and adenoids.

Obstruction from a sæptal cause may occur either from the thickening of mucous membrane, of cartilage, or bone, on one or both sides, or from a dislocation of the normal sæptum caused by traumatism, pressure, nutritive changes, or necrosis. Any of these causes may produce a deflected or deviated sæptum, which will obstinately obstruct one side of the nose while the opposite side remains abnormally large.

My attention was first called to the effects of overworking one side of the nose from complete obstruction of the other side by Dr. L. A. Coffin, who some years since exhibited some well-developed unilateral cases of atrophic rhinitis. In each case the unaffected side was obstructed. These unilateral cases of atrophic rhinitis were relieved of their symptoms by opening the obstructed side and equalizing the breathing space. It may happen that this increased space in the opposite and unobstructed side becomes again a cause for complete nasal obstruction, because the free side, accomplishing the whole work, becomes irritated, resultant hypertrophy of the mucous membrane of the turbinated structures appears, and the free side becomes obstructed in turn. Permanent bilateral nasal obstruction is thus produced and patients exhibit the worst form of mouth breathing.

I believe deflections are generally caused by traumatisms in early life, blows and falls upon the nose, which are subsequently followed by nutritive changes and increased bulging of the cartilage as age advances. It is indeed rare that patients refer their sæptal obstructions directly to a blow. More often the history states that several years before a blow was received. Some nasal obstruction was subsequently noticed, but during the last few years the obstruction has gradually increased until the symptoms have become so urgent that the necessity of interference is recognized and relief is demanded. This condition, then, naturally gives rise to gradually increasing symptoms. The earliest noticed is a degree of obstruction in the nostril toward which the sæptum is deflected. This moderate discomfort is increased whenever the free side becomes obstructed, or the mucous membrane in the closed nostril increases in thickness from any irritation; then come restlessness at night, mouth breathing, headache—which may be constant or neuralgic—night terrors, coryza, hay fever, mucous discharges (becoming purulent at times), hawking, choking, coughing of retained secretions, pharyngitis, dry throat, laryngitis, and many other attendant woes; insufficient lung capacity, incapability for exercise, and emaciation—all of which may be quickly relieved when proper treatment is directed to the cause. In one case mental symptoms appeared, hallucinations, which quickly subsided after an operation, and in another case attacks of epilepsy disappeared after operation on the sæptum. Constant and annoying symptoms are those that affect the voice, "talking through the nose" as it is termed, deformity externally, and restlessness and insomnia at night.

Forms.—I have already intimated that a recognition merely of a deflected sæptum, with an operation properly accomplished, may not be of itself sufficient to insure a successful relief of the nasal stenosis, and that the reestablishment of a perpendicular sæptum may not alone accomplish the results desired; but an operation performed along certain fixed lines, with latitude enough to make it applicable to any form of deflected sæptum, and the previous recognition of possible sources of obstruction, their removal, and cure, before the principal sæptal operation, will in most cases insure a successful result. It becomes necessary then, before proceeding to a description of the operation which in my hands has met with the best success, to consider briefly the variety of mechanical problems which may be presented by a crooked sæptum. A convenient clinical division of five classes may be made as they are met with on the operation table. It is true that each case of deflected sæptum presents mechanical problems which must be worked out for that sæptum alone, yet most cases fall under one of the following classes:

I. Deflected cartilaginous sæptum whose deformity is (*a*) bowing, (*b*) ridged, (*c*) sigmoid, or (*d*) complicated with enlargement (turbinal) of the free side, exostoses or ecchondroses, or dislocation from the superior maxillary ridge.

II. Deflected cartilage and osseous sæptum.

III. Deflected cartilage with external deformity.

IV. Deflected cartilage with high osseous palate.

V. Deflected cartilage with perforations from traumatism, ulceration, or abscess.

Class I. *Bowed Sæptum.*—The sæptum *with bowing* is the simplest form of deflection and causes the fewest symptoms of obstruction, because air generally enters above and below the point of contact with the outer nasal wall. The opposite nostril is overfree and the sæptum concave. This form is most amenable to treatment (Fig. 1).

Ridged Deflection.—The *ridged deflection* is an angular deformity (Fig. 2). It is probably always caused by a fracture of the cartilage. The length and position of this deformity depend upon the severity and direction of the force originally causing the fracture. Sometimes these ridges are horizontal. If situated well anteriorly, they are apt to be perpendicular and to occupy the whole length of the cartilage. Other cases will present a branching ridged deflection, the main line of which is fairly oblique, and joining this another line of fracture at varying angles. In badly fractured sæptums I have felt three or four of these ridges joining the main fracture. It is necessary to remember that several lines of deflection may exist, in order to restore the sæptum at the time of the operation. This form of ridged sæptum is sometimes razor-edged along its course—so sharp is the deflection—and resembles an ecchondrosis so closely that it may be sawed off, under that mistaken impression, and a perforation result. Before the examination of the sæptum is complete the surgeon should consider the planes of the sæptum on each side and mentally determine its relative thickness. In no class of cases is such an investigation more necessary than in these ridged sæptums, for the deflected side looks very much like a thickening or ecchondrosis, while the opposite side will present only a slight pit or dimple of depression. A probe on the free side passed into this pit, obscured by swollen tissue, will reveal the fact that the sæptum really presents quite a fissure here, corresponding to the ridge on the obstructed side, and while the sæptum appears thickened it really is of only the ordinary thickness, or even thinner than the average. To saw such a projection as this would be likely to perforate the sæptum, leaving ragged edges, and relieving no symptoms.

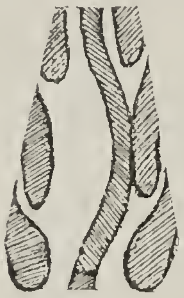
FIG. 1.

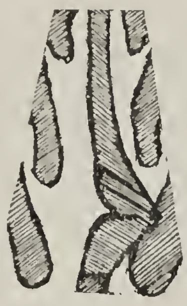
FIG. 2.

There is little or no danger of a perforation remaining if the sæptum be clearly and evenly incised and the ridge broken and replaced, as will be described later.

Sigmoid Deflection.—The *sigmoid deflection* is a double angular ridged deformity, sometimes with both obstructing ridges on the same side; sometimes one deflection high up and the other low down and on the opposite side of the nares (Fig. 3). *Sigmoid deflections* are rarely simple, being generally complicated with some deflection of the osseous sæptum, thus falling under class two.

When cartilaginous deflection is *accompanied with thickening* about the original seat of the fracture, it is easy to recognize it by examination of the free or concave side with the probe and vision. In these cases the probe will not detect any fold or fissure in the concave side corresponding to the situation of the deflection on the opposite side, but the sæptum will be slightly and evenly concave, while the obstructed side will show *a deformity and obstruction in excess of the amount of deflection* (Fig. 4).

Before an operation is performed to relieve this deflection the thickening must be reduced by saw or knife, then the operation for deflected sæptum will be successful; otherwise, if the deflection is first operated on, the thickening may obstruct respiration, necessitate a second operation, and might interfere greatly with the proper position and retention of the splint.

One of the most frequent complications of a deviated sæptum is a *separation* of the lower border of the sæptal cartilage from its junction with the ridge formed by the union of the superior maxillary bones and located on the floor of the nose. I think this point, and it is an important one, has been entirely overlooked until described in my paper entitled Elements of Success in Sæptum Operations, and published in the *Manhattan Eye and Ear Hospital Report* for 1897. This separation or *dislocation* from the superior maxillary ridge I have tried to show diagrammatically in Fig. 5, and I would again like to emphasize its importance as an element of failure in sæptum operation because it is so often overlooked.

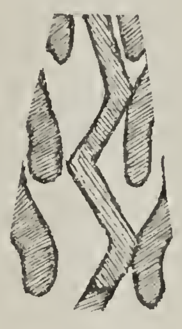
FIG. 3.

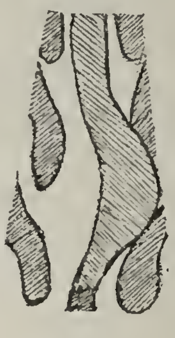
FIG. 4.

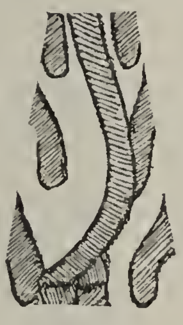
FIG. 5.

In several cases where patients had returned for further investigation because they had failed to get relief after an operation for deflected sæptum, whether at my hands or at those of my colleagues, I have invariably recognized that this important point had been overlooked, and since its recognition and appropriate manipulation at the time of operation I have not had a single case where the operation has failed to give complete satisfaction. This dislocation is very frequently present, and while I have no statistics, I judge that nearly sixty per cent. of all cartilaginous deflections present this dislocation. It has doubtless escaped observation because *it* *occurs always in the free side,* lies on the floor, and its rough lines of dislocation are obliterated by fibrous material thrown out to hold it.

This condition is a very frequent cause of the slight tilting of the tip of the nose to one side. Its replacement cures the external deformity. The recognition of this dislocation is easy if the floor of the nose on both sides is carefully examined *with the finger.* I have rarely been able to locate it by sight. When the finger, well oiled, is investigating the cartilaginous deflection, it must be firmly pressed to the floor. On the convex side, or the side of obstruction, the greater space will be found near the floor, but there will be felt an irregular bony ridge, its free side looking upward, and this can be recognized as the superior maxillary ridge, a rough ridge formed by the junction of the maxillary bones. This ridge, of course, is never deflected. The cartilage is torn from it, the ridge being the median line of the floor of the nose.

If the finger is then introduced into the free side of the nose, the lower border of the cartilaginous sæptum, which has slipped from this ridge, can be felt projecting into the free side, and the fibrous bands which have formed can also be felt if the dislocation is marked. Without a recognition of this condition, when present, and its correction, the sæptum can never be set in a perpendicular line, and this, in my opinion, is the reason why the deflection sometimes returns after the operation has been carefully performed but this point neglected.

I can not too strongly emphasize the importance of this matter if it is desired to restore the sæptum to the perpendicular line and to prevent the deflection returning. The breaking with the forceps will not successfully correct this condition. It must be incised. Its proper treatment will be considered separately under a description of the operation.

One more condition, necessary to mention before leaving the discussion of the cartilaginous deformities, has nothing to do with the deformity itself, but must be recognized and removed before any operation has been performed for the sæptal deformity—that is, the *enlargements on the unobstructed side.* These enlargements take the form of bony thickening, of soft tissue hypertrophy, or polypoid formations of the turbinal tissues, and, while accompanying the deflection, they produce no symptom of obstruction because of the increased space in the free side from which they develop; but restore the sæptum without first removing these enlargements, and the field of obstruction is simply transferred from one nostril to the other, and no improvement results. If such hypertrophies exist in the free side they must be removed previously to the operation.

It is not within the plan of this article to discuss the treatment of those cases where external deformities accompany a deflected sæptum, except where the deformity may be remedied by straightening the sæptum. Other cases, with the deflection of the nasal bones, will not be considered here.

The writer would like in passing to call attention to crooked sæpta accompanied by extremely high-arched hard palates, and to say that the best treatment for some of these extreme cases is not to attempt a straightening of the sæptum, but to remove an oval piece of the cartilage, which can be closed with silver-wire suture inducing perfect union, thus avoiding a persistent perforation.

A note of warning should be sounded against operating on the sæptum of syphilitic patients before a thorough specific treatment has been carried out. These cases may cause sloughing and perforation. Luckily, these are a very small percentage of the whole number of deflected sæptum cases, and with this exception in mind, the operation for the relief of these deflected sæptums, now to be described, will be found sufficient and successful.

The Operation.—The points which should be attended to before the operation are the removal of sæptal thickenings in the form of exostoses and ecchondroses, together with the removal from the unobstructed side of any pathological condition of the turbinated tissues which would form an obstruction to the free side after the sæptum has been replaced. These excrescences may best be removed by means of the saw, snare, or cutting forceps prior to the operation, and enough time should elapse to allow complete healing.

In a few instances, where the time element is important, these minor operations may be attended to after the patient has been etherized for the sæptal operation. Before the patient is etherized the nose should be douched with a warm normal salt solution. A small quantity of peroxide of hydrogen (1 in 50) may be used to insure absolute cleansing. The patient having been etherized, the finger, well oiled, is introduced into the nares. The examination by means of the finger will determine the convexities and concavities in the sæptum, *and will show the lines where the sæptum has been previously bent or where fracture has taken place.* The finger should discover the ridges which may exist and should determine whether there are one or more deflections, and whether these ridges join each other or are separate. I have seen cases, apparently simple, where the deflection consisted of a horizontal ridge, and joining this at an angle the finger discovered another ridge leading upward and backward which was as much an element of deflection as that which was discoverable by visual examination. A careful examination of these ridges constituting the deflection will indicate the plan of operation, *which is to perforate* the sæptum at the most posterior part of its deflection and to cut along these ridges of deflection in whichever direction they may extend.

It is of great importance that the examining finger while searching for the deflection should ascertain *whether the triangular cartilage joins the superior maxillary ridge,* or whether the cartilage has been deflected, or fractured, or displaced from this ridge. Having determined carefully the relations of the angles of deflection to each other, the knife, which I designate as the spear knife, is introduced into the obstructed side and is carried past the deflection. The little finger, which has been placed in the free side, will easily determine when the spear knife is past the deflection, for it can be felt through the thickness of the sæptum. The point of the knife is then turned and pressed through the sæptum, the point being felt as it perforates by the finger in the opposite nostril. This perforation must be at the posterior point of deflection. An incision about three fourths of an inch long is then made, following the line of deflection or ridge of deflection, and the knife withdrawn. The object of the spear knife is merely to perforate the sæptum enough to allow the introduction of a blunt-pointed bistoury, or a specially devised knife (Fig. 6).

This second knife is introduced on the obstructed side into the incision made by the spear knife, the finger in the free nostril again acting as a guide. This knife is drawn forward with a slight sawing motion along the ridge of convexity until it reaches a point anterior, which is not deflected. It is usually necessary to cut as far forward as the epithelium and the vestibule of the nose. The blunt point on the instrument prevents any wounding of the turbinated tissue. If the examining finger discovers other ridges of deflection joining this main deflection the bistoury should be introduced and these ridges incised in any direction they may extend *until each is cut to its most remote point* (Fig. 7).

When this has been accomplished the sæptum will present one or more cuts along the lines of deflection and entirely through the substance of the cartilage. This leaves the sæptum in a thoroughly divided condition along the angles of its distortion.

Ascertain next whether the deflection from the superior maxillary ridge exists; if it does, it should be treated in one of two ways: If the deflection at the floor of the nose consists of a displacement of *both the bony ridge and cartilage,* an attempt should be made to break the bone free from its improper attachments by the forceps, which are here shown and are slightly modified from the old Adams's forceps (Fig. 8). If the bony ridge is not dislocated with the cartilage, but, what is more frequently the case, *the cartilage has slipped from its articulation* and obstructs near the floor of the nose, *it is* a deflection of the cartilage and should be treated as in the preceding paragraph—the knife introduced at the junction of the cartilage with the vomer and drawn forward horizontally to the epithelial border.

The sæptum presents at this stage one or more incisions; each reduces a deflection and allows the cartilage to assume a perpendicular line, the incision allowing the cartilage to be pushed to either side with great freedom.

The next step is the destruction of any elastic bands which may exist in the submucosa as the result of the inflammatory action accompanying the old fracture. These adhesions should be thoroughly broken up by introducing the blades of the forceps on either side of the sæptum and quite forcibly twisting the sæptum with a rocking or rolling motion until all adhesions are thoroughly destroyed and the cartilaginous sæptum is freely movable.

The third point of importance is the bending of the sæptum *away from the side which has been obstructed.* This causes an overlapping on the free side of the cut edges and must be done before the splint is introduced. It is easily accomplished by introducing the finger into the side obstructed, the overlap occurring on the concave side. The bony sæptum should be explored, and if there are prominent deflections these should be broken by the forceps.

The hæmorrhage will have been quite profuse, but is usually controlled by the splints, which are now introduced. These splints are made of vulcanized rubber, with a straight lower border and a perfectly straight sæptal side. The inner end of the splint is smaller than the outer end, which is made to catch the upper part of the ala nasi. The side of the splint which is next to the sæptum has a flat surface. The side next to the inferior turbinated body is concave (Fig. 9).

The splint is not perforated, for I have found the holes a disadvantage in keeping the splint clean. Mucus and pus will collect inside of the splint; and, while it is easy to clean them from the inside, it is difficult to cleanse each hole and make the splint absolutely aseptic,

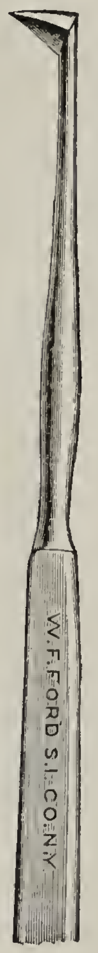

FIG. 6.

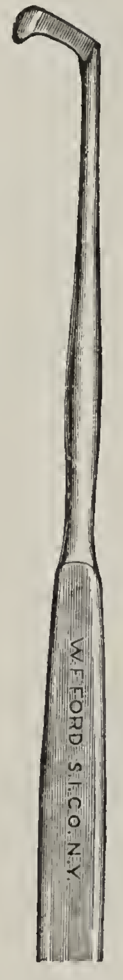

FIG. 7.

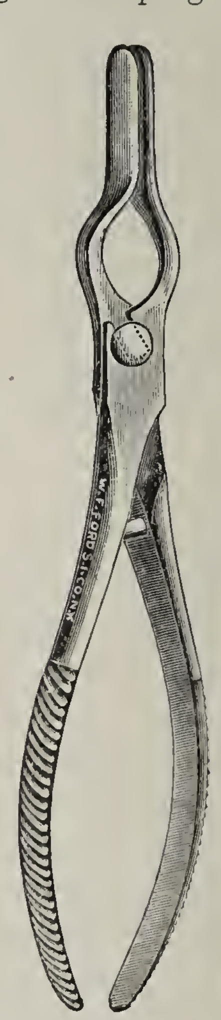

FIG. 8.

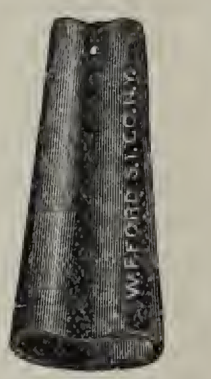

FIG. 9.

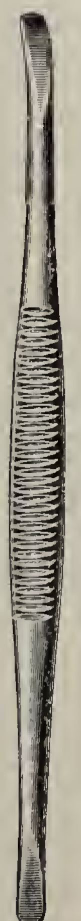
FIG. 10.

whereas an unperforated surface cleans easily. I have found that these holes facilitate drainage in no way. They fill with granulation tissue and do not drain away the discharges. Neither do perforated splints retain their position any better than unperforated. I have also noticed that it is better that the splint should be made with a straight lower border. Those having a curved lower border do not fit well to the floor of the nose and have an unfortunate tendency to seek a higher position than the one which was intended for them, especially as the posterior end tends to tilt upward, thus allowing a partial protrusion of sæptum beneath the lower border of the splint, which will defeat the best purpose of the operation.

A splint is introduced into each nostril, the larger splint being placed in the previously obstructed side, producing just enough pressure to force the sæptum a line past the perpendicular; but care must be taken not to press the sæptum too far over. The second splint in the opposite nostril will assist the other one and help to maintain a correct position of the sæptum.

The after-treatment of these cases is important to an ultimate success. Unfavorable results are almost unknown if the splints fit properly and are not uncomfortable to the wearer. The patient should be kept in bed twenty-four hours, and the splints should not be removed for forty-eight hours unless there is pain, headache, swelling of the nose, or secretions which can not be removed by washing. During the first twenty-four hours the nose should be irrigated twice with a hot normal salt solution, or with a solution made from an antiseptic tablet, a particular favorite of mine being made for me by Fraser & Co., the formula for which is here presented.

℞	Trit. sod. chloride (1 to 1,000)	5	gr.;
	Trit. sod. bicarb. (1 to 1,000)......	5	"
	Trit. zinc chloride (1 to 10,000) ...	$\frac{5}{10}$	"
	Trit. mercury bichlor. (1 to 100,000)	$\frac{5}{100}$	"
	Oil of wintergreen...............	$\frac{1}{20}$	min.;
	Tinct. saffron..................		q. s.
M.	Ft. tab. No. 1.		

Two of the tablets in about eight ounces make a solution which is non-irritating, slightly astringent, and antiseptic. A nasal douche may be accomplished with a large ear syringe or a Davidson bulb syringe, the head being thrown well forward, and the patient breathing through the mouth. If this is carefully done the fluid will flow in at one nostril and out through the other.

At the first removal of the splints the sæptum should be examined and its condition noticed. If it bulges to either side it can be replaced by means of a nasal periosteal elevator, which I have found useful for this purpose (Fig. 10).

The broken fragments will easily resume a correct position and the smaller splint can then be introduced. While the splint is out the nostril should be irrigated and the splint carefully cleansed with an antiseptic solution. Reintroduce the splint well oiled and see that it holds the sæptum in proper place. After four days the splint which has been introduced into the side which was unobstructed may be removed and left out, one splint being worn in the formerly obstructed side. This should be removed each day for a week, afterward each second day, for cleansing and antiseptic irrigation of the nose. It should be worn for three weeks, and then it may be left out during the day and worn for two weeks longer at night only. I have seen cases where deflection has reoccurred as a result of the patient rolling on his face while asleep. I therefore recommend wearing the splint during the night longer than is necessary during the day.

A complication which may arise while the splint is being worn is the presence of exuberant granulation tissue. This should be treated by nitrate of silver applied as caustic to the granulations.

A bad position of the splints may cause discomfort to the patient and injury to the sæptum. This may be avoided by using very little force when introducing the splint. The operation as here described has given entire satisfaction in my work, resulting in relief to the patient and the restoration of the perpendicular line of the sæptum.

External deformities, such as angular and tipped noses, have been markedly benefited, and I consider the success due to the thorough cutting to which the sæptum is subjected in this operation and to the correction of the deflection which may occur from the superior maxillary ridge.

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CARDIO-PULMONARY MURMURS.

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In reviewing the history of the subject of cardio-pulmonary murmurs there are other reasons than usage that demand a reference to the work of Laennec. Though Laennec's conception of the cardiac cycle was incomplete and incorrect, he nevertheless realized that there were certain adventitious sounds heard over the præcordial area that could not originate within the heart. Laennec ventured to explain the origin of these adventitious sounds or murmurs by placing it in the lung and making them dependent upon the cardiac cycle. The fact, however, that the supposed extracardial murmur persisted with the cessation of respiration left Laennec in doubt as to the explanation of the phenomena; so that in the writings of Laennec the explanation of the so-called functional murmurs is left in suspense.

In Virchow's *Handbook*, vol. v, 1854, Wintrich says he has often heard during the cardiac contraction a soft blowing murmur, inspiratory in character, which he believed to be due to the aspiration of a cavity caused by the diminution in the size of the heart during its systole. He says he sometimes heard dry and moist râles dependent upon the cardiac systole. On one occasion, in the case of a young girl, he heard a high-pitched whistling sound, over a cavity near the heart, which accompanied every systole. Wintrich claimed also to have heard an aspiration sound and râles over a pneumothorax when the lung fistula was in the neighborhood of the heart.

In the London *Medical Times and Gazette*, 1860, Benjamin W. Richardson, in an article entitled On an Auscultatory Sound produced by the Action of the Heart on a Portion of Lung, says, in describing a sound heard over the base of the heart to the left of the sternum: "The sound was so superficial that it seemed directly beneath the stethoscope, or, if the ear were applied, in immediate contact with the ear. It was not a friction sound, it was not a murmur, it was not a crepitation; it was rather a crackling, coarse sound, resembling somewhat the burning of dried gorse or the tearing of a piece of calico." The sound disappeared during forced expiration. At the autopsy a tongue of lung was found directly in this area, firmly adherent to the thoracic wall anteriorly and to the pericardium posteriorly. In a second case the same sound was audible during life. On autopsy the lung was found adherent to the thoracic wall and dragged down over the heart. There were no adhesions of the pericardium. After filling the lung with air through the trachea in this same position, and then compressing the lung with the hand, Richardson could reproduce the same sound. Richardson later named this phenomenon "pulsatile pulmonic crepitation," because, he says, the same sound could be produced by the aorta.

In the *Allgemeine Wiener Medicinal-Zeitung*, 1863, Skoda says: "We must further mention a murmur which originates in the following manner: A portion of lung protruding upon the heart is compressed by the heart during its excursion, thus expelling the contained air and producing a hissing sound." Skoda says further that it is impossible to differentiate such a murmur from a murmur that may occur in the conus arteriosus and may be due to some modification of the blood.

Choyan (*Paris Thesis*, 1869) described the second case in this thesis as one in which there were no lesions of the heart found at the autopsy. During life, over the mesocardium and the second interspace at the left border of the sternum, there were moist râles heard with the systole of the heart when respiration ceased. The lung was infiltrated with a tubercular process and fixed between the left ventricle and the thoracic wall. In the third observation there was a cavity of the upper right lung extending as far down as the third rib; and during life, over the sternum at the level of the third rib, gurgling and moist râles were audible with the heart's systole when respiration was suspended. Several similar cases are described by Choyan. In the eighth case there was no disease of the lung, but during life a systolic murmur was distinctly heard over the left ventricle during the expiratory phase and disappeared during the inspiratory phase.

Dr. N. Weiss (*Wien. med. Wochenschrift*, 1880) describes three cases which gave loud diastolic murmurs audible over the region of the left ventricle at the third interspace and apex. There was no disease of the valves. Neither the relation of the lungs to the heart nor the relations between the right and left ventricle are accurately described. He remarks that the one case described by Friedreich, and all of his own cases, had tuberculosis of the lungs.

The possible presence of a presystolic murmur without mitral stenosis or disease of the valves occasioned a controversy between Austin Flint, of America, and G. Balfour, of Edinburgh. This controversy waxed so warm that G. Balfour intimated that Austin Flint was unable to hear a murmur correctly. In an article in the *American Journal of the Medical Sciences*, 1886, Austin Flint resents the imputation of Balfour and describes cases giving the presystolic murmur without any lesion of the valves. The murmurs described by Flint have all the characteristics of cardio-pulmonary murmurs.

The most common location of the cardio-pulmonary murmur is over that portion of the præcordial area which enjoys the greatest degree of antero-posterior excursion during the cardiac systole. This point is over the conus arteriosus, or what is commonly clinically described as the pulmonic area.

Naunyn sought to explain the frequent occurrence of systolic murmurs over this area without mitral endocarditis, by attributing the murmurs to actual regurgitation due to relative insufficiency of the mitral valve. Naunyn says the murmur is audible at this point because of the proximity of the appendix of the left auricle. Balfour, of Edinburgh, has accepted the explanation of Naunyn and given it wide circulation in England and America. If genuine regurgitation were the cause of a murmur in this region the physical principles of the transmission of sound demand that the murmur should be audible at the apex of the ventricle as well as over the appendix of the auricle.

Potain has shown experimentally that post mortem the mitral valve will withstand an intraventricular pressure high enough to rupture the wall of the ventricle. The resistance of the mitral valve and ring makes relative insufficiency of the mitral valve improbable, especially when ante mortem and post mortem there are no evidences of dilatation of the left ventricle. It may be urged as an objection to this ground that we have positive clinical evidences of a relative insufficiency of the tricuspid valve during life when the post-mortem shows no evidences of an endocarditis in the right ventricle. The centrifugal venous pulse, systolic in time, which is plainly visible in the external jugular, and manifests itself in the liver by a systolic expansion of this organ, is sufficient evidence of a relative insufficiency of the tricuspid during life. Potain finds, however, that very low pressure in the right ventricle is necessary to spring the tricuspid valve.

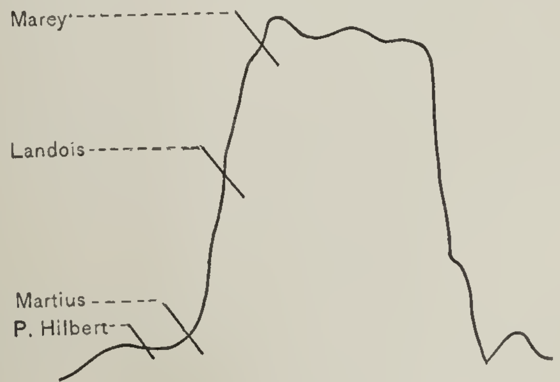
The so-called functional or hæmic murmur, which I believe to be often a cardio-pulmonary one, is frequently found in chlorosis and anæmia. There is no constant relation, however, between the dilatation of the heart and the existence of the murmur, nor is there an essential relation between the blood count and the presence of the murmur. A fatal objection to the murmur being hæmic in origin is the fact that the murmur is heard mostly over the pulmonic area and not over the aortic area. The blood passes through a tube with a more constant lumen from the conus arteriosus dextrum into the pulmonary artery than from the conus arteriosus sinistrum into the aorta. The blood in the aorta is driven more rapidly, and under a pressure from four to six times greater, than is the case in the pulmonary artery. These physical conditions demand that were the murmurs hæmic in origin they should be heard more constantly and with greater intensity over the second interspace to the right of the sternum than over the second interspace to the left of the sternum. The chemical change which the blood undergoes in the pulmonary circulation could not be responsible for the murmur being heard over the pulmonary artery and not over the aorta. Thus, by exclusion (without positive evidence), we are forced to admit the so-called functional pulmonic murmur under the head of cardio-pulmonary murmurs. The hæmic origin of the murmur is at least inconsistent.

Before we proceed to discuss the characteristics of the cardio-pulmonary murmur it would be well for a few moments to consider the interpretation of the cardiac activity as seen and felt over the chest wall, and to define the relation of the various phases of the cardiac cycle to the phases of cardiac excursion.

A great source of error in timing murmurs over the heart is due to a misinterpretation of the cardiac impulse. The interpretation of this impulse, as described by Vaquez, is the one that is most acceptable to my mind. The palpable apex impulse is divided into two phases: First, a progressive elevation; secondly, an instantaneous impulse. The auricle contracts, filling the ventricle until tension on the ventricular wall announces the commencement of the ventricular systole, at which instant the auricular systole ceases and the expulsion begins, the auriculo-ventricular valves being closed. This closure is responsible for the sharply defined impact which terminates the systolic impulse of the ventricle. Over the apical region the impulse does not sustain a constant relation to the cardiac cycle. The time of the impulse depends largely upon the conformation of the thorax and the relative position of the heart in the mediastinum. Sometimes the intercostal space is protruded by the apex; sometimes the impulse disappears, giving what Marey called a "negative impulse." This paradoxical term was selected by Marey to describe the simultaneous recession and hardening of the apex during the systole. The closure of the mitral valve may follow the commencement of the systolic impulse, may precede the palpable impulse, or may be synchronous with it.

The more accessible the heart and the larger the præcordial area of activity the more readily can we identify the phases of the impulse with the phases of the cardiac cycle. It is a common clinical practice to estimate the beginning of the cardiac systole with the beginning of the impulse. For this reason the pulse of aortic insufficiency and the pulse of mitral stenosis are described as being delayed. The delay is only apparent. The first portion of the cardiac impulse in both instances is diastolic. The estimated lapse of time between the closure of the mitral valve and the carotid pulse in cases of mitral stenosis and aortic insufficiency is found to be what it normally is—viz., about twelve one-hundredths of a second. In the London *Lancet* of 1887 Dickinson speaks of the "error" of calling the so-called "murmur of mitral stenosis a presystolic murmur, when it is really a murmur of insufficiency." The error is Dickinson's, because he failed to recognize the auricular element in the elevation of the ventricle.

In making a clinical examination of the heart, what we really palpate and inspect is not the apex impulse alone, but the increase in the antero-posterior diameter of the heart. The apex impulse is merely incidental to this anterior heaving of the heart. The term apex has come into common use because that portion of the heart is most commonly accessible to view and to touch. When the heart is dilated or the lungs are retracted we say the apex impulse becomes broadened. What really occurs is the increase in the antero-posterior diameter of the heart becomes accessible over a larger portion of the ventricles. As I have remarked above, this increase in the antero-posterior diameter of the heart may be partly produced by the systole of the auricle and is not occupied entirely by the ventricular systole. The beginning of the ventricular systole is marked by the closure of the atrio-ventricular valves. Observers differ widely upon what point in the cardiac elevation the closure of the valves occurs. This figure, taken from Vaquez,



marks the points in the cardiographic tracing where various observers have placed the closure of the mitral valve. The lowest one is marked by P. Hilbert, the second by Martius, the third by Landois, and the fourth by Marey. The point marked by Marey is the one accepted by the school of Potain. Roy and Adami would accept the point of Martius, and would interpret the point of Marey as being due to the contraction of the papillary muscles. It must be noted, however, that the tracings of Roy and Adami, on which they base their interpretations, were taken from the exposed hearts of animals and the tracings taken with considerable pressure on the heart wall. In the work of Roy and Adami, published in the *Practitioner* of London, 1890, there is a figure presented which is very significant in this relation. They show that the descending arm of the cardiographic tracing becomes smaller as the pressure exerted on the ventricle is diminished. The intraventricular pressure offered by the systole of the auricle can not exceed ten millimetres of mercury. The manifestation of this pressure could be easily obliterated by exerting pressure upon the myocardium. Roy and Adami's tracings are further complicated by the fact that they were taken on the exposed heart, the animal being kept alive by artificial respiration. Under normal conditions the heart is contracting in a medium of a negative tension, which may equal from six to ten millimetres of mercury, caused by the elasticity of the lung. If this negative tension be removed by producing a double pneumothorax the heaving of the ventricle caused by the auricular systole would be still further obscured. A study of the gallop rhythm has shown, I think, conclusively, how much the auricular systole may share in producing the antero-posterior excursion of the heart. The study of the gallop rhythm, I think too, shows that the interruption in the cardiac impulse could not be due to an interruption in the ventricular systole; so that the contraction of the papillary muscle, as interpreted by Roy and Adami, could not be responsible for the gallop rhythm or for the interruption in the præcordial impulse which frequently accompanies a cardio-pulmonary murmur.

It is common to find in clinical observations the transition from a presystolic cardio-pulmonary murmur to the gallop rhythm, just as has been often observed in a genuine mitral stenosis. A cardio-pulmonary murmur may precede the systolic tone, may accompany the systolic tone, or occur during the short pause between the systolic and diastolic tone. It rarely accompanies sharply the diastolic tone, but more often directly follows it. So we classify cardio-pulmonary murmurs from their chronicity as being presystolic, mesosystolic, telesystolic, diastolic, and telediastolic.

The murmur may be produced either by compressing the lung between the heart and thoracic wall during any portion of the cardiac impulse or by aspirating a portion of the lung lying in contact with the heart when the heart in any portion of its cycle recedes from the contiguous lung. When the cardio-pulmonary murmur is due to compression of the lung it may have either a soft, blowing, or a vibratory character. The latter is the more common. When the murmur is due to aspiration, as is always the case when the murmur occurs during the diastolic phase, it has the soft, blowing character. I have never heard a cardio-pulmonary murmur synchronous with the diastolic phase that was vibratory in character.

It may be offered as an objection to the pulmonary origin of these murmurs that the passage of air from the finer bronchi into the infundibula does not occur rapidly enough to produce a sound. This is, in all probability, true in ordinary respiration; but we must consider that the excursion of the lung during ordinary respiration is only one seventh of the possible excursion which the elasticity of the lung would afford. Moreover, the time occupied by the cardiac systole is about one seventh of the time occupied by an ordinary inspiration, so that if a thin piece of lung were situated between the middle of the ventricle and the thoracic wall, the excursion of that small portion of lung due to its compression by the ventricular excursion may be greater than during ordinary respiration, and would occur in one seventh the time.*

The cardio-pulmonary murmur may be distinctly palpable as a thrill. If one is experienced in the detection of these murmurs and compares the nature of a thrill from this source with a thrill that is endocardial in origin, he will be impressed by the fact that the cardio-pulmonary murmur is very superficial and can be palpated directly under the finger. In auscultating, the same superficial character of the murmur is apparent. These murmurs can be heard better and their source be better detected by auscultating with the unaided ear than by auscultating with the stethoscope. With the unaided ear over the point of the murmur we can best appreciate the superficial location of the murmur. The transmission of the murmur, or rather the want of transmission of the murmur, assists in distinguishing it from one that is endocardial in origin. These murmurs are generally heard over a sharply defined area and do not gradually fade in their intensity as do usually the endocardial murmurs. Another characteristic is that the murmurs vary in their intensity and character with the different respiratory phases far more than the endocardial murmurs. Very often a loud, sharply defined cardio-pulmonary murmur may be made to entirely disappear by having the patient make a forced expiration, or may entirely disappear during a strong inspiratory effort. The murmur may be distinctly audible when the patient is in the upright position and entirely disappear in the horizontal position, or may be absent in the horizontal position and distinctly audible when the patient sits upright.

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* *Clinique médicale de la Charité.*

We see from the foregoing considerations that the production of a cardio-pulmonary murmur requires a certain thickness of lung between the heart and the chest wall, or a certain relation between a volume of lung and a portion of the heart, so that inspiration and expiration in the horizontal position or the upright position may cause the murmur to appear when absent or to disappear when present. It is also apparent how a variation in the size of the heart may modify the relations essential for the production of a cardio-pulmonary murmur. The murmur may be produced in one individual by a cardiac dilatation, in another individual by changing the position of the heart; and in still another patient a cardio-pulmonary murmur, which is present during dilatation of the ventricle, may disappear after the ventricle recovers its normal size, or the murmur may be absent during dilatation and reappear when the heart recovers its normal size.

It is easy to conceive how a soft, blowing murmur may be pulmonary in origin, but it is not so apparent how it could be vibratory in character. Clinically, experience shows that the systolic murmur is very often vibratory, whereas the diastolic murmur is nearly always blowing in character. This difference I conceive originates in the following manner: When the lung is aspirated there is a uniform flow of air from the bronchi into the infundibula, which would produce a sound like that of ordinary inspiration. When the lung is compressed by an actively contracting ventricle the quick distribution of air into the respective infundibula may occur in rapid succession, thus giving its vibratory character.

The most misleading cardio-pulmonary murmur is the presystolic murmur, in consideration of which I wish to offer some clinical evidence.

Case I.—A boy, nineteen years of age, complaining of fever, chill, severe frontal headache—temperature, 101° F.—was admitted to the hospital in September, 1897. The physical examination revealed no pathological signs in the lungs or abdominal viscera. The pulse was rapid, rhythmic, regular, of small volume, and with relaxed arterial walls. The heart was enlarged slightly to the left, the apex one finger's breadth outside the nipple line. There were no evidences of hypertrophy or dilatation of the right ventricle. Closure of the pulmonic valve was not palpable, though moderately accentuated. Palpating over the apex, one could feel during the first portion of the cardiac excursion a distinct thrill, which was very superficial. The impulse terminated in a sharp, valvular impact. Accompanying the thrill was a negative venous pulse in the external jugular vein. There was no positive venous pulse nor other evidence of tricuspid insufficiency. Auscultation revealed a murmur of moderate intensity, sawing in character, which sharply preceded the carotid pulse and the valvular tone. The systole terminated in a sharp, high-pitched, valvular tone. The murmur was confined sharply to the apical region. If the patient were requested to make a forced expiration the thrill was no longer palpable, and auscultation showed the disappearance of the murmur and the presence of a prolonged systolic tone not quite amounting to the gallop rhythm. In two days the patient's temperature became normal, all subjective signs and the murmur and thrill entirely disappeared.

Exactly the same phenomena I have observed in a case of chlorosis, which disappeared with the improvement of the condition of the blood; also in a case of severe secondary anæmia and in typhoid fever. In all of these cases the thrill and the murmur preceded the valvular tone and were synchronous with the negative venous pulse. Exactly the same signs would occur in any case of mitral stenosis. The differentiation could be made, however, on the ground that the murmur and thrill disappeared during the expiratory phase and all evidences being essentially those of a dilatation of the left ventricle, and the absence of any evidence of hypertrophy and dilatation of the right ventricle, as we would expect to find in mitral stenosis. The subsequent course of all these cases disproved the presence of an endocarditis.

Another case was that of a woman, gracile in development, in whom the diagnosis of a hypoplasia of the aortic system seemed justifiable. The patient was first seen during the summer of 1897, at which time the physical signs were essentially those of the cases above described. A week's rest in bed caused the murmur and thrill to entirely disappear without any modification of the pulse. I saw the patient for the second time only a few days ago, at which time the same character of the pulse and arterial walls persisted, but the patient now shows evidences of a moderate dilatation of both right and left ventricles. A distinct presystolic thrill is palpable over the region of the right ventricle as well as over the apex. A systolic pulsation over the conus arteriosus dexter is palpable, but the impact of the pulmonic closure is not. Auscultation revealed a murmur presystolic in time, loud, rather rough, and superficial in character. This presystolic murmur is audible not only over the left ventricle, but also over the region of the right ventricle as far as the right border of the sternum, although the point of maximum intensity is at the apex. With the unaided ear the murmur is more distinctly audible than with the stethoscope, and especially can the superficial origin of the murmur be detected when one auscultates with the unaided ear over the left border of the sternum. The patient has a thorax with a relatively large antero-posterior diameter; the sternum is prominent; and percussion shows the presence of a thin layer of lung over the entire præcordial area. The murmur changes its character and intensity with the respiratory phases and is faintest when the patient sits leaning forward during forced expiration, conditions which should increase the intensity of an endocardial murmur. Sphygmographic tracings of the carotid artery show the oscillation in the wave that is characterized by Roy and Adami as the papillary muscle oscillation, which is caused by arterial resistance to the ventricular systole. High arterial resistance is certainly inconsistent with mitral stenosis, and if we have added to this the audibility of the murmur over the right ventricle as well as over the left, and the diminution of the intensity of the murmur during the expiratory phase when an endocardial murmur should increase in intensity, I believe we may safely say that the murmurs are cardio-pulmonary in origin.

The Systolic Murmur.—The most common location of the systolic murmur is that portion of the præcordial area which undergoes the greatest excursion, and that is over the conus arteriosus dexter and mesocardium of the right ventricle. A systolic murmur may be heard over the apex or over the region of the right ventricle.

I will not prolong the clinical description of the systolic cardio-pulmonary murmur, but will say that it may be soft and blowing, or sawing in character, having various degrees of intensity and palpability. It may be made to appear and disappear during inspiration or expiration, or on changing from an upright to a horizontal position, or *vice versa.* Sometimes the murmur can not be made to disappear under any of these conditions. Under such circumstances to differentiate from the murmur of a relative insufficiency when there are signs of myocardial insufficiency present, we are left entirely to the appreciation of the superficial origin of the murmur. Though the murmur may not be made to disappear by a change of position or by a change in the respiratory phase, if there are no evidences of a myocardial insufficiency, and no disturbance in the equilibrium of the circulation between the right and left hearts, I think we are justified in saying that the murmur is cardio-pulmonary in origin.

The systolic cardio-pulmonary murmur, when occurring in the immediate neighborhood of the heart, is often interpreted as interrupted or cogwheel breathing. The following case is a good instance:

Patient presenting all the physical signs of tubercular infiltration and cavity of the apex of the right lung, with a moderate infiltration of the lower portion of the upper lobe and tuberculosis of the larynx. Cardiac rate, 120; the heart slightly enlarged to the left, the pulsation of the right ventricle being distinctly palpable under the lower end of the sternum. There are no evidences of tricuspid insufficiency. There is no murmur over the left ventricle, but over the right border of the heart, slightly to the right of the sternum, one hears with every cardiac systole a faint blowing sound. If the patient is instructed to take a deep breath and hold the lungs in the inspiratory phase, along the right border of the heart with every cardiac systole a loud blowing sound is heard, which is respiratory in character, but which I regarded as a cardio-pulmonary murmur, although, if one were to disregard the association between the murmur and the cardiac cycle, it could be interpreted as cogwheel breathing.

Systolic Murmur.—The following instance is one of many I could describe from my clinical records:

A man, forty years old, presents no evidences of any cardio-vascular disease either in the character of the pulse or in the size or activity of the left or right sides of the heart. The antero-posterior diameter of the thorax is relatively large. The sternum is prominent. There is no præcordial area of absolute dullness. During the phase of inspiration one can hear a loud, rough, superficial murmur, of equal intensity, over the regions of the right and left ventricles. If the patient makes a forced expiration the murmur completely disappears, though the heart itself becomes distinctly more accessible, as is demonstrated by an increase in the præcordial area of dullness.

Telesystolic Murmur.—The following case I regarded as a telesystolic cardio-pulmonary murmur:

Patient, thirty years of age, complains of cardiac palpitation; has used tobacco excessively; lost much sleep, and indulged in coitus to excess. Physical examination reveals no pathological evidences in the lungs. Præcordial area of dullness begins to the right, at the left border of the sternum, and extends to the nipple line; apex in the fifth interspace in the nipple line. There is marked præcordial activity, showing quite a marked increase in the antero-posterior diameter and a decrease in the transverse diameter of the heart with each systole. The systolic tone is loud and high pitched. Sharply defined and confined to the apex area, one hears a short, crackling noise immediately after the systole in the upright position, and slightly later in its chronicity, when the patient is reclining. The sound occurs distinctly between the systolic and diastolic tones. The second aortic sound is loud and high pitched. The pulse is rhythmic and regular; its volume is moderately large, with a high interruption in the catacrotus. The catacrotus is slightly prolonged.

The telesystolic murmur is rarely blowing in character, and nearly always suggests compression of a small portion of lung, emitting a sound like one due to the presence of fluid in the bronchial tract. This telesystolic murmur follows the valvular closure, but precedes the diastolic tone. I conceive the murmur to be produced in the following manner: After the closure of the atrio-ventricular valves the systole of the ventricle continues, producing the oscillations in the aorta and in the heart tracings which are interpreted as records of the papillary muscle contraction and the outflow remainder waves. During this silent portion of the ventricular systole a piece of lung is compressed between the chest wall and the ventricle, thus producing the faint superficial sound, audible over a small, sharply circumscribed area, which in my experience has always been the apex area.

The Diastolic Murmur.—Patient admitted to the City Hospital in July, 1897. At the time the patient presented only the evidences of slight myocardial insufficiency and slight œdema of the ankles. The evidences of myocardial insufficiency greatly increased. The size of the heart increased very slightly to the left and to the right. After the patient had been confined to the hospital for several weeks there was audible a soft diastolic murmur as well as a systolic murmur, both sharply defined over the apex region. The auscultatory signs continued as such for several weeks. Then, in addition to the murmurs already mentioned, one could hear a soft systolic and soft diastolic murmur over the second intercostal space to the right of the sternum. The diastolic murmur accompanied the diastolic tone. During this time there had been absolutely nothing in the course of the man's disease that would suggest an endocarditis.

There were, too, absolutely no evidences in the pulse of an insufficiency of the aortic valve nor of an aortitis. The diastolic murmur grew in intensity and extent, being audible at the time of death over the aortic area, over the mesocardium, and over the apex. The patient died after an illness of three months with all the evidences of a myocardial insufficiency. The autopsy revealed not the slightest sign of an endocarditis at any point, nor were there any evidences of dilatation of the aorta or of the aortic ring.

During this patient's illness I frequently attempted to cause the murmur to disappear by changing the position of the patient and controlling the respiratory phase, but the diastolic murmur persisted under all of these conditions and forced us to make a false diagnosis, in spite of the fact that the character of the pulse strongly indicated an absence of aortitis or insufficiency of the aortic valve. There were no sounds audible over the jugular veins nor over the bulbus venosus. There were no evidences of the diastolic murmur possibly being venous in origin.

Telediastolic Murmur over the Pulmonary Area.—This patient was a medical student in his second year; twenty years of age, well nourished and well developed. Had had no other diseases than influenza, which occurred two or three years ago. During the past year his heart had been repeatedly examined by his fellow senior students, who were fully capable of detecting any pronounced cardiac lesions. I examined him first on November 10, 1896. During the preceding week he had had some fever and headache. He noticed to-day that he was very nervous. His pulse was arrhythmic; rate, 130.

Physical examination: Pulse rate, 120. There is no intermittence, but there are frequent alterations in the rate. There is no capillary pulse; the arteries are of good size, and there are no evidences of hypoplasia of the aortic system. The brachial and femoral arteries are felt to slap under the finger during the cardiac systole. Over the brachial and femoral arteries are loud, high-pitched tones during the cardiac systole. Over both right and left subclavians one feels a systolic thrill; there is no thrill in the carotids. Apex is in the nipple line and fifth interspace; heart not enlarged to the right. Systolic murmur heard over the apex increases in intensity toward the base, but is much louder over the aortic area. The murmur is also loud over the manubrium and subclavians. The aortic second sound is loud and high pitched; no murmur during the diastole. There is no œdema and no fever. This condition of affairs persisted until the end of November, when the patient was able to go about without any inconvenience. In May, 1897, I examined him again. The arterial tone was still faintly audible and the systolic murmur over the aortic area very faint. Arrhythmia follows only on exertion. I regarded his case as one of acute aortitis, without stenosis or insufficiency of the valve. I examined him a third time, February 1, 1898. The patient in the meantime had been attending to his duties as a medical student. He has noticed little difficulty, though after a full meal or severe exercise he is apt to have palpitation and arrhythmia. Walking up three flights of stairs causes marked exhaustion. Mental anxiety will cause palpitation, tachycardia, and arrhythmia, though there are no ineffectual heart beats. These signs were present while demonstrating his case to his fellow students. The tachycardia, arrhythmia, and palpitation disappeared after a few moments' rest. There is now no capillary pulse. The pulse has a rapid ascent and the first portion of the catacrotus is very rapid, the remaining portion being relatively slow; no dicrotic wave is palpable. There is a moderately loud tone with the heart systole over the femoral, but not nearly so loud as during the acute stage of the disease. The heart is now about a finger's breadth external to the nipple line, apex in the fifth interspace; the impulse is relatively broad. The right border of the heart's dullness is at the left border of the sternum. The impulse over the conus arteriosus dexter is relatively strong. No closure palpable, no thrill. In the upright position there is a soft systolic murmur over the apex, which has some lung in front of it. The diastolic tone is clear at the apex. Over the aortic area there is a soft systolic murmur; the diastolic tone is sharply defined. In the second interspace at the left border of the sternum there is a soft murmur with the systole and a fairly loud, clearly defined, superficial murmur following the diastolic tone. The character of the murmur is best appreciated by auscultating with the unaided ear. On forced expiration, the systolic murmur at the apex and the systolic and diastolic murmurs over the pulmonary area entirely disappear. In the horizontal position the systolic murmur over the apex becomes louder; the diastolic tone is clear. Over the pulmonary area the systolic and diastolic tones are both clear. The postdiastolic murmur entirely disappears, but over the aortic area there still remains a soft systolic murmur. All of these murmurs, with the exception of the soft systolic murmur over the aortic area, I regard as cardiopulmonary in origin. The aortic systolic murmur is due to a relative dilatation of the aorta accompanying his aortitis.

In conclusion, I wish to mention one misconception of the cardio-pulmonary murmur that has been prevalent since the days of Laennec—viz., that the murmur is dependent upon the respiratory act. This is not true, nor is such a hypothesis necessary for an explanation of the method of production of the sounds. The sound is produced by excursion of the lung, but this excursion is entirely independent of the respiratory act. The movement of the air in the lung is produced wholly by compression or aspiration of a part of the lung caused by the change in the form of the heart during the cardiac cycle. The phenomenon is entirely independent of the respiratory act.

The essentials for the production of the sounds are: A certain volume of lung must be implicated. The lung must occupy such a position relative to the heart and chest wall that the heart will have complete mastery over its excursion. The relations may be such that the rapid excursion of the lung will occur during any portion of the cardiac cycle. The duration * may be holosystolic (during the entire systole) or merosystolic (during a part of the systole). The merosystolic murmurs may be presystolic, mesosystolic, telesystolic. With reference to the diastole, the murmurs may be holodiastolic (occupying the entire diastolic phase) or merodiastolic

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* See Potain in *Clinique médicale de la Charité.*

(occupying a part of the diastolic phase). The merodiastolic murmurs may be protodiastolic, mesodiastolic, telediastolic. The murmurs produced by compression of the lung are often vibratory in character. Those produced by aspiration are always softly blowing in character.

I have been guided in my clinical study of the cases reported, and in the discussion of the subject, by the work of Potain and his pupils. It is their explanation of the physical basis of cardio-pulmonary murmurs which I have adopted. I do not wish to be interpreted as classifying all so-called functional murmurs under the head of cardio-pulmonary murmurs, though I have come to regard most of the so-called functional murmurs as of cardio-pulmonary origin. That a murmur can be produced in the manner described there is ample clinical proof from many of the best clinical observers. The experimental evidence of François-Franck alone is enough to establish the physical truth of such murmurs.

François-Franck discovered, while operating on a dog, that there was a systolic murmur audible over the heart. Without opening the pleural cavity he introduced a tenaculum through the thoracic pleura, and withdrew a tongue of lung from the anterior aspect of the heart. Directly the murmur ceased; but the murmur returned when the tongue of lung was permitted to reoccupy its former position. It is not always possible to demonstrate the cardio-pulmonary murmur as such, when present, though it may be diagnosticated by exclusion. When a murmur is present and is not associated with any evidences of modification of the pulse wave, and when there is no enlargement of either side of the heart, or any disturbance of the circulatory equilibrium between the pulmonary and aortic circulations, I believe that we are justified in interpreting the murmur as belonging to the cardio-pulmonary class.

UNILATERAL LOSS OF THE PUPILLARY LIGHT REFLEX

(REFLEX IRIDOPLEGIA);

ITS PATHOLOGY AND CLINICAL SIGNIFICANCE.

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(*Concluded from page 153.*)

In a hundred and eight cases of tabes, Berger * found only two where the reaction of the pupils to light was abolished on one side only, while it was preserved on the other side. Both patients were in the ataxic stage. In one of these the rigid pupil did not react consensually.

Among two hundred and seven cases of various forms of nervous disease, Zieminski † observed only two in which there was unilateral reflex rigidity affecting the left pupil. He gives no further data, however, as to the special type of nervous disorder in which this condition was found.

Moeli * mentions the fact that in paretic dementia we sometimes see a unilateral, almost complete rigidity of the pupillary light reflex, with only a moderate involvement of the reaction of the other eye. In the three cases that he had seen the indirect (consensual) reaction was also absent in the same eye.

In a study of six hundred and twenty-eight patients in whom reflex iridoplegia was present, Uhthoff † does not refer to a single instance of unilateral loss of the light reflex.

Gowers ‡ says: "Reflex iridoplegia is usually double; when one-sided, its cause is usually exceptional." He has observed the loss to be unilateral in tabes, although this is very rare.

It would therefore seem that unilateral reflex iridoplegia is an exceedingly rare condition, although it is quite probable that the small number of cases thus far reported in detail may be increased materially by additional instances that have not been deemed of sufficient interest to warrant their publication.

A systematic and routine method of examination would probably show that this anomalous condition is of more frequent occurrence than is commonly supposed.

The presence of unilateral reflex iridoplegia in a tabetic patient, while unusual, is not necessarily surprising, for in these cases other objective phenomena, such as the loss of the knee-jerk, the optic atrophy, or the anæsthetic areas, etc., may remain unilateral for an indefinite time. In three unrecorded cases of tabes I have seen reflex iridoplegia limited to one eye at the first examination, and within a few weeks or months both pupils were equally involved. The same may be said of the other signs just mentioned.

We all know how common it is to find in tabetics a decided difference in the degree of reaction in the two pupils; or where, for instance, in one pupil the reaction to light is completely lost, while in the other it is very sluggish or only obtainable upon strong illumination.

In the writer's case the left pupil has remained unchanged during the last thirteen months, and, if we may accept the patient's statement, it has been practically in the same condition for the last four years. The right pupil is normal.

The question naturally arises, "Is there a direct relationship between unilateral and bilateral reflex iridoplegia?"

Whether the former should be looked upon as the commencing development of the latter, or as being due to the same anatomical cause in all cases, is a matter which is open to discussion.

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* *Archiv f. Augenh.*, 1889, vol. xix, p. 400.

† *Prz. Lek. Krakow*, 1893, No. 12, p. 146.

* *Arch. f. Psych.*, 1887, vol. xviii, p. 29.

† *Berlin. klin. Woch.*, 1886, xxiii, p. 36.

‡ *Diseases of the Nervous System*, 1893, vol. ii, p. 183.

In endeavoring to elucidate the pathology of the unilateral type, it will be necessary to briefly refer to the common form in which both pupils are affected.

On account of the absence of visual disturbance and the preservation of the normal mobility of the pupil in accommodation and convergence, it has generally been supposed that the obstruction in the reflex mechanism is situated in its centripetal portion—*i. e.*, in the fibres first described by Meynert (and since known by his name), which pass from the anterior corpora quadrigemina into the central gray matter, thus connecting the optic nerve with the oculo-motor nucleus.

Siemerling * says that despite the efforts of reliable investigators, such as Meynert, Forel, Darkschewitsch, Edinger, Stilling, Gudden, Bechterew, Moeli, Schütz, Mendel, and others, we have not yet reached a satisfactory solution regarding the course of the reflex fibres between the optic nerve and the oculomotorius. Meynert's claim that the fibres passing from the anterior corpora quadrigemina into the central gray matter represent a connection between the optic nerve and oculomotorius is contradicted by Forel. Only once up to the time of Siemerling's article in 1891 had a degeneration of these fibres in man been described. (Whether or not such has been demonstrated since that time I have been unable to ascertain.)

This was in a case of locomotor ataxia with loss of the pupillary light reflex on both sides, in which Ross † found degeneration of Meynert's fibres, and therefore concluded that such lesion was the direct cause of the loss of the light reflex in this disease. In the case reported there was also partial blindness from advanced optic atrophy.

As Oppenheim ‡ found these fibres intact in a case of tabes with reflex iridoplegia, and as others have found them normal in a large number of cases of paretic dementia with the same pupillary condition, Ross's theory has thus far lacked confirmation.

Nevertheless, Knies, in his recent work on *The Eye in its Relation to General Diseases* (page 115), states that, "strictly speaking, the non-production of the light reflex of the pupil, despite its normal mobility, is not a disturbance of movement but of vision, inasmuch as the cause is situated not in the centrifugal motor paths, but in the centripetal (with regard to the nucleus) paths of optical conduction." Page 117: "The presence of the normal reaction of convergence and accommodation, with absence of the reaction to light, shows that the nucleus of the sphincter pupillæ and the nerve fibres originating from it are intact."

It seems to me, if the fibres passing from the corpora quadrigemina to the oculo-motor nuclei are found intact where in life a bilateral reflex iridoplegia had existed, that such negative finding certainly militates against the assumption that a degeneration of these fibres is the cause of this phenomenon.

From a clinical study of the unilateral form of this pupillary disturbance, it is quite evident that this theory as to the involvement of the centripetal fibres in connection with the oculo-motor nuclei in the bilateral type is entirely inapplicable in the former.

It is a very remarkable fact worth recording that in Case IV the pupillary condition was preceded by a complete oculo-motor paralysis, which had recovered with the exception of a remaining paresis of the inferior oblique; while in Case XV the loss of the pupillary light reflex, with preservation of reaction in accommodation and convergence, was accompanied by paralysis of the third nerve.

Before drawing conclusions as to the pathology of unilateral reflex iridoplegia, such associative phenomena must be taken into consideration.

Uhthoff * mentions the case of a patient thirty years of age, with a syphilitic history, in whom there was bilateral iridoplegia (no reaction to light or in convergence). The pupils were equal, and measured three millimetres in diameter. Accommodation was intact. No diplopia. No external ocular paralysis. The previously recorded history showed that five years before the patient had pronounced symptoms of cerebral syphilis, and a bilateral oculo-motor paralysis, with paresis of the sphincter pupillæ and the accommodation. Under antisyphilitic treatment the symptoms subsided. The notable feature in this case was that a pupillary rigidity should be the only residuum after a bilateral oculo-motor paralysis.

In a subsequent work, the same writer † has shown, from a study of the ocular disturbances in one hundred cases of syphilis of the central nervous system, that reflex iridoplegia may be a terminal condition following a more extensive third-nerve paralysis.

Furthermore, it becomes of paramount importance to note that Siemerling ‡ has recorded the history of a patient with cerebral syphilis in whom, among other manifestations, there had been a reflex iridoplegia in one eye, without involvement of any of the external ocular muscles.

The autopsy revealed anatomical changes in the oculo-motor nerve trunk and its branches, and degeneration of the third-nerve nuclei, with the exception of the nucleus for the ciliary muscle, which was found intact.

In the other eye there was a complete third-nerve paralysis.

We must all admit that it is difficult to explain how an oculo-motor paralysis which depends on disease of the nerve trunk ultimately leaves a reflex pupillary rigidity, with preserved reaction in convergence and normal power of accommodation, unless we assume the limitation of the pathological process to fibres originating in the sphincter nucleus.

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* *Arch. f. Psych.*, 1891, vol. xxii, suppl., p. 152.

† *Brain*, 1886, p. 25.

‡ *Arch. f. Psych.*, 1889, vol. xx, p. 131.

* *Berlin. klin. Woch.*, 1886, p. 39.

† Uhthoff. *Ueber die bei der Syphilis des Centralnervensystem vorkommenden Augenstörungen*, 1894, p. 306.

‡ *Arch. f. Psych.*, 1891, vol. xii, p. 198.

As the oculo-motor nerve supplies through its connection with the ciliary ganglion the sphincter muscle of the iris and the ciliary muscle of the eyeball, it was assumed by Hutchinson * that disease of this ganglion was the cause of complete iridoplegia (ophthalmoplegia interna), but no post-mortem proofs have yet been forthcoming to substantiate this view.

Hutchinson himself admitted at the time that it remained doubtful whether the condition was due to disease in the peripheral ganglion or in some central nucleus. It is a very significant fact that two of his cases subsequently developed complete oculo-motor paralysis.

As the nuclear origin and degenerative nature of "ophthalmoplegia externa" have been proved, it would seem beyond doubt that "ophthalmoplegia interna" occurs under the same conditions.

I am inclined to think that in my patient, when the pupil first became dilated, there was a sudden "ophthalmoplegia interna" from disease affecting the sphincter and ciliary nuclei or their efferent fibres, which have only partially recovered, thus leaving the pupil in its present permanent condition.

Gowers evidently believes that unilateral reflex iridoplegia is due to a nuclear lesion, for he says † that chronic nuclear palsy (chronic ophthalmoplegia) includes the isolated loss of the reflex action of the iris, isolated palsy of the ciliary muscles, or palsy of all the internal muscles.

On the other hand, Knies ‡ thinks it is probably due to an affection in the immediate vicinity of one sphincter nucleus, which leaves the latter intact, but interrupts all its optical connections. In his opinion, such cases occur rarely, and the condition is only a temporary one. Yet the same writer says (page 112): "Centrifugal pupillary disorders are unilateral unless the causal affection is situated on both sides."

Turner,# who has reported five of the cases herein tabulated (VIII, IX, X, XI, XII), concludes that "the lesion in unilateral reflex iridoplegia is situated either in the fore part of the oculo-motor nucleus or in the fibres which unite the nucleus with the proximal ends of the optic tracts."

Such an explanation is very much in line with that of Möbius,|| who says that reflex pupillary rigidity is due to a lesion which interrupts the tract between the optic nerve and the oculo-motor nucleus.

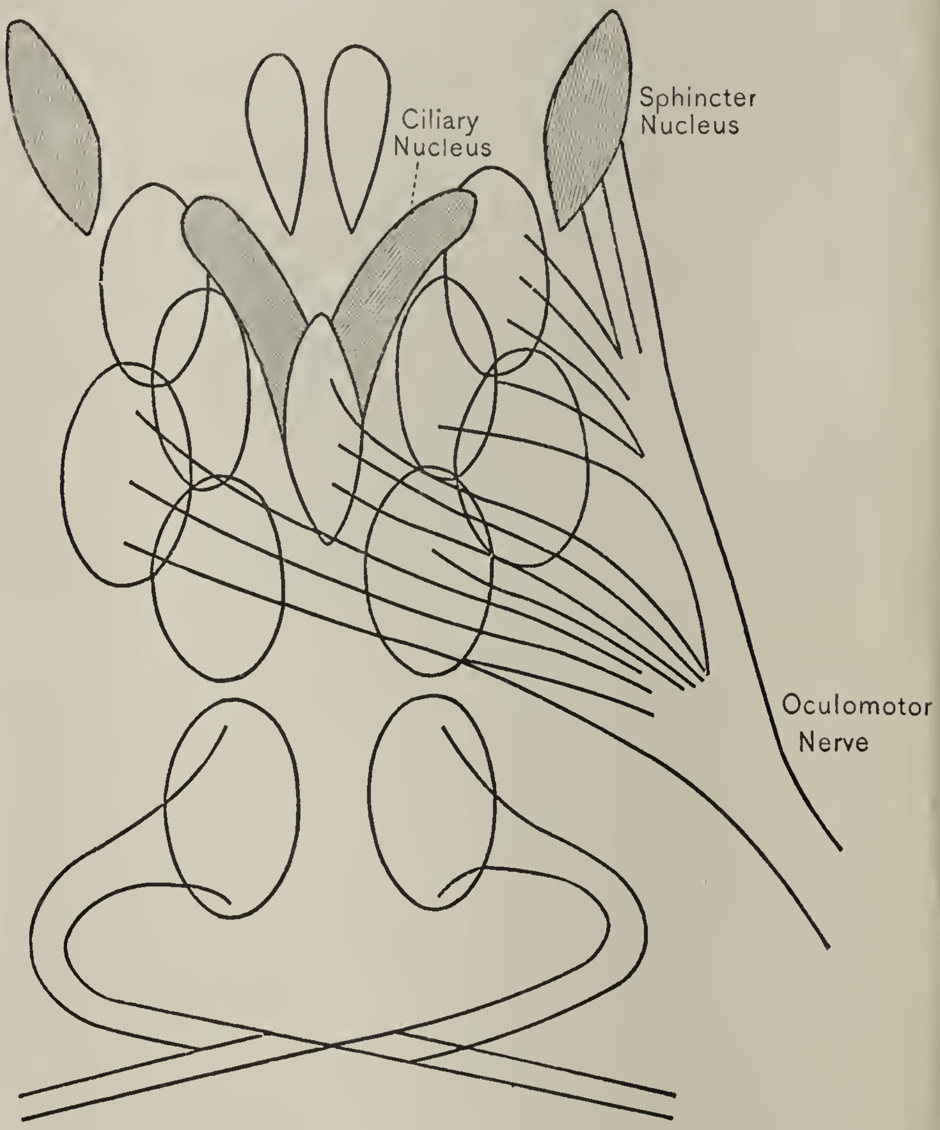
Many other recent writers are either equally noncommittal, or tacitly accept the undisputed views of earlier authors, who locate the lesion in the centripetal path.

Seggel,* in reporting his case (V) and endeavoring to explain the anatomical cause of this condition, states that if we would consider the lesion as involving the centripetal path, we must assume the presence of two foci, one situated in the conducting path from the optic nerve, and the other in the fibres which pass from the sphincter nucleus of the healthy side to the sphincter nucleus of the affected side. In this way he accounts for the loss of both direct and indirect reaction to light in the same eye.

Hensen and Völcker's well-known experiments on dogs † indicate that the nuclei for accommodation and convergence are situated in the anterior portion of the oculo-motor centre, and the nuclei for the others in the posterior portion.

The further investigations of Kahler and Pick, and later that of Starr,‡ which is based upon a study of the distribution of the paralysis in twenty cases of nuclear ophthalmoplegia, essentially agree as to the anterior position of the nuclei for the sphincter iridis and the ciliary muscle.

Several years later Perlia # examined the corpora quadrigemina in man from fœtal life to adult age, and carefully studied a large series of sections made in frontal, sagittal, and horizontal directions. The diagrammatic representation of the various oculo-motor nuclei in accord with his conclusions is herewith reproduced.



It will at once be seen that the location of the sphinc-

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* *Med.-chirurg. Trans.*, 1878, vol. xli, p. 215.

† *Diseases of the Nervous System*, 1893, vol. ii, p. 195.

‡ *The Eye in General Diseases*, 1895, p. 115.

# *Ophthal. Hospital Reports*, 1892, vol. xiii, p. 332.

|| *Diag. der Nervenkr.*, 1894, p. 142.

* *Arch. f. Augenh.*, 1895, vol. xxi, p. 64.

† *Arch. f. Ophth.*, 1878, vol. xxiv, p. 23.

‡ *Journal of Mental and Nervous Disease*, May, 1883.

Arch. f. Ophth., 1889, vol. xxxv, No. 4, p. 287.

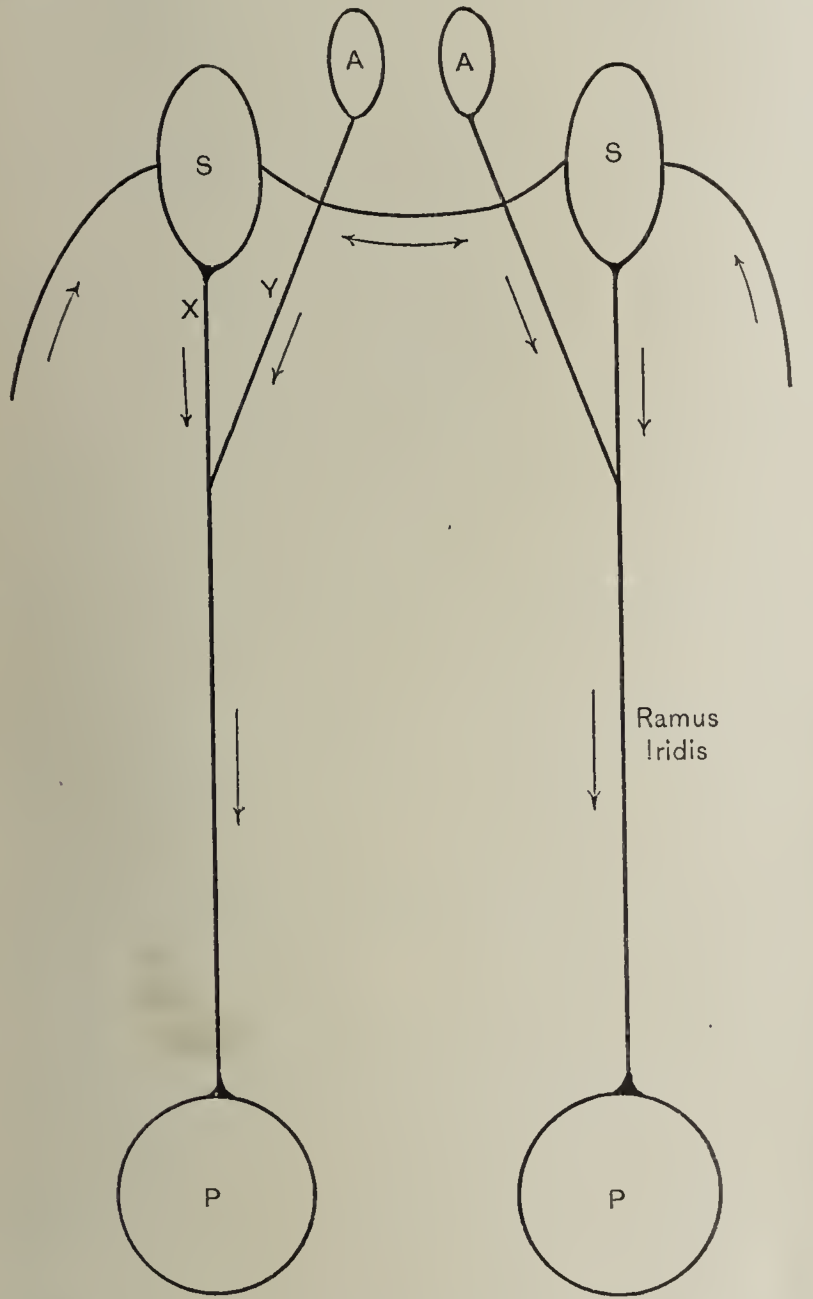
ter and ciliary nuclei corresponds essentially with that outlined by previous observers. I may also add that the views of these and other investigators are practically in accord, inasmuch as they all agree that the ciliary and sphincter nuclei are separate and distinct from each other.

Perlia concludes that while it is known from the occurrence of isolated nuclear paralyses that the nerve branches pertaining to these muscles must arise in relatively independent nuclei, we have not yet succeeded in establishing with certainty the connection between a nerve branch and an oculo-motor nucleus.

The same writer, Knies, and others, are of the opinion that the third nerve of one side arises in great part from the nucleus of the same side, and in lesser part from the nucleus of the opposite side.

Heddaeus * believes that according to this explanation the cause of unilateral reflex iridoplegia may lie entirely in the centrifugal portion of the reflex arc for the light reaction.

In interpreting Perlia's scheme of the nuclei of the third and fourth nerves, in adaptation to his theory, he maintains that "the nuclei do not stand in direct connection with each other, so that the sphincter nucleus can not be irritated by the accommodation nucleus, but that the iris branch is composed of two roots, one from the sphincter nucleus (X) and one from the accommodation nucleus (Y). Destruction of the sphincter nucleus, or of the root (X) arising from it, produces typical unilateral reflex iridoplegia, together with a moderate mydriasis. If (Y) be also affected, the accommodation reaction is abolished also, and we have absolute iridoplegia, and the pupil may become somewhat wider.



"The accommodation remains intact so long as the other branch arising from the accommodation nucleus, the ciliary or accommodation branch of the third nerve, is not affected."

This explanation is accepted by Schanz,* who has reported two cases (XIV, XV), and the diagram appearing in his article is here presented.

In my opinion, this is the most comprehensive and acceptable elucidation of the anatomical cause that has yet been given.

Bevan Lewis † expresses the belief that the "Argyll-Robertson symptom" clearly indicates a paralytic implication of the retino-iridal arc, not in its sensory but in its motor segment or nucleus (third nerve). He maintains that were the defect always bilateral, then a bilateral implication of Meynert's fibres might explain the phenomena.

"Often, however, the defect is unilateral, and upon the assumption that an intranuclear connection exists between the two third-nerve centres, this explanation obviously must be incorrect."

Upon examination of a hundred and forty-seven cases of paretic dementia, eleven presented unilateral failure to light, without impairment of the accommodative contraction. He therefore believes that we are driven to the conclusion that the motor segment or nucleus must be the affected region. In his opinion, "since this unilateral failure often precedes the failure on both sides for some time, there is no reason to assume that Meynert's tract is involved in the latter case any more than in the former."

In a recent paper on the "Argyll-Robertson pupil," ‡ Monro has endeavored to show that loss of the light reflex is probably due to a degeneration in the nucleus of the third nerve. He deems it unnecessary and undesirable to suppose a lesion of afferent fibres running from the optic nerve to the oculo-motor nucleus, and adduces extremely plausible reasons for believing that the Argyll-Robertson symptom ought to be grouped with the other varieties of ophthalmoplegia.

These arguments in favor of the "centrifugal" location of the lesion must not be included within the domain of "speculation," for they are based upon clinical and pathological evidence. On the other hand, there appears to be absolutely no evidence in favor of the "centripetal" theory.

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* *Arch. of Ophth.*, 1894, vol. xxiii.

* *Arch. f. Augenh.*, 1895, vol. xxxi, p. 259.

† *British Medical Journal*, April 25, 1896.

‡ *American Journal of the Medical Sciences*, July, 1896.

It would therefore seem that unilateral pupillary disorders in general, including reflex iridoplegia, are, as a rule, the result of interruption in the centrifugal portion of the reflex mechanism on the same side, and it is more than probable that bilateral reflex iridoplegia is due to the same conditions affecting both sides. This statement does not include loss of the light reflex occasioned by disease of the optic nerve or retina, which is usually associated with blindness.

The following conclusions seem warranted:

1. That unilateral reflex iridoplegia is a condition which may arise in tabes or paretic dementia, being confined to one side for an indefinite time before the other pupil becomes similarly affected.
2. That it is also found in cerebral syphilis, and may be permanently limited to one eye.
3. That it often occurs as a remote result of disease of the third nerve or its nucleus, and may be the only demonstrable clinical evidence of a preexisting third-nerve paralysis.
4. That it is always indicative of central-nerve degeneration involving either the oculo-motor nucleus or its efferent branches.
5. That it is generally of syphilitic origin.
6. That the lesion producing unilateral reflex iridoplegia is situated in the centrifugal portion of the reflex mechanism.

The correctness of this view is confirmed—

(*a*) By its occurrence in association with, or as a sequence of, oculo-motor paralysis.

(*b*) By Siemerling's case, in which the sphincter nucleus and the motor oculi nerve were found degenerated.

(*c*) By the post-mortem evidence of the non-involvement of Meynert's fibres in cases where bilateral reflex iridoplegia was present.

Note.—Since the foregoing was written, the following case has been observed:

A woman, thirty years of age, married. Two months ago the right pupil became enlarged, vision was blurred, and she complained of occasional diplopia at the near point. The right pupil measured 5.5 millimetres. There was no reaction to light, consensually or in convergence (complete iridoplegia). The left pupil measured 4.5 millimetres; reactions normal.

Vision: Right eye $= \frac{20}{200} : \frac{20}{20}$ w. — 2.50 cyl. ax. 180° $\frown$ —1 D. s.
Left eye $= \frac{20}{70} : \frac{20}{20}$ w. — 0.75 cyl. ax. 180°.

Accommodation was paralyzed in the right eye. She was given mercury and iodide of potassium, and the galvanic current was applied over the affected eye.

At the end of two months the right pupil reacted normally in convergence, and the power of accommodation was restored, but the reaction to light and the consensual reaction were still absent, and have so remained up to the present time. There was no history of syphilis or other evidence of organic nervous disease.

56 East Fifty-eighth Street.

The Atlanta College of Physicians and Surgeons is the title of a medical school formed by the consolidation of the Atlanta Medical College and the Southern Medical College.

THE UNITED STATES ARMY MEDICAL DEPARTMENT IN THE FIELD.

By HENRY S. GREENLEAF, A. B., M. D.,

ACTING ASSISTANT SURGEON, U. S. ARMY.

On returning to the United States after my experiences gained in Cuba, I feel that it is but just that facts learned and observed there as to the great work done by our United States regular army and medical corps should come before the public notice, and especially before that of the medical profession. Where only great praise and gratitude should be expressed for their heroic work and suffering, I am astonished to find the daily press and, in some instances, medical journals criticising and finding fault and only placing the credit where they are most personally interested.

Fortunately, our records will show, in due time, where the real merit lies; but, unfortunately, it is at this present that they need the encouragement afforded by the praise that they so richly deserve and have earned at a cost that their country can never repay. Almost enough has been said to show the gallant work of our volunteers, but in the enthusiasm for those in whom personal interest is felt we have sadly neglected to place the credit where it was most deserved—*i. e.*, with the regular army for its perfect discipline, heroism, and coolness, under circumstances which those only who were present can understand. Our standing army, with the aid of the volunteers, has placed our country in the front ranks of the soldiery of the world. It was with great pride that I heard, personally, a foreign military attaché speak with wonderment of the astonishing discipline, coolness, and determination of our troops. It would be both impossible and ungrateful to detract from the credit of the gallant work of most of our volunteers, but the fact remains that the brunt of the fight was borne by the regular army, according to the policy of the campaign, and they have not received their share of glory. In the medical department is this especially the case. It is with mortification that I have heard and read everywhere only the most harsh criticism awarded to the most excellent work that our medical officers have accomplished, which is in no respect secondary to the work done by other branches of our army and navy, and under difficulties which appeared insurmountable. On the 8th of July we arrived off Siboney in the hospital ship *Relief*, and some of our officers, including Lieutenant-Colonel Nicholas Senn and Major George M. Torney, were taken ashore in a launch from the battleship *Oregon*. The sea during the greater part of the day was so rough that this was only accomplished with great danger to the launch and to the lives of those who were to make the trip. On the following day we managed to secure an anchorage and get our launch afloat, but not until we had lost one anchor and damaged one of the launches. I mention these facts as illustrating the difficulties met in landing the supplies from our ship. This had to be done entirely in small rowboats, when they were not in use for transporting the wounded, and during the few hours that the conditions of the water allowed.

It is true the *City of Texas* had landed, and was landing, many of her supplies; but she is a much smaller vessel and could anchor near shore where the water was quiet for the greater part of the day. Moreover, through the courtesy of the navy, there was placed at her disposal the launch from the battleship *Oregon* with an officer and a well-disciplined crew. If the difficulties that the *Relief* battled with in the landing of her supplies and wounded are understood, it is plain that similar ones were encountered, and to even a greater extent, by the quartermaster in landing his supplies—medical, ammunition, commissaries, mules, wagons, etc.—before any wharfs were constructed and when an enemy was lurking in the bushes.

As the troops landed they were sent almost immediately to the fight, and in an incredibly short time our medical officers had as many as twelve hundred wounded on their hands before tents could be properly pitched or boxes opened, and the material arranged for surgical work and dressings. But by Herculean work this almost impossible task was accomplished; and with shame be it said that these officers are being criticised and advantage taken of the fact that they, under these extreme circumstances, asked the American Red Cross for some assistance. This was readily and efficiently given, and those women did a service that our wounded will never forget. The promptness with which they were able to get their medical supplies into use is explained by their having only medical supplies on their ship. They were able to get a convenient anchorage and they had help, through the courtesy of the navy, for the *Oregon* lent them her steam launch and a crew. Physicians from the fleet were sent to the division hospital to assist in the care of the wounded at this trying time, and served most efficiently, but no notice of this has come before the public. Here, again, as with the volunteer military organizations, we see the credit claimed and given solely to the Red Cross Association, when the real work was done, and the credit earned, by the medical department of the United States army. It could not be otherwise, when we find at the head of those who were in charge men of such sterling qualities as Colonel Pope, United States army; Major L. A. La Garde, United States army; Major Wood, United States army; Dr. Nancrede and Dr. Vaughan, United States volunteers (professors at Ann Arbor Medical College, Michigan); Dr. Nicholas Senn, United States volunteers, of Chicago; Dr. Guitéras (professor of clinical medicine, University of Pennsylvania); and Major Torney, United States army. Each of these has demonstrated to the medical world his ability to deal with such emergencies in a way that it would not be natural for us to expect from the Red Cross Association, great as that organization is.

Largely through the efforts of Chaplain Gabbet and under the direction of Major La Garde, large hospital tents were pitched, end to end and five tents deep; six such rows of tents were made, constituting four large wards, one supply tent, and one operating ward. These were placed on ground free from grass and perfectly drained. In each operating tent was arranged a field operating table; a dressing table, with a tray containing a complete outfit of instruments, boiled before use; towels sterilized by boiling; aseptic dressing packages and silk and catgut ligatures prepared by Johnson & Johnson; sterilized absorbent cotton, alcohol, carbolic acid, creolin, iodoform and bor-acetanilide powders in sterilized powder shakers, and an abundance of muslin and sterilized gauze bandages and splints. Solutions of bichloride of mercury, 1 to 1,000, and of carbolic acid, 1 to 20, were kept in large five-gallon demijohns and used in stone basins for preparing the hands. Medicines were in tablet form in field cases, and the wards were furnished with cots, blankets, and pillows. In like manner the First Division Hospital was erected and equipped, though the supplies here were more limited because of the impossibility of prompt transportation. For forty-eight hours these men and their assistants worked in unison, some organizing the hospital, others attending the wounded under temporary difficulties, and this without sleep, taking their coffee and hardtack at the side of the operating table. Most excellent results crowned their labors. The mortality and condition, when we consider the gravity of many of the wounded, were remarkably good. Many records of some of the most serious of these cases have been published by Colonel Senn in the *Medical Record* for July 30, 1898. The most flagrant faults in camp sanitation may be laid at the door of other departments than the medical, for precautions against them were urged but were not heeded.

Whether as a result of this, or whether it was an inevitable consequence of the season in the country we were in, yellow fever soon made its appearance to greatly complicate matters. In several instances it appeared among the wounded, and it became evident that these cases, rendered especially susceptible by nature of their run-down condition, must be removed; so action was promptly taken in this direction. Those most able to endure hardship were sent by transports, as the lesser of two evils, for their welfare, and the others were put on the hospital ship *Relief*. At this time, a fierce battle being imminent and the probability of a large number of wounded being great, in order that these should be properly treated, now that Siboney was unfit for their reception, it was deemed necessary to make the *Relief* the base for the reception of the recently wounded and those requiring special surgical care. With this end in view, she was ordered to send all cases possible on to the transports with those from shore. Each ship was equipped as perfectly as could be under the circumstances, and each patient carefully examined by Dr. Guitéras for evidences of infection with this dreaded disease. There was no stone left unturned by the medical department either for the protection of those at home or for the comfort of those about to depart, though both such charges have been made in the most unjust manner, in one instance by an editorial in the *Medical Record*, and in the other by Miss Jennings, of the Red Cross Society, through the daily newspapers. When the *Seneca* was about to depart, each department and man had its hands full in attending to those who were to go, and in providing for those unfortunate enough to have to remain, and that against indescribable and incomprehensible difficulties. Despite this, however, all requisitions were filled for these transports, and if Miss Jennings, as a nurse, found necessary supplies wanting, she should have reported them to the physician under whom she was serving and they would have been issued on his requisition.

Many deplorable sights and conditions such as Miss Jennings has described I have also seen, and I can appreciate that a woman's sympathetic nature would be so offended that she would want to lay the blame on somebody that such conditions should exist at all. As a matter of course, such things are inevitable in time of war, and that without any special blame due to any one.

Having been in attendance on so many of the wounded in my duties with both division hospitals and on the hospital ship *Relief*, I can say with certainty that the criticism against the medical department has not emanated from the wounded.

THE TUBERCULOSIS PROBLEM:

A CRITICAL SUGGESTION IN REPLY TO DR. LELAND COFER'S "SUGGESTION TO PHILANTHROPISTS."

By S. A. KNOPF, M. D.

In one of the last numbers of the *New York Medical Journal* * a very interesting article appeared by Dr. Leland Cofer, of the United States Marine-Hospital Service, under the title of A Suggestion to Philanthropists. The whole of this article breathes such generosity, such true unselfish love for suffering mankind, and especially for the consumptive poor, that it seems almost unkind to criticise or even to make a suggestion. But the learned author will pardon me if I tell him that whatever I may have to say is done in the spirit of kindness and in the interest of those for whom he pleads so eloquently.

In my humble opinion, Dr. Cofer's suggestions concerning the care of incipient tuberculous patients are on the whole impracticable. These suggestions come from a generous soldier's heart, but they do not accord with the experiences and principles of modern phthisiotherapy, nor with the views which such men as Leyden, of Berlin, Grancher, of Paris, Weber, of London, and most of our American authorities entertain in regard to the care and treatment of consumptives, regarded as a social problem.

My reasons for objecting to sending a poor clerk, infected with tuberculosis, who has, perhaps, a wife and a mother depending on him (to take Dr. Cofer's example), from New York to southern California, for instance, are manifold. I will give a few of them in their medical, social, and economical bearings.

The climate of southern California is not essential to the cure of an incipient case of pulmonary tuberculosis. There are many climates in our Eastern States, localities with moderate elevation and pure atmosphere, where, by judicious hygienic and dietetic treatment, the vast majority of such patients can be cured. An individual whose pulmonary tuberculosis may have been cured or arrested in southern California has to fear a new outbreak of the disease on returning to our eastern shores and taking up his old mode of life. A patient cured in his "home climate" has a better chance to remain cured when returning to active life again.

In speaking of the social objections to the proposed plan of a partially self-supporting farm for tuberculous patients in southern California, let me again consider the example cited by Dr. Cofer: The tuberculous clerk, poor, and with wife and mother dependent upon him, shall leave his home, family, and friends (to take the whole family to the colony would be utterly impracticable) for a three-thousand-mile journey, with a possible prospect of an absence of two years. My experience has taught me that with many tuberculous patients, and especially those coming from the poorer classes, the separation from family and friends often has a most depressing effect upon the patient, which reacts nearly always most unfavorably on the physical condition. As to the prospects of this clerk earning his own living "*in the neighborhood which has proved so beneficial to him*," after a sojourn of a year or two in the colony, I believe I may speak with some little authority. I have lived a good many years in Los Angeles, California, and struggled in that glorious climate as a young practitioner, starting out in life side by side with consumptive *confrères* who had come there to get well, settle, and practise afterward. The popular feeling in southern California is not at all in favor of making that part of our country a colony for consumptives. There is hardly any profession, trade, or calling which is not more than amply represented in southern California by well men, and the number of tuberculous invalids or recovered consumptives seeking employment is at times simply appalling. Employers in that section of the country will always prefer a thoroughly well man if they have any employment to bestow. During my year as interne in the Los Angeles County Hospital

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* *New York Medical Journal*, May 7, 1898, p. 648.

I have stood at the bedside of dying physicians, ministers, lawyers (one a former statesman), clerks, and representatives of all trades, who had come to southern California in the various stages of tuberculosis. All came with the hope of getting well and then making a comfortable living. I am convinced that nearly every one of them would have done better had he been properly treated in his home climate while in the incipient stage. They certainly could not have done worse, for if a case is hopeless, by all means let the patient die at home in the midst of his family and friends, and not far away among strangers.

So much for the social reason for my objection to Dr. Cofer's scheme of colonizing tuberculous patients in southern California. Now, last but not least, as to the economic question: To send a tuberculous invalid with any degree of comfort from New York to southern California will cost at least one hundred dollars. Thus the first year's allowance, which my esteemed colleague estimated for the maintenance of the poor clerk during his sojourn in the colony, would be expended before the patient got there. I can not enter here into details of the economical problem, but I believe that even under most favorable aspects the yearly allowance would have to be at least doubled should we in New York be privileged to send patients to the proposed colony in southern California.

Heartily do I agree, however, with what the doctor proposes concerning the management of such a colony when he says: "As any physician, to be qualified to properly and economically run such an institution, must have both executive ability and the peculiar knowledge of such work which can only be obtained by experience, it would be a decided advantage if some disabled officer from one of the medical services of the United States, such as the Marine-Hospital Service, could be secured for the position of superintendent. If this could be accomplished, the camp would have a medical and executive officer of experience who would receive his pay from the public service from which he was loaned, and be equipped by his service with the bacteriological and other appliances necessary to his investigation."

A better idea for the management of such a proposed colony can hardly be conceived, only I would suggest that the chosen officer of the United States Marine-Hospital Service should add to his excellent training a few months of service in a well-equipped sanatorium for consumptives. Thus, with his medical training and general executive abilities, he would have a thorough knowledge of practical modern phthisiotherapeutics. To obtain this, one does not need to go to Europe any more; our own country offers ample opportunities. Six months' service as assistant to my esteemed and learned friend Dr. Trudeau, of the Adirondack Cottage Sanitarium, or at the Liberty or Asheville institutions, would suffice to give to the medical director of a colony of consumptives the necessary knowledge, not very complex, but indispensable to the successful management of such an institution.

In place of a California consumptive colony for our eastern tuberculous poor I can only suggest what I have urged again and again in my pleas for sanatoria for the consumptive poor of our large cities.* I have stated therein that I think the greatest good would be accomplished by building such sanatoria near the large centres of population. The majority of consumptive patients are poor; the majority must be treated in home climates. In a well-equipped and properly conducted sanatorium, where the tuberculous patient in the earlier stages has the very best chances of getting well, becoming again a breadwinner for his family, and a useful citizen of the community, he need not feel "*as if he were an object of pity*," as Dr. Cofer fears, nor need he at once begin "*to lose hope, grit, and self-respect.*" The good results obtained in such institutions are known to all who are interested in modern phthisiotherapeutics; and these results have been obtained in institutions located in all climes and in all countries.

In conclusion, I must say again, although pulmonary tuberculosis is the most widely spread and most fatal of all diseases, that it is, at the same time, a disease which is cured most frequently, and which can well be prevented. To this end we must create sanatoria and special hospitals for consumptives in order to cure the curable cases and render harmless the hopeless ones. We must build model tenement houses, and teach the poor a more hygienic mode of life, that they may not become tuberculous. We must protect, so far as possible, the poor of our large cities from the baneful influences of intemperance and want.

These are my suggestions to philanthropists.

955 Madison Avenue.

Therapeutical Notes.

A Mixture for the Fœtid Diarrhœa of the Initial Stage of Scarlatina.—Filatov (*Revue mensuelle des maladies de l'enfance*, July) recommends the following:

℞ Sulphite of magnesium, Liquid sulphuric acid,	of each	60 grains;
Distilled water		6 ounces;
Syrup		450 grains.

M.

A teaspoonful or tablespoonful, according to the child's age, from hour to hour. This draught is markedly anodyne, and is well taken by little children.

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* *Les Sanatoria: Traitement et prophylaxie de la phthisie pulmonaire.* Paris, 1895. Sanatoriums for the Treatment and Prophylaxis of Pulmonary Phthisis: *New York Medical Journal*, October 5 and 12, 1895. The Hygienic, Educational, and Symptomatic Treatment of Pulmonary Tuberculosis: *Medical Record*, February 13, 1897. The Urgent Need of Sanatoria for the Consumptive Poor of our Large Cities: *Medical Record*, November 27, 1897.

Treatment of Ivy Poisoning.—The *Canada Lancet* for May recommends the following:

Keep the affected parts well wetted with freshly made limewater. Take a teaspoonful four times daily of

℞ Fluid extract of couch-grass	4 drachms;
Sweet spirit of nitre	1 ounce;
Syrup of lemon	1 "

A Painless Blister.—The *Journal des praticiens* for June 25th gives the following:

℞ Menthol, Chloral hydrate,	of each 15 grains;
Cacao butter	30 "
Spermaceti	30 "

Mix to a paste, which may be spread on linen or diachylon plaster. It acts like the cantharides plaster.

Iodine in Obstinate Vomiting.—According to the *Medical News* for July 16th, Steffen recommends the following prescription:

℞ Tincture of iodine	10 drops;
Distilled water	4 ounces.

M.

One tablespoonful to be taken in half a glassful of sweetened water between meals.

The Relief of Fever in the Tuberculous.—De Renzi (*Clinica moderna,* June 29th) advises the use of thymol, which has a certain and rapid antipyretic effect without deranging the digestion, but rather improving the condition of the stomach. It is given in doses of four cachets daily, each containing three grains and three quarters. The dose is augmented until apyrexia is attained. Between ninety and a hundred and five grains suffice to subdue the fever.

Aromatic Cod-liver Oil.—Duquesnel (*Gazette hebdomadaire de médecine et de chirurgie,* July 14th) gives the following formula:

℞ Yellow cod-liver oil	16 ounces;
Essence of eucalyptus	75 minims.

M.

The taste of the eucalyptus entirely replaces the disagreeable taste and odor of the oil.

For Infantile Convulsions.—The *Riforma medica* for June 7th gives the following:

℞ Musk	5¼ grains;
Gum arabic	30 "
Fennel water, Syrup of orange bark,	of each 375 "

A teaspoonful every hour or two hours.

Treatment of Hæmorrhoids.—The *Gazzetta degli ospedali e delle cliniche* for July 12th recommends the following when the hæmorrhoids are not prolapsed:

℞ Vaseline	225 grains;
Cocaine hydrochloride	3 "
Antipyrine	22½ "
Salol	15 "
Wax sufficient for solid consistence.	

Two or three times a day a piece the size of a small nut to be introduced into the anus.

When the hæmorrhoids tend to inflame, use in similar manner the following:

℞ Vaseline	3 grains;
Cocaine hydrochloride	2¼ "
Tannin	15 "
Extract of rhatany	7½ "
Extract of belladonna	1½ "
Wax as required.	

The Treatment of Asthma with Arsenic and Stramonium.—Murray (*Clinica moderna,* June 29th) recommends the administration of seven drops of tincture of stramonium three times a day till the end of the access, and five drops of Fowler's solution at each meal. Subsequently a single daily dose of seven drops of the stramonium. At the same time are given carbonate of ammonium and bicarbonate of sodium as expectorants and some drops of chloroform as a calmative.

Treatment of Green Infectious Diarrhœa in Infants.—Herzen (*Guide et formulaire de thérapeutique; Progrès médical,* July 16th) gives the following prescription:

℞ Lactic acid	30 grains;
Syrup of quince	1 ounce;
Distilled water	3 ounces.

M.

A teaspoonful every half hour.

The Treatment of Fermentative Diarrhœa in Children.—Picchini (cited in the *Journal de médecine de Paris* for May 8th) recommends the following formula:

℞ Iodoform	9 grains;
Ether, Finely powdered charcoal,	each. 1,500 "
Glycerin	2,700 "

Dissolve the iodoform in the ether, and mix the charcoal intimately with the solution; let the ether evaporate, and add the glycerin.

The whole is to be taken in the course of twenty-four hours, in tablespoonful doses, each suspended in a glass of water.

Ointments for Rheumatic Joints.—The *Journal des praticiens* for July 16th gives on the authority of Bourget the following formula:

℞ Salicylic acid, Essence of turpentine,	of each.. 225 grains;
Lanolin, Lard,	of each 1,500 "

M.

The parts are covered with this ointment and a dressing of absorbent cotton applied and covered with an impervious covering. The turpentine softens the skin and aids the absorption of the salicylic acid, as does also the impermeable covering. The turpentine is said by Sterling to induce eczema, and he recommends its omission.

Arendt recommends ichthyol applications by means of a brush and gives the three following formulæ:

1.

℞ Ichthyol, Distilled water,	of each 150 grains;
Lanolin	450 "

M.

Or 2.

℞ Ichthyol	225 grains;
Extract of belladonna	22½ "
Lanolin	450 "

M.

Or 3.

℞ Ichthyol, Dilute spirits of wine,	of each. 150 grains;
Distilled water	600 "

M.

Eau de Javel will remove the stains of ichthyol from the linen.

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NEW YORK, SATURDAY, AUGUST 6, 1898.

THE BREAKDOWN OF THE MEDICAL SUPPLIES IN CUBA.

If anything were needed to emphasize the absolute necessity in warfare of an army medical department, organized on a corps basis, autonomous and depending for neither *personnel*, material, transport, commissariat, or any other necessities upon external departments, it would be the breakdown which has been shown to have occurred at Siboney.

Attempts have been made to fasten the blame for this upon the medical staff of the army, as attempts were made to fasten it upon their British comrades years ago for a similar breakdown which occurred under nearly the same circumstances during the Egyptian campaign. The British medical officers learned the lesson then and there that, until they had a completely organized and equipped corps, officered and disciplined by themselves, self-containing, independent of every other department, and in complete control of its own men, transport, and commissariat, they would be eternally subject to such grossly cruel and unjust blame. They set their shoulders to the wheel and fought the fight which has recently terminated so triumphantly for them in the extortion from the British government of the consolidation of the Royal Army Medical Corps. The regimental and departmental systems of medical aid are absolutely impracticable on active service, as both the gunners and the sappers found out long ago, when they got their respective arms organized into corps of artillery and engineers. The system of regimental medical officers is effective enough in camp and quarters in time of peace; it is also unnecessary then—for, save on a few isolated posts, it is always possible to employ local practitioners at government contract rates. The departmental system is a sort of halfway house between the regimental and the corps systems, possessing all the disadvantages of both and none of the advantages of either. It, too, may work satisfactorily enough in time of peace. But an army exists for war, not peace, though it has to be maintained through the latter, and it is just here that any system of medical service short of a completely equipped and organized corps of men specially trained for that service, reserved solely for it, having all their material in their own possession, and dependent upon no other section of the army for aid of any kind, must inevitably break down.

If that has been found to be the case in a country like Britain, where the standing army is always maintained at a considerable strength, and the establishment of the medical staff corps is kept up to the proportional standard called for by the fighting needs, how much more is any less complete system likely to break down in a country such as this, where a large army is liable to be suddenly raised without previous preparation and after a long period of peace.

In our judgment it would have been a miracle had there not been a good deal to complain of in the campaign from a medical point of view, and that there has been reflects, in our opinion, no discredit either upon the medical officers of the army or upon their chiefs; but the responsibility must rest with the war department and the system of army medical service in this country.

Our army medical officers should take heart and use their breakdown to emphasize the necessity for the further organization and consolidation of the army medical corps, officered for all purposes of administration and discipline by themselves, as a regiment is by its officers, kept up to a strength proportional to that of the standing army for the time being, and having complete control by its own quartermasters of all necessary material, including commissariat, transport, etc., so that it shall be under no necessity at any time of making calls on other departments, harassed probably and at their wits' end to meet the ever-changing requirements of the military force afield.

Then, should it on any future occasion become necessary to suddenly increase the army by a large force of volunteers, there would be in existence a nucleus with which the volunteer medical service could be promptly brought into line, just as volunteer regiments are quickly conformed to the regular standard.

From all we can learn, the army medical officers of this country, from highest to lowest, have done their duty well and manfully in this war, and they need not take to heart the unjust aspersions of irresponsible and prejudiced critics.

THE FORCIBLE CORRECTION OF THE DEFORMITY IN POTT'S DISEASE.

For a number of months past there have been more or less encouraging reports concerning the feasibility of suddenly and forcibly correcting the deformity in cases of angular curvature of the spine. They have emanated chiefly from France, to the surgeons of which country belongs the credit of devising the procedure. But one can not help appreciating more adequately the experience and conclusions of one's own countrymen in any such matter. It is of peculiar interest, therefore, to reflect upon certain points in the proceedings of a meeting of the Section in Orthopædic Surgery of the New York Academy of Medicine held on March 18th.

Dr. Gibney showed a boy, twelve years of age, who had had Pott's disease as long as he could remember. He had had no treatment, and the hump was very pronounced. On March 1st a moderate degree of force was employed under anæsthesia, and the deformity was reduced to a great extent, the parts yielding easily. While the boy was in the prone posture a plaster-of-Paris jacket was applied, reaching from the pelvis to the axillæ, and he was kept in bed for three days. After that he was playing about the hospital wards, and at no time was there any fever. Dr. Gibney showed another boy, six years old, wearing a plaster jacket after the forcible reduction of a decided kyphosis. In the course of the operation his breathing became somewhat labored, and the anæsthesia was discontinued. The procedure was followed by a slight retardation of the pulse, and this recurred on one day subsequently.

Dr. Gibney said he presented the patients to show that such deformities might be materially reduced by the application of force, and that no fever or other immediate untoward results followed. In the after-treatment, he said, it was not necessary to fix the head and shoulders; if the plaster was carried well upward, there would be no recurrence. The English surgeons, said Dr. Gibney, were advocates of the steel apparatus, and criticised the French for encasing the trunk in cotton covered with plaster of Paris. It was true that if too much cotton was used a good fit would be impossible; the parts would recede and the jacket would become loose. If, however, the plaster was properly applied there would be no trouble. Dr. Gibney thought there need be no fear that forcible correction would set up tuberculous action in the meninges or elsewhere; it was exceedingly rare, he said, for dissemination of the bacilli to follow the forcible correction of deformities of the hip, as had been found by years of experience.

Another child was shown by Dr. Phelps. In this case the deformity had been almost wholly reduced, but only after so much snapping and cracking that it was feared the child's back had been broken. This operation, said Dr. Phelps, seemed very cruel, and it had been undertaken in fear and trembling only partially allayed by the French surgeons' favorable reports. The procedure, he thought, was applicable in the early stages of the disease, but dangerous if there was a large hump, ankylosis, or an abscess. As regards abscess, Dr. Townsend mentioned a case in which death occurred from intercurrent bronchitis, and a retropharyngeal abscess was found, showing that a resort to the operation would have proved disastrous.

Among the speakers who were inclined to condemn the operation, or at least to admit its propriety in only a very limited number of cases, were the chairman (Dr. Judson), Dr. Myers, Dr. Reginald H. Sayre, Dr. Taylor, and Dr. Elliott. The last-named gentleman referred to two cases of death following the operation, recently reported in one of the English journals. The chairman said he had seen no reason for being dissatisfied with the use of the steel brace, and, while the traumatism inflicted in forcible reduction did not seem to be necessarily fatal, perhaps not even dangerous, it was doubtful if it was wise to add it to the unavoidable daily traumatism sustained by the subjects of Pott's disease in standing and walking. If we could restore to the spine its curves, its strength, and its mobility, almost any treatment would be accepted; but this we could not hope to accomplish. Moreover, it was very doubtful whether consolidation would come to our aid at the opportune moment, and thus make permanent the improvement in shape made by the forcible correction.

MINOR PARAGRAPHS.

THE PSYCHICAL EFFECT OF ODORS.

THE effect of the odor of a man on a woman and *vice versa* as an element to be considered alongside of form, feature, complexion, grace of movement, and voice in sexual attraction is very commonly overlooked. The special correspondent at Manila of the *Medical News* quotes in the number of that journal for July 23d a custom of the natives of the Philippine Islands whereby "two young people who are engaged to be married, when compelled to separate for a time, exchange articles of clothing, each believing that thus the faithfulness of the absent one will be assured. These articles are carefully treasured, being kissed and smelled of whenever an opportunity offers, and, whether by reason of some magnetic property with which the clothing of the person may have been endowed, or by the odor of the perspiration as supposed, these keepsakes are said rarely to fail in the purpose for which they are given." There is no need to assume any "magnetism" in the matter. Nearly all persons are attracted in their love-feelings to some extent by the peculiar odor of the beloved; while we all know the repellent effect on the white man of the odor of the Chinese or the negro, and we believe that to these races the odor of the white man is equally repellent. The use of scent is to be traced to unconscious ideas of this kind, and the extent to which it has in all ages been made use of by courtesans is an unintentional evidence of the effect of odor on the emotional faculties. Of a similar character and origin is the reverential feeling induced in many people by the use of incense, a feeling so common that incense is a marked feature of many religious observances outside those of the Catholic forms of Christianity.

RELAPSING PERITYPHLITIS.

Dr. H. Kümmel, of Hamburg (*Berliner klinische Wochenschrift*, 1898, No. 15; *Wiener klinische Wochenschrift*, July 14th), has practised excision of the vermiform appendix, in the stage of freedom from acute symptoms, in a hundred and four cases, without a death. It has not been uncommon for him to find the appendix in a condition that an inexperienced observer would consider normal, but in such cases, instead of being soft and flaccid, it is stiff and firm. The greatest number of relapses take place during the first year—in his experience, a hundred and seven in a hundred and forty-five cases—but the first relapse occurred in the tenth year in one case and still later in four others.

POLYNEURITIS AS A SEQUEL OF THE PASTEUR PROPHYLACTIC INJECTIONS.

Professor Darkschewitsch, of Kasan (*Neurologisches Centralblatt*, 1898, No. 3; *Deutsche Medizinal-Zeitung*, July 11th), adds two to the reported cases of paralysis following the Pasteur method of preventing rabies. In the first case it began in five days after the treatment had been completed, and was accompanied by pains and impaired sensibility. Both upper and lower limbs were affected, and there was muscular atrophy of the hands. There was reduced reaction to both the faradaic and the galvanic current, with tenderness of the muscles and of the nerve trunks. In the second case there was right-sided facial palsy in a week after the last injection had been given, and two days later the left side of the face also was affected. The electrical reaction was the same as in the first case. In both instances there was polyneuritis. Their course was favorable.

RIVER BATHS AND BATHS IN SUN-HEATED SAND.

M. Soumment (*Presse médicale*, June 11th; *Lyon médical*, July 10th) has experimented with healthy men, subjecting them to a river bath of fifteen minutes' duration, a sand bath of twenty minutes, then another river bath, and finally a second sand bath, each man taking thirty of the "combined" baths. The results he reports are augmentation of muscular energy and cutaneous sensibility; lowering of the temperature; increase of weight; reduction of the frequency of the pulse, which is described as "more vibrating"; and a sensation of well-being, with a fine appetite, good digestion, and better sleep.

A "HORSEY" HOSPITAL.

The *Klinisch-therapeutische Wochenschrift* for May 15th states that there has been founded in Chantilly, France, a hospital exclusively for jockeys and persons employed in the breeding and rearing of horses. The institution has received a subvention from the government and will be well supported by contributions from the various sporting organizations. The nursing will be done by the Sisters of St. Francis de Paul.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 30, 1898:

DISEASES.	Week ending July 23.		Week ending July 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	18	4	28	8
Scarlet fever	87	8	99	15
Cerebro-spinal meningitis	0	9	0	7
Measles	130	8	94	8
Diphtheria	150	19	152	16
Croup	7	3	2	2
Tuberculosis	167	145	200	157

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending July 30, 1898:

Small-pox—Foreign.

Hong Kong, China	May 28–June 4	2 cases,	1 death.
Manzanillo, Cuba	June 14	17 "	
Liverpool, England	July 2–9	1 case,	1 " doubtful.
Newcastle-on-Tyne, England.	July 2–9		1 death.
Paris, France	July 2–9		1 "
Madras, India	June 11–17		1 "
Osaka Fu, Japan	June 16–26	1 case.	
Tokyo Fu, Japan	June 16–26	6 cases.	
Awamori Ken, Japan	June 16–26	28 "	9 deaths.
Miyagi Ken, Japan	June 16–26	1 case,	1 death.
Miyazaki, Japan	June 16–26	1 "	
Niigata, Japan	June 16–26	1 "	
Shiga, Japan	June 16–26	1 "	
The Hokkaido, Japan	June 16–26	8 cases.	
Odessa, Russia	June 28–July 2	1 case.	
St. Petersburg, Russia	June 28–July 2	6 cases,	4 deaths.
Warsaw, Russia	June 28–July 2		5 "

Cholera—Foreign.

Kanagawa Ken, Japan	June 16–26	1 case.	

Plague—Foreign.

Taiwan (Formosa), Japan	June 16–26	120 cases,	58 deaths

Yellow Fever—Foreign.

San Salvador	June 18–25	4 cases,	1 death.
San Salvador	June 25–July 2	5 "	2 deaths.

The Craig Colony for Epileptics.—We learn that Messrs. Carrere & Hastings, architects, of New York, have just completed plans and specifications for eleven cottages for patients. These cottages will be built during the present season. All of them are to be occupied by women and children and they will accommodate two hundred and fifty-six patients. The per capita cost of the buildings, including plumbing, heating, electric-light wiring, and all stationary fixtures set ready for housekeeping, will be $390.62. This amount is somewhat less than that usually spent for the construction of charitable institutions in this State. We seldom find that such buildings are put up at less than $500 for each inmate.

A Complimentary Dinner in Denver.—The physicians of Colorado gave a complimentary dinner to Dr. J. W. Graham and Dr. W. A. Jayne, respectively chairman and secretary of the local committee of arrangements of the late meeting of the American Medical Association, at the University Club, Denver, on the evening of Tuesday, July 26th.

The Episcopal Hospital of Philadelphia.—Through the death of Mrs. Eliza H. Frailey, widow of Commodore Frailey, $17,000 has reverted to the Hospital of the Protestant Episcopal Church.

The Death of Dr. William Pepper.—A Philadelphia correspondent writes that nothing could have thrown that city into such profound grief as the news from California announcing the death of Dr. William Pepper from angina pectoris.

The city of Philadelphia owes more to him perhaps than to any man alive. Always ready, always active, forever looking ahead to the betterment of his fellowman, he could not obtain rest. Night and day he toiled, eating where he chanced to be, sleeping when he could on the train, in a strange town, or at home. It has always been a subject of wonder how he could live and take such little relaxation. He was foremost in all questions looking to the public health, to education, and to elevation of the medical profession. There has been no more persistent fighter for better water in Philadelphia than he. From the time when he first became professor of pathology until the date of his death he has always had the interest of the University of Pennsylvania closest to his heart. He aided in every effort to bring about the highest standard of excellence, to make the curriculum thorough, to raise the class of graduates —to make men of them. He gave to the university hundreds of thousands of dollars. Through his efforts were built laboratories for the better understanding of men and disease—a laboratory of hygiene, a laboratory of anatomy, and museums—and through his own generosity the William Pepper Clinical Laboratory was erected. He not only built it, but he endowed it so that the work might continue indefinitely.

He was a leader in the Society for the Extension of University Teaching, and took a prominent part in raising the standard of medical requirements so that a four-year graded course was required. He wrote constantly, yet attended to matters of vital interest to the city, to his position as provost of the university (which he held for thirteen years), and to the chair of theory and practice of medicine. He has been honored by the King of Sweden, by the two Americas, being president of the first Pan-American Medical Congress, by his own countrymen, and by his fellow-citizens, and when the bell tolls there will be few indeed in whom there will not arise in the inner consciousness some feeling that they owe in part their success to the friendliness and the example of William Pepper.

Change of Address.—Dr. Eugene J. Kenny, to No. 363 Grand Avenue, Brooklyn; Dr. Isidor Nadle, from Utica, N. Y., to No. 377 Eighth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 26 to August 2, 1898:*

Bird, Urban S., Acting Assistant Surgeon, will proceed to Tampa, Florida, for duty at that place.

Ellis, Joseph E. R., Acting Assistant Surgeon, will proceed from Washington to Camp Alger, Virginia, for duty at that place.

Forwood, William H., Colonel and Assistant Surgeon General, will proceed to Montauk Point, Long Island, and establish a temporary tent hospital and suitable camping grounds.

Harvey, Philip, Major and Surgeon. The leave of absence on surgeon's certificate of disability granted him is extended one month on account of sickness.

Heg, Elmer E., Major and Brigade Surgeon, will proceed to Fort Monroe for duty in the general hospital at that post.

Jarvis, Nathan S., Major and Brigade Surgeon, in addition to his present duties, will report to the commanding general of the Department of the East for such duties as he may be instructed to perform.

Munday, Benjamin, Captain and Assistant Surgeon, will proceed to Jacksonville, Florida, for duty at that place.

Post, Silas B., Acting Assistant Surgeon, will proceed from Washington to Jacksonville, Florida, for duty at that place.

Robertson, Charles M., Major and Surgeon, is honorably discharged as surgeon, Fiftieth Iowa Volunteers.

Shannon, J. R., Acting Assistant Surgeon, will proceed from Fort Monroe to Washington and report to the surgeon general of the army.

Smith, Louis P., First Lieutenant and Assistant Surgeon, will proceed to Fort Hamilton, New York, for temporary duty at that post.

Stark, Alexander N., Captain and Assistant Surgeon, will proceed to New York for assignment to duty on the United States army hospital ship *Missouri.*

Ware, Isaac P., Captain and Assistant Surgeon, is detailed as a member of the examining board convened at the Presidio, San Francisco, *vice* White, Robert W., Major and Surgeon, retired.

Woodson, Robert S., Captain and Assistant Surgeon, will proceed from Tampa, Florida, to Santiago de Cuba for assignment to duty.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending July 28, 1898:*

Bailhache, Preston H., Surgeon. Granted leave of absence for six days from July 18, 1898. July 15, 1898.

Purviance, George, Surgeon, chairman of board of examiners. To proceed to Port Tampa, Fla., for the examination of officers of the service preparatory to promotion. July 26, 1898.

Godfrey, John, Surgeon, member of board of examiners. To proceed to Port Tampa, Fla., for the examination of officers of the service preparatory to promotion. July 26, 1898.

Carter, H. R., Surgeon. To proceed to Fort Monroe, Va., for special temporary duty. July 22, 1898.

Carmichael, D. A., Surgeon, recorder of board of examiners. To proceed to Port Tampa, Fla., for the examination of officers of the service preparatory to promotion. July 26, 1898.

Glennan, A. H., Passed Assistant Surgeon. To report to chairman of board of examiners at Port Tampa, Fla., for examination to determine fitness for promotion. July 26, 1898.

Wasdin, Eugene, Passed Assistant Surgeon. To report to chairman of board of examiners at Port Tampa, Fla., for examination to determine fitness for promotion. July 26, 1898.

Brooks, S. D., Passed Assistant Surgeon. To proceed to Point Pleasant, N. J., for special temporary duty. July 23, 1898.

WHITE, J. H., Passed Assistant Surgeon. To report to chairman of board of examiners at Washington, D. C., for examination to determine fitness for promotion. July 20, 1898. To proceed to Fort Monroe, Va., for special temporary duty. July 21, 1898.

GEDDINGS, H. D., Passed Assistant Surgeon. To proceed to Fort Monroe, Va., for special temporary duty. July 21, 1898. To proceed to Port Tampa, Fla., for special temporary duty. July 25, 1898.

CUMMING, H. S., Assistant Surgeon. Relieved from duty at Immigration Depot, New York, N. Y., and to report to commanding officer of the United States Marine Hospital at same port for duty. July 18, 1898. Reassigned to duty at Immigration Depot, New York, N. Y. July 25, 1898.

CLARK, TALIAFERO, Assistant Surgeon. Upon being relieved by Sanitary Inspector R. E. L. BURFORD, to rejoin station at South Atlantic Quarantine. July 20, 1898.

Society Meetings for the Coming Week:

MONDAY, *August 8th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society.

TUESDAY, *August 9th:* New York Academy of Medicine (Section in Genito-urinary Surgery); Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioner's Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *August 10th:* American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Societies of the Counties of Albany and Allegany (quarterly), N. Y.

THURSDAY, *August 11th:* Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private).

FRIDAY, *August 12th:* German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Births, Marriages, and Deaths.

Born.

BEMIS.—In Philadelphia, on Friday, July 29th, to Dr. and Mrs. R. W. Bemis, a daughter.

THOMAS.—In Romney, West Virginia, on Tuesday, July 12th, to Dr. and Mrs. George H. Thomas, a daughter.

Married.

HIMEL—LASTRAPES.—In Napoleonville, Louisiana, on Friday, July 22d, Dr. Lynn Himel and Miss Celestine Lastrapes.

SCHILLING—MORGAN.—In Abbeville, Louisiana, on Wednesday, July 27th, Dr. C. A. Schilling and Miss Mary Morgan.

STEWART—ROWLEY.—In New Orleans, on Monday, July 25th, Dr. Floyd Stewart, United States volunteers, and Miss Ada May Rowley.

Died.

CATE.—In Dansville, N. J., on Monday, August 1st, Dr. Hamilton J. Cate, in the seventy-fourth year of his age.

PEPPER.—In Pleasanton, California, on Thursday, July 28th, Dr. William Pepper, of Philadelphia, in the fifty-fifth year of his age.

Obituaries.

WILLIAM PEPPER, M. D., LL. D., OF PHILADELPHIA.

THIS distinguished physician and educator, for many years provost of the University of Pennsylvania, died in Pleasanton, California, on Thursday, July 28th, in the fifty-fifth year of his age. It is said that he had not been in good health for some months, but it was not generally known that he was seriously affected. His death is reported to have been due to an acute affection of the heart. Up to within a short time before his last illness he retained his natural energy and appearance, so that the news of his decease comes as a surprise to almost if not quite everybody who knew him.

Dr. Pepper was a most capable physician, an excellent clinical lecturer, and, above all, an organizer of conspicuous ability. Probably we are not saying too much when we give it as our impression that he was of more service to the University of Pennsylvania than any other man has ever been. He had a great deal of personal magnetism, and no doubt this gift was largely instrumental in enabling him to carry through the various measures which his wisdom led him to devise for the welfare of the university over which he presided almost up to the time of his seeking the Pacific coast, which he is said to have done for the sake of his health.

Dr. Pepper was a man of considerable literary ability, but not a voluminous writer. He was widely known as the editor of an excellent *System of Medicine* and as the author of another work on practice. His contributions to the medical journals, although not frequent of late years, were always graceful, pointed, and instructive. They were read with avidity. Perhaps the most appreciated of them were his clinical lectures. The loss of such a man is sure to be felt deeply by the medical profession and by the country at large.

Letters to the Editor.

BELLADONNA POISONING.

42 JAMES STREET, NEWARK, N. J., *July 20, 1898.*

To the Editor of the New York Medical Journal:

SIR: Allow me to report the following unusual and remarkable case of belladonna poisoning. On the night of June 26th I was called to see a colored servant woman, F. M., aged twenty-one, who had, six hours and a half previously, taken by mistake ninety-six minims of the fluid extract of belladonna (Parke, Davis, & Co.'s). The mistake was not noticed at the time. Shortly afterward she felt nauseated, but did not vomit. Then she complained of her throat feeling dry. This increased very much, her feet and hands became numb, and she was unable to pick up small objects. She felt dizzy and faint several times, but nothing was thought of it until a mild delirium developed.

When I reached her, the pupils were dilated to the widest degree, the eyes were shining, the skin was dry, and the entire surface of the body was cold. The tongue and the mucous membrane of the mouth were exceedingly dry. The pulse was 180, weak and feeble. The respirations were about ten a minute and very shallow. Incoordination was very marked. The patient was excited and delirious.

The medicine bottle, being produced, contained some fluid preparation of belladonna. I took it to the drug store where it had recently been filled, and found that it was the fluid extract of belladonna, and had been ordered as an external application for galactorrhœa.

Attempts to wash out the stomach met with so much resistance, and the struggling affected the failing heart so much, that we desisted and I injected a fifth of a grain of apomorphine. This was followed in four minutes by profuse vomiting, the vomitus smelling slightly of belladonna.

Six hours and a half having elapsed, giving ample time for complete absorption, I did not waste valuable time attempting to introduce chemical antidotes.

The apomorphine injection was followed immediately by a third of a grain of pilocarpine hydrochloride, a fifteenth of a grain of strychnine, five grains of caffeine, and forty-five minims of ammonia water in three hypodermic injections. Strong black coffee was prepared, and the patient was forced to swallow it by holding her nostrils closed. It was promptly vomited, and four ounces more of hot coffee and two ounces of whisky were administered by the rectum.

Twenty minutes had now elapsed and the patient was worse. The pulse was 180, still weak; the respirations were eight a minute, sighing and shallow. Incoordination was more marked and accompanied by clonic convulsions. The delirium was wilder and articulation was almost impossible. I gave a fifth of a grain of pilocarpine, a twentieth of a grain of strychnine, three grains of caffeine, and forty-five minims of aqua ammoniæ; also, physostigmine sulphate having been secured, I injected a fortieth of a grain. Artificial respiration was pushed. At the expiration of forty-five minutes the pulse was 160 and of a little better quality, but the respirations were still failing, delirium had passed into coma, and death appeared imminent from respiratory paralysis.

Two quarts of hot saline solution and four ounces of whisky, at a temperature of 120°, were introduced by the rectum and kept there by pressure. Artificial respiration was continued, cold flagellation was used over the chest. At every pause the coma deepened and the respirations were almost imperceptible. At intervals of fifteen minutes during the next hour a fifth of a grain of pilocarpine, a sixtieth of a grain of physostigmine sulphate, a twentieth of a grain of strychnine, three grains of caffeine, and forty-five minims of aqua ammoniæ were injected.

The patient was now kept moving about the room constantly between two assistants, and every attempt was made to rouse her.

When an hour and a half had expired the pulse was 140, stronger and of much better quality, but the respirations were still only eight. They were deeper, though, and the coma was not so marked. Another hour of constant work and closest application went by, and the patient showed signs of rallying. The pulse was 120, strong; the respirations were 10 and of about half normal volume. I now stopped the stimulants and gave one more dose of pilocarpine and physostigma half an hour apart. The comatose condition cleared up and the patient talked incessantly. Her articulation was clear, but her mind was still wandering. I remained with her four hours. At the end of that time the pulse was 100, the respirations were 14 and of fairly good quality.

As there seemed to be no more danger of collapse and the patient was very restless, I gave her an eighth of a grain of morphine subcutaneously and left.

No one knew how much of the belladonna she had taken, but the following morning she herself showed me how, mistaking it for cascara sagrada, she had poured out a "heaping" teaspoonful from this bottle and had taken it in a little sweetened water. Taking the bottle and the same teaspoon back to my office, I measured the dose. She must have taken ninety-six minims.

The gastric disturbance, the paralysis of accommodation, and the inability to perform the more delicate muscular actions persisted for five days.

Urination was increased in frequency and amount, there was moderately free catharsis, but there was no salivation following the use of pilocarpine and physostigma.

In all, she had had administered to her hypodermically in four hours:

Pilocarpine hydrochloride ...	$1\frac{64}{120}$	grain;
Physostigmine sulphate	$\frac{13}{120}$	"
Strychnine sulphate	$\frac{40}{120}$	"
Caffeine sodiobenzoate	20	grains;
Ammonia water............	270	"

Had I reached the patient soon after the drug had been taken and evacuated the stomach contents, the case would not have been worth reporting. But the fact that six hours and a half had elapsed, allowing ample time for complete absorption of ninety-six minims of one of the most dangerous drugs, whose maximum dose is only two minims, the complete train of symptoms that followed, the near approach to death, and the final recovery have made me think the case should be recorded.

J. Bennett Morrison, M. D.

THE TREATMENT OF YELLOW FEVER.

July 12, 1898.

To the Editor of the New York Medical Journal:

Sir: Ever since the advent last summer of rigid quarantine and mild yellow fever the medical journals throughout the country have been flooded with the different views of medical men on the treatment of this dread malady. In the case of some of these writers, from the treatments they advance and the good results they allege, either they must have lived in a district where some other malady was mistaken for "yellow Jack," or their patients must have been endowed with the vitality of a horned frog and the digestion of an ostrich.

In one of the weekly journals published in New York there was an article by an assistant surgeon in the army. He writes on the treatment of yellow fever at Camp Tampa Heights.

Could any one that has ever seen an epidemic of yellow fever imagine a person recovering from the disease with three compound cathartic pills in him after having been made to get out of bed to defæcate?

For the benefit of these experts I beg you to publish these rules, which have proved to be imperative in the scientific treatment of yellow fever with black vomit:

1. Yellow fever is not a pathological condition of eight or nine days; its course extends over a period of fourteen or sixteen days before convalescence is inaugurated.

2. From the second to the sixth day, and from the tenth to the twentieth day, are the most critical periods.

3. A strict champagne and ice diet, with the absolute recumbent posture, is the best therapeutical means we have at our command.

4. All medicines that are intended to enter the stomach must be given on the first day, because after that they do more harm than good.

5. Drastic purgatives are contraindicated throughout the whole course of the malady.

6. Mild saline purges with enemata (small quantities, not more than a pint) are the best means of opening the bowels.

7. As yellow fever is a self-limiting disease, quinine, antikamnia, and the coal-tar and other similar antipyretics do little good.

8. Strychnine by the rectum or hypodermically and cold-water baths are the best agents during the febrile stages.

9. Diet during convalescence is the only means of avoiding a second serious attack.

10. Avoid as long as possible rectal feeding, wet and dry cups, mustard plasters, and hypnotics, and only use them when it is no longer possible to continue treatment without them. Use them as reenforcements, not as your main army.

11. Remember you are dealing with a depressed heart and a stomach below par.

12. Don't make a chemical laboratory out of your patient's stomach in a vain attempt to stop vomiting. Remember the rule that once vomiting is started nothing will stop it except gastric paralysis or emptiness of the organ—*i. e.*, absence of food, drugs, and blood.

The following is the treatment followed with almost uniform success among the native physicians of this locality and Cuba. [Unfortunately, our correspondent does not specify the locality.]

When the patient is first seen, put him to bed and give a mild saline purge, also a soapsuds enema. Give a cup of orange-leaf tea in small draughts as often as the patient can stand it for the first day. Try to get four ounces into him. Sponge the feet and legs with mustard and water.

On the second, third, and fourth days let absolutely nothing be given but small quantities of iced champagne in the mouth to relieve thirst.

On the fifth or sixth day increase the champagne to a drachm every hour, with half a drachm of milk every two hours.

As the milk and champagne are retained, chicken broth and corn starch may be added.

Gradually add peptonized foods and Ducro's until your patient is completely recovered, which is never until twenty or twenty-five days after the first paroxysm.

When he is seen on the first day and no complications are present, this treatment, to my knowledge, has never failed when combined with the golden rule of absolute recumbency at all times. LOUIS Y GENELLA, M. D.

MERCURY IN THE TREATMENT OF ATROPHIC RHINITIS.

CHARLESTON, S. C., *July 12, 1898.*

To the Editor of the New York Medical Journal:

SIR: A case of atrophic rhinitis came under my care some time ago for which I ordered mercury and opium with inunction, thinking that there might be some syphilitic element present, although the patient asserted most positively that he had never had venereal disease of any kind. When he reappeared, after a week or two, he was severely salivated. He complained that his mouth was very sore, but said that his nose was perfectly well, and that his headaches, from which he had suffered daily, had left him. It is now a month or more and there has been no return of the scab formations in the nose or of the headaches.

I have often ordered antisyphilitic treatment in ozæna before, but I have never pushed it to the extent of salivation; as the patient appeared to be honest in his denial of the primary lesion, and as his improvement has been so marked and satisfactory, I thought that it would be of interest to call attention to it.

There were no evidences of syphilis in the nose—no erosions or exfoliations of bone or tissue.

W. PEYRE PORCHER, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of April 6, 1898.

The President, Dr. ROBERT J. CARLISLE, in the Chair.

A Case of Paralysis of the Musculo-spiral Nerve following Fracture of the Humerus.—Dr. LUCIUS W. HOTCHKISS presented a boy of nineteen years, affected with musculo-spiral paralysis after a multiple fracture of the shaft of the humerus. The injury was received in July, 1897, and, although the patient said he had noticed loss of power in the extensors of the wrist immediately after the accident, the diagnosis of injury to the musculo-spiral nerve was not made until some time later. The fracture was treated by the plaster-of-Paris splint, and after the bone had united the paralysis was complete. As no improvement took place, and as the site of fracture was such as to lead to the belief that the nerve had been included in the callus, an operation was done for its relief. The nerve was exposed by the usual incision on the outer side of the arm, beginning at the elbow, and supplemented later by an incision high up on the inner aspect of the arm, in order to fully expose the musculo-spiral nerve. This was found flattened, shrunken, and deeply imbedded in the callus around the seat of fracture, to the extent of about two inches. The nerve was released and stretched.

and the wound closed. Healing by first intention followed. The humerus was accidentally refractured about two weeks later, as the union was still soft; but this did not interfere in the slightest degree with the result. Sensation began to return in about six weeks, and subsequently the boy slowly regained the power of extension. At the present time the patient showed perfect restoration of both motion and sensation.

A Case of Thyreoid Fever.—Dr. ROBERT T. MORRIS reported a case of thyreoid fever. The patient was a woman about twenty-six years of age, and had had a slowly developing tumor in the region of the thyreoid gland for seven or eight years. During the past two years it had increased quite rapidly and had become distinctly pulsating. It was feared that it was becoming malignant. On January 3d Dr. Morris had removed this right half of the thyreoid gland and had found a degenerating mass simulating, according to the pathologist, sarcoma at several points. All of the structures of the neck that had been divided were sutured again in their normal anatomical relations, and the wound was closed without drainage. The nurse noted that the patient did not rally properly from the ether, but remained in an apathetic condition. At midnight the temperature was 96° F. and the pulse 80. The face was markedly swollen. During the next twenty days the changes in the vital signs were interesting. The temperature at midnight on the first day was 96° and the pulse 80. The highest temperature on the next day was 99.8° with a pulse of 80. On the third day the temperature nearly reached 104°, with a pulse of 140. The temperature then ranged between 102° and 104° until the seventh day, when there was a very distinct rigor, followed by a rise of temperature to 105.8° and a pulse of 150. This occurrence, it should be noted, was very rare in a case of thyreoid fever. After this the temperature ranged between 100° and 102° for the next week. It reached about the normal point at the twentieth day after operation. Most of the time during the two weeks succeeding the operation the patient was apathetic, but she smiled when spoken to. When the temperature was 104° and the pulse 140 the patient had not given any evidence of discomfort. She frequently had a mild type of delirium for a few hours at a time. There had been almost constant and, at times, bloody vomiting. There had also been bleeding from the gums, and involuntary evacuations from the bladder and rectum. There had been no swelling of the fingers or toes, or other symptoms of myxœdema except the swelling of the face, which was very marked, and had persisted for three weeks after operation. An erythema appeared on the right side a few days after operation, and extended successively to the arms and knees and various parts of the body. The eruption was of a very bright color, but was not associated with any marked pruritus. The condition of the pupils had been very variable, they being at one moment widely dilated, and shortly afterward markedly contracted. By the twentieth day there had been sudden improvement, and in the course of a few hours the patient's apathy had gone and her appetite had returned. After this there was desquamation over all the skin. The examinations of the blood and urine were negative. On the night on which the temperature was so high, following the rigor, knowing that this was not an ordinary feature of thyreoid poisoning, Dr. Morris feared that there was some septic infection, and accordingly opened the wound. It was found entirely united by primary union. A small blood-clot was found, but this proved to be sterile. He sutured the wound in such a way as to allow of drainage of the thyreoid secretion, but this had no effect on the symptoms. The wound did not granulate as usual, but repair took place mostly by the lymph coagulum being replaced by connective tissue.

Dr. Morris said that the case appeared to be one of those in which, a part of the thyreoid having been removed, the remainder continued to furnish its internal secretion, which, escaping perhaps too rapidly, caused the poisoning of the patient. The history of the case would seem to bear out this view.

Dr. GEORGE W. CRARY said he looked upon the case as one of special interest because there were symptoms of myxœdema as well as of thyreoid poisoning. The bleeding from the gums, the hæmoptysis, and the desquamation were all found in myxœdema. When thyreoid extract was given in myxœdema one of the first things noticed was desquamation. It was for this reason that the case just reported was so peculiar, for, instead of there being a lack of thyreoid, there seemed to be an excess. The theory had been advanced that the symptoms were caused by absorption from the cut surface of the thyreoid, and it had been found that drainage usually caused a cessation of the symptoms. In this respect also Dr. Morris's case was unusual. It seemed evident that the symptoms had resulted from the absorption of a true internal secretion.

Dr. MORRIS said that, recognizing the presence of some symptoms of myxœdema, he had begun the administration of thyreoid extract on the sixth day, and it had been continued for five days without affecting the symptoms.

Primary Gumma of the Epididymis.—Dr. SAMUEL ALEXANDER reported this case.

Dr. EUGENE FULLER said that the specimen was exceedingly interesting, and was the first of the kind that he had ever seen. Late syphilis in the epididymis, not in the form of gumma, was occasionally seen. It was an infiltrating lesion of the epididymis, which generally extended into the parietal layer, giving rise to the feel of a "clam-shell" configuration. This condition was almost always associated with hydrocele. It had been described as "*pachyvaginalitis hæmorrhagica syphilitica*," because it was considered that the lesion was in the tunica vaginalis associated with bloody hydrocele. In the cases that he had seen he had not noted blood in the hydrocele. In these cases one tapping of the hydrocele usually caused it to disappear, because there was an obliteration of the layers of the tunica vaginalis due to adhesive inflammation. He had seen such a case last year in a man who had given a history of syphilis. The hydrocele had been tapped, and obliteration of the tunica vaginalis found except in one small spot. The fluid had been drawn off from this portion, and had not returned. The infiltrated portion in this case had disappeared under antisyphilitic treatment.

Dr. Fuller then referred to a case which he had seen, which simulated a late case of syphilis of the epididymis. He tapped the mass, and spent about ten days in antisyphilitic treatment. The man then became impatient and insisted upon an operation. The testicle was therefore removed and submitted to microscopical examination, which showed the tumor to be an endothelioma. Had the growth not simulated a syphilitic lesion so closely, a much more extensive operation would have been done, and this would probably have prevented the early recurrence of the disease.

An Unusually Large Fibromyoma of the Uterus; Absence of the Cervix.—Dr. CHARLES CLIFFORD BARROWS presented a tumor which, at the time of its removal, had weighed eighteen pounds. It had been removed from an unmarried woman, about sixty-six years of age, who had been sent to him by Dr. Jeffries with a history of having been in good health up to the time of the menopause, which had occurred about eight years before. At this time she had begun to have some pain about the pelvis, and the abdomen had become enlarged. On vaginal examination he and several others were unable to find the cervix uteri, even under anæsthesia. He then opened the abdomen and removed the tumor, which shelled out without trouble. The top of the vagina ended in a blind pouch, and absolutely no opening corresponding to the os could be discovered, either from above or from below. The patient made a satisfactory recovery.

Removal of a Hairpin from the Uterus.—Dr. BARROWS also exhibited a hairpin which he had removed from the uterus of a woman weighing at least three hundred pounds. She had presented herself at the dispensary with the story that she had been suffering for some time from endometritis, and that she had been accustomed to make applications of iodine to the interior of her uterus. She had used a hairpin for this purpose, and it had finally escaped from her grasp and had been retained within the uterine cavity. Examination revealed a slightly enlarged uterus, from which issued a fœtid discharge. With a forceps he succeeded in seizing the round end of the hairpin, but the points were deeply buried in the tissue of the uterus. By slipping in a pair of scissors he succeeded in snipping off a portion of one leg of the hairpin. This permitted of its removal. Examination showed that the woman had been pregnant, for some decidua was present. The subsequent history of the case was uneventful.

Appendicitis associated with Abortion and the Presence of Gas in the Peritoneal Cavity.—Dr. W. J. CHANDLER, of South Orange, N. J., presented a specimen and reported the following case: Mrs. A. L., twenty-eight years of age, married and the mother of one child, eighteen months old, had had an acute endocarditis five years ago. On March 28th she was seized with severe pain in the right iliac region. A slight menstrual flow appeared, but soon ceased. She grew steadily worse, and on March 30th, at 11 P. M., she was admitted to the Orange Memorial Hospital. The abdomen at this time was swollen, tympanitic, and tender, and there had been some vomiting. The bowels had not moved for two days previously. The urine had a specific gravity of 1.030 and contained a slight trace of albumin. The pulse was 118, the respiration 24, and the temperature 99° F. During the next day the bowels were moved with purgatives and high enemata; the vomiting ceased and the pain lessened. The pulse varied between 100 and 112, the respirations between 20 and 28, and the temperature between 99° and 100° in the rectum. On April 1st the respirations were between 30 and 38, with the pulse and temperature as before. The tympanites had greatly increased and the patient suffered greatly The case was supposed to be one of appendicitis complicated with septic peritonitis. Her condition was so bad that it was decided to perform an exploratory laparotomy. This was done at 4 P. M., the incision being that usually employed for appendicitis. On opening the abdominal cavity a *large* quantity of *odorless gas* escaped, and the abdomen immediately collapsed. This gas had evidently been *free* in the peritoneal cavity. There was no fluid visible. The intestines were injected and covered with deposits of lymph. No swelling or accumulation of pus could be felt anywhere. The appendix was deeply injected, and constricted about an inch from its free extremity. It was removed and was found to be in a state of catarrhal inflammation. No other abnormity being discovered, the wound was closed. The patient was much relieved by the operation and passed a comfortable night. About 5.30 A. M., April 2d, she was seized with severe pain; the abdomen again became tympanitic and distended; the pulse and respirations became very rapid, and she died about 10 A. M. The autopsy was made at 3 P. M. On opening the abdominal cavity considerable gas escaped in the same manner as at the operation on the previous day, and a considerable amount of dark, thin serum, with flakes of lymph, welled up. This was removed and amounted to two quarts. The region about the site of the operation was healthy; the surfaces of the incised peritonæum were tightly glued together; the stump of the appendix was intact; there was no evidence of hæmorrhage. The intestines were removed entire, and showed no constriction or leakage under water pressure. The liver was enlarged and fatty. The heart, lungs, spleen, and kidneys were normal. The bladder was distended and contained about half a pint of urine. The uterus was enlarged, measuring about five inches in length. One ovary contained a corpus luteum of pregnancy; otherwise the ovaries were healthy. The uterus, on being cut open, showed the shaggy chorion attached about as it would be near the end of the second month of gestation. The membranes had been ruptured and no fœtus was present.

Dr. Chandler said he presented the specimen because of the presence of free gas in the abdominal cavity without discoverable perforation of the intestine or evidence of abscess.

Dr. S. ALEXANDER suggested that it would be interesting to have a histological or bacteriological examination made, in order to determine whether the *Bacillus aerogenes capsulatus* was present in the uterus. In some of the reported cases the condition had followed attempted abortion.

(To be concluded.)

Book Notices.

A Treatise on Aphasia and Other Speech Defects. By H. CHARLTON BASTIAN, M. A., M. D. Lond., F. R. S., Emeritus Professor of the Principles and Practice of Medicine and of Clinical Medicine in University College, London, etc. With Illustrations. New York: D. Appleton and Company, 1898. Pp. viii–366. [Price, $4.50.]

IN this work are reproduced, with a few additions, the Lumleian lectures, On Some Problems in Connection with Aphasia and Other Speech Defects, of 1897. They form parts of five chapters. The greater part of another chapter was delivered as a clinical lecture at the University College Hospital and appeared in the *Lancet* in September, 1897. The eleven other chapters are new.

No writer in English is so well qualified to construct a work on aphasia as Dr. Bastian. A trained psychologist, he has, almost from the time of Broca's great discovery (1861), been an investigator of brain diseases in general and of psychic disturbances of speech in particular; in the literary history of aphasia his name is among the first. Added to the watchfulness of the literary student for new facts relative to a favorite theme are his unsurpassed opportunities for clinical observation. The present book embodies what he has read and what he has seen during thirty years or more, and the conclusions he has reached regarding the subject of aphasia. It belongs to the highest class of monographs.

As a purely scientific proposition, aphasia is one of the most intricate problems with which the physician is confronted. This is due in part to its inherent complexity and in part, despite the voluminous literature, to the scarcity of cases which have been wisely followed from the clinic through the deadhouse and laboratory. Consequently the views of students concerning the impairment or loss of the faculty of speech are far from unanimous. Dr. Bastian holds certain opinions which are different from those of some important contributors to this subject. For example, he believes in a special centre for the registration and regulation of writing movements, which he calls the cheiro-kinæsthetic centre; he doubts that destruction of Broca's centre entails amnesia verbalis or alexia or agraphia. In the discussion of most points, however, the evidence is presented fully and fairly; the reader is not forced, without reasons, to adopt the views of the author. Yet, while from the nature of the case any treatise on aphasia must be in part speculative, the present volume is much more than a psychological essay on psychical speech defects. It presents systematically, and with a rare fluency of diction, the facts which are known concerning a topic which is important as well as interesting. The physician does not need to be a psychologist to follow the unfolding of the subject, and he can not fail to be charmed by the author's fairness, clearness, and completeness. The various symptom-groups are illustrated by histories of cases drawn from the author's own experience and from the literature. There is thus constructed a treasure-house of practical information, to which the practitioner may turn for cases parallel to those met with in his own experience, and where he can find laid down the rules for the examination and study of aphasic patients.

The work is the most complete one on aphasia in the English language, written by the man best fitted to write it.

An American Text-book of Genito-urinary Diseases, Syphilis, and Diseases of the Skin. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York, and to the Methodist Episcopal Hospital, Brooklyn, etc.; and W. A. Hardaway, A. M., M. D., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis, etc. Illustrated with Three Hundred Engravings and Twenty Full-page Colored Plates. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 1229. [Price, $7.]

This large and complete work is comprised of a series of articles by well-known and able authors. It contains many excellent engravings and colored plates, together with a complete index.

The magnitude of the work precludes the possibility of an analytical review, but it is only justice to the results accomplished to emphasize the completeness of the undertaking and the value of the work as a text-book to practitioners in general, and more particularly to those interested in that field of labor so exhaustively covered in this treatise.

While there may be just difference of opinion as to the advisability of the method of division of the subject matter, by which, in some instances, several authors devote themselves to the same topic, nevertheless the work has been done extremely well and the volume can not fail to recommend itself to all earnest students.

The whole subject of genito-urinary diseases is dealt with, each subdivision being considered in the same general way, and, while no attempt in any one is made toward an exhaustive treatise, a sufficiently copious and careful survey of the topic—or that part under discussion—is accomplished without tiring the reader with that adherence to minutiæ that is often so necessary and undesirable. The consideration of chancroid, however, has been too briefly dismissed, only a very short account of this frequent affection being given.

The latter part of the volume treats of diseases of the skin, and in the same general way as in the preceding portion covers the subject completely. As a whole, the work is commendable and should prove a useful addition to the literature of the subject, inasmuch as it presents a manual for reference and study not too verbose to be fatiguing or so concise as to be uninstructive or elementary.

The Elements of Clinical Diagnosis. By Professor Dr. G. Klemperer, Professor of Medicine at the University of Berlin. First American from the Seventh (last) German Edition. With Sixty-one Illustrations. Authorized Translation by Nathan E. Brill, A. M., M. D., Adjunct Attending Physician, Mount Sinai Hospital, New York, and Samuel M. Brickner, A. M., M. D., Assistant Gynæcologist, Mount Sinai Hospital, Out-patient Department. New York: The Macmillan Company. London: Macmillan & Co., Ltd., 1898. Pp. xvii–292.

It is to be supposed that this work is already well known to a considerable number of our readers, for so frequently do our countrymen seek medical instruction in Germany and so great has been the appreciation of the book there that the condition could scarcely be different. Those of us who have heretofore made the acquaintance of Klemperer's *Clinical Diagnosis* abroad will have reason to hail its appearance in English with satisfaction, and for the others we cordially recommend that they do not fail to become familiar with it. The book is one which, while not materially departing in general arrangement from several of the smaller works on diagnosis, departs from them by so much in other respects that the case is rather one of contrast than of comparison. All those methods and procedures and means of the objective sort whereby disease is recognized are discussed in it methodically and by system, but with a pointed distinctness and force which constitute the most valuable attribute of the book. Brevity, it is true, is predominant, but it is not brevity at the cost of sufficiency, and he is indeed a poor student who can not from this work obtain the true elements of clinical diagnosis. We feel sure that the work will have success here, and there is no reason why its status with German clinicians should not be repeated with us, for, well and happily translated as it is, the text can scarcely meet with less appreciation than it has so long enjoyed.

The Essentials of Experimental Physiology. For the Use of Students. By T. G. Brodie, M. D., Lecturer on Physiology, St. Thomas's Hospital Medical School. London, New York, and Bombay: Longmans, Green, & Co., 1898. Pp. xiv–231.

This work is one which will perforce appeal more to the teacher and the student of physiology than to the general medical reader, but those occupied in physiological experimentation will find in it a welcome addition to their equipment. Although termed "essentials," the work can scarcely be considered as elementary only, and he who masters its teachings is not ill equipped for extended research. The volume is small in size, but thorough in scope, and all those laboratory procedures which make valuable the teaching of physiology by demonstration are presented with much clearness and much completeness. The choice of experiments, too, is good, and the teacher of physiology will find in the book much that will be of value to him as well as to the student. The ample and excellent illustration of the work is to be commended.

BOOKS, ETC., RECEIVED.

A Manual of Modern Surgery; General and Operative. By John Chalmers Da Costa, M. D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia, etc. With Three Hundred and Eighty-six Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 11 to 911. [Price, $4.]

Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment. By Professor Dr. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York, etc. With Seventy-one Colored Plates. Philadelphia: W. B. Saunders, 1898. Pp. 122. [Price, $3.50.]

Atlas and Epitome of Operative Surgery. By Dr. Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized Translation from the German. Edited by J. Chalmers Da Costa, M. D., Surgeon to the Philadelphia Hospital, etc. With Twenty-four Colored Plates and Two Hundred and Seventeen Illustrations in the Text. Philadelphia: W. B. Saunders, 1898. Pp. 7 to 395. [Price, $3.]

A Compend of Diseases of the Skin. By Jay F. Schamberg, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic, etc. With Ninety-nine Illustrations. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xv–9 to 307.

Untersuchungen über den Leprabacillus und über die Histologie der Lepra. Von Dr. Victor Babes, Professor der pathologischen Anatomie und Bakteriologie an der Universität Bucarest. Mit 11 Abbildungen im Text und 8 lithgro. Tafeln. Berlin: S. Karger, 1898. Pp. 112.

Beiträge zur Pathologie und pathologischen Anatomie des Centralnervensystems mit Bemerkungen zur normalen Anatomie desselben. Von Dr. Arnold Pick, o. o. Professor an der deutschen Universität in Prag. Mit 205 Abbildungen. Berlin: S. Karger, 1898. Pp. 324.

Ophthalmologist, Otologist, and Laryngologist's Office Record Book. By Flavel B. Tiffany, M. D. Third Edition. Kansas City, Missouri: Hudson-Kimberly Publishing Company, 1898.

Lehrbuch der Nervenkrankheiten für Aerzte und Studirende. Von Professor Dr. H. Oppenheim, in Berlin. Mit 287 Abbildungen. Zweite, wesentlich vermehrte Auflage. Berlin: S. Karger, 1898. Pp. xiv–4 to 985.

Yellow Fever: Its Nature, Diagnosis, Treatment, and Prophylaxis, and Quarantine Regulations relating thereto. By Officers of the United States Marine-Hospital Service. Prepared under the Direction of the Supervising Surgeon General.

Twenty-second Yearbook of the New York State Reformatory for the Fiscal Year ending September 30, 1897.

Report for the Year 1897–'98, presented by the Board of Managers of the Observatory of Yale University to the President and Fellows.

Memorial Address for the Seniors, American Institute of Homœopathy. Omaha, Nebraska, June 26, 1898. By Dr. H. F. Biggar.

On the Stages and Forms of Syphilis, with more Special Reference to the Hepatic Manifestations of the Disease. By J. G. Adami, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Remarks at the Presentation of the Candidates for the Degree of Doctor of Medicine at the Commencement of the Johns Hopkins University, June 14, 1898. By William H. Welch, M. D. [Reprinted from the *Johns Hopkins Hospital Bulletin.*]

Local Anæsthesia, with Special Reference to the Infiltration Method. By Martin W. Ware, M. D. [Reprinted from the *Medical News.*]

Diseases as Described in Literature. By Cephas L. Bard, M. D., of Ventura, California. [Reprinted from the *Pacific Medical Journal.*]

Miscellany.

Alopecia due to Acetate of Thallium.—M. Dubreuilh (*Gazette hebdomadaire de médecine et de chirurgie,* July 14th) reported to the Anatomical and Physiological Society of Bordeaux the case of a woman thirty-nine years of age, who was treated for excessive perspirations due to an unknown cause, with acetate of thallium. The treatment continued for four days, when her hair began to come out freely. She only took six grains and three quarters of the salt in all, yet seventeen days after the discontinuance of the treatment the fall of hair continued. There were no other symptoms. M. Mongour remarked that general toxic troubles had been noted to follow the use of this drug which condemned it entirely.

This property should be borne in mind when trying acetate of thallium for the night sweats of phthisis to which we referred in our issue of March 19th.

Psychical Treatment of Habitual Constipation.—Dr. Alfred H. Burr (*Journal of the American Medical Association,* July 23d), in a paper on this subject read before the meeting of the association, points the rhythmic nature of Nature's forces in general, and shows that respiration, circulation, digestion, assimilation, and excretion all obey this same law of rhythm. So long as these periodic forces are undisturbed in their rhythm by careless or vicious habits of the individual, or by accidental and pathological changes beyond his control, healthy organic functions are assured. Peristalsis is the essential physical element in the act of defæcation, and it is normally a rhythmic physical force; the mechanism, nervous and muscular, by which the phenomena of peristalsis and defæcation are accomplished are necessarily dominated by an intelligent regulating mentality, which sends out these impulses to rhythmic action.

The author continues:

Any agent which promotes peristalsis will favor evacuation of the bowels. This stimulus may be: 1. *Mechanical,* acting on the peripheral termini of the sympathetic nerves, which convey their impressions to the central intelligence, which in turn sends out its motor peristaltic impulses. Such a stimulus is normally excited by the presence of fæces in the lower bowel, by foreign substances like seeds, bran of wheat, oats or corn, by ptomaines from bacterial life or protozoa, by massage and physical exercise. 2. *Thermic,* as seen in excessive peristalsis of diarrhœa from extremes of atmospheric temperature. Brief applications of hot or cold compress or enemata will arouse peristalsis. 3. *Electrical.* 4. *Chemical,* by the physiological action of drugs, the details of which would be out of place here. We may dismiss them all as temporizing expedients, whose effects are fleeting while the habit remains uncured. It is safe to say that the bulk of the drug trade centres about aperients, laxatives, cathartics, and purgatives, exploited by the commercial enterprise of proprietary-medicine men, self-prescribed by the laity or directed by the apothecary or profession, all for the relief of chronic constipation. And so the drugging goes on as it has for ages, while the specific drug is yet undiscovered that will cure the constipated habit. Why? For the simple reason that it *is* a habit. Habits are psychical affairs and not amenable to the physiological action of drugs. 5. *Physiological.* Everyday experience teaches us that the intestinal canal is often profoundly acted upon by mental states. Many nervous people have peristaltic unrest. The excitement of certain emotions, anxiety, fear, anger, and the like are soon followed by an action of the bowels, which may even become a diarrhœa. Many actors, singers, and public speakers are greatly annoyed in this manner as a result of "stage fright." Emotional people sometimes have what is termed "hysterical diarrhœa." When a person is in a proper state of susceptibility it is possible to cause defæcation by the suggestion that at a given time the *feeling* or desire (peristalsis) for stool will occur. All these are purely mental influences and show conclusively that the mind in its manifold properties has a faculty which presides over the function of peristalsis and that it is susceptible to both internal and external psychical influences.

Ætiology of Habitual Constipation.—a. "Torpidity of the bowels" (Osler) is usually given as a cause of constipation. This is an explanation which does not explain. Torpidity simply means sluggish or absent peristalsis. The *why* it is so is the *real* cause. This lies beyond the nerves and muscles of the intestinal canal, which are merely the mechanical appliances of a controlling force in the brain. *b.* "Sedentary habits, particularly in those persons who eat too much and neglect the calls of Nature" (Osler). One habit may induce another, but sedentary habits are not the primary cause of constipated habits. Overeating, on the contrary, should stimulate peristalsis by reason of more bulky stools. In the neglect of the calls of Nature, however, lies the *essential cause,* of functional or habitual constipation. Contributing factors there may be, but without this neglect, which has its origin in the mental processes of the individual, and hence is psychical, there would be no constipation habit. What is this "call of Nature"? We take it to be the periodical, rhythmic peristaltic impulse which has been directed by that subconscious faculty of the mind which controls the sympathetic system, and is incited to action by various reflex stimuli for the physiological purpose of defæcation. The voluntary cooperation of the individual with these "calls of Nature" must be reasonably prompt or the rhythm becomes disturbed, the "calls" less imperative, less regular, and in the end functional constipation is the penalty. Nature defeated in her plans becomes inhibitory. The patient must now resort to many artificial expedients to coax the "feeling" back again. Dietetic and hygienic measures, physical exercise and massage, electricity and drugs may be contributing aids, but the essential factor in setting up once more the disturbed rhythmic impulses must necessarily be the reestablishing of *psychic* control. This fact is overlooked in our text-books in the treatment of this ailment.

To speak of chronic constipation as a mental and not a physical disorder may at first thought seem rather amusing. The overwhelming proof that it is so is the fact that psycho-therapy is capable of reestablishing the function in a great many individuals without the aid of drugs or accessories. The truth of my proposition that habitual constipation is psychical and not physical in its causation is halfway acknowledged (though unconsciously) in the conventional instructions given patients to observe faithfully a regular time for going to stool, and whether the desire is present or not, to persist in going through the motions. with the hope that the "feeling" will eventually return with regularity.

Osler says, "Much may be done by systematic habits, particularly in the young. The desire to go to stool should always be granted." A careful inquiry into the habits of constipated people will elicit the fact that they have been negligent in this very essential. Especially is this true of women patients, who are the greater sufferers from constipation. A woman, for trivial considerations, easily defers this call "to a more convenient season." A neighborly gossip, a household affair, a feeling of repugnance or downright indolence will often interfere with this important duty. She is quite apt to look upon defæcation as a disagreeable nuisance, to be avoided when possible, to be hurried through with or incompleted when necessity arises. No wonder a function which normally should be a real pleasure, and productive of a sense of comfort and wellbeing, becomes an irregular, straining, pile-producing effort.

The author emphasizes the facts that *habit* is a very large word; that all habits, whatever their tendencies, are of psychic origin; that in habitual constipation, with or without other therapeutic aids, suggestion or psychic influence in some form is the only efficient agent that can reestablish a rhythmic peristaltic habit.

Precocious Pregnancy.—Dr. Stone Scott (*Journal of the American Medical Association,* July 23d) records the case of a girl who menstruated first at the age of eleven years and three months. She immediately became pregnant and was delivered at full term by a rather tedious delivery, although otherwise normal, of a large, well-developed child. Both mother and child did well. The father, at the birth of the baby, was just fourteen years old.

Disinfection of Books.—The *Sanitary Inspector* for June recommends for the disinfection of books that they should be placed in a gas-tight box with the leaves separated as much as possible, and for each cubic foot of space in the box one ounce of formalin be poured upon a rag at the side of the books or upon a tray, or into the bottom of the box itself if it is tight and the books are slightly raised upon a false bottom. The box should then be closed for twenty-four hours.

A Syphilitic Placenta.—M. Delore (*Lyon médical*, July 10th) presented to the Medical Society of Lyons on behalf of M. Pollosson a placenta from a seven months' pregnancy, weighing nine hundred grammes, while the child weighed sixteen hundred. It showed syphilitic gummata, and a great number of the villosities were obliterated. The child showed superficially confluent petechiæ.

Are the Wounds Inflicted by Firearms Primarily Aseptic?—Broca (*Riforma medica*, June 30th) referred to the communications of Tavel, who made a series of experiments to determine this point, using hard leaden projectiles with a casing of steel, which were fired, sometimes sterilized and sometimes infected with a known microbe in gelatin. From the results of his experiments it would seem that ordinarily every firearm wound is the seat of a primary infection, and Tavel protested against the belief that these wounds are primarily aseptic, whence it should be a useful practice to disinfect them: for, he goes on to say, practice negatives theory, since experiments made on animals demonstrate that attempts at disinfection are more often harmful than useful.

Prognosis in Heart Disease, especially with Regard to Life Insurance.—Dr. C. Theodore Williams, of London (*Medical Examiner*, July), sums up a most valuable paper on the Influence of Heart Disease on Life Assurance as follows:

In considering the question of acceptance or rejection of applicants affected with heart disease, due regard must be had to the following points:

1. *Age*, both present and at time of attack.—Cardiac lesions that appear at twenty are more likely to improve than those coming on after forty, and the greater the age of a candidate, the less probability there is of complete compensation.
2. *Sex.*—Women are less liable to aortic valvular disease than men. Men are less subject to mitral valvular disease.
3. *Occupation and Surroundings.*—Whether these are the same as those under which the cardiac disease was contracted, and whether they are likely to be temporary or permanent.
4. *Habits*, such as the presence or absence of alcoholism, excess of tobacco-smoking, or the use of certain drugs.
5. *Origin* of the cardiac disease, whether in endocarditis or pericarditis, or as the result of degenerative processes.
6. *The nature* of the lesion, and specially whether it is progressive or stationary.
7. *The amount of compensation* established to overcome the difficulties of the circulation.

Careful study of the histories of persons affected by the various heart lesions has shown that a longer life is compatible with the existence of many of them than was formerly held, yet in the absence of large records it is impossible to reduce the probabilities in all cases to definite figures, and the subjoined conclusions can only be regarded as approximations to assist the medical examiner in his work, which must, after all, be directed to the circumstances of the candidate under examination and to his surroundings and outlook.

1. *Cases of adherent pericardium*, provided there are no valvular lesions, that the muscular walls are sound, and that there is no cardiac dilatation; also that the adhesions are not to the chest wall itself, may be accepted with a moderate addition of from three to five years.
2. *Mitral regurgitation* cases, where the origin is not degenerative and the compensation good, and where there are no dyspnœa and complications, can be accepted with an addition of from five to ten years, according to the age of the candidate.
3. *Cases of mitral stenosis* are less favorable, being liable to cerebral embolism, and can only be accepted if the disease is not progressive, if there is no accentuation of the second sound, no enlargement of the right side from either dilatation or hypertrophy, and no dyspnœa. They can then be accepted on less favorable terms than cases of mitral regurgitation. Double mitral lesions, however, can only be considered with very large additions.
4. *Aortic valvular disease*, whether regurgitant or obstructive, can not, as a rule, be admitted into the category of assurable lives; though favorable instances, where the lesions originate in rheumatic endocarditis and the compensation is complete, have been occasionally accepted with large extras.
5. *Cases of cardiac dilatation*, without compensation, can not, as a rule, be accepted at all, except when the dilatation is of a temporary nature, such as may follow overexertion and over-smoking, but even here the case can not be considered until all dilatation has subsided.
6. *Cases of cardiac hypertrophy* must be estimated with reference to the modes of causation, and no definite rule can be laid down, though lives where the lesion giving rise to the hypertrophy is not progressive, the muscular wall in a sound condition, the compensation complete, and the vessels healthy, may be regarded as within the pale of life assurance, as, for instance, athletes who have given up sports, and women whose cardiac hypertrophy originated in frequent pregnancies, but are now past childbearing. Here the lives may be accepted with an extra, varying with the age.
7. *All forms of degeneration of the cardiac walls*, fibroid and fatty, must be excluded, and vigilant watch kept against their admission.
8. *All forms of cardiac neurosis* are not equally dangerous, but they are too uncertain in their clinical life history to allow of being admitted among the assured.

Resection of the Casserian Ganglion.—M. Gerard-Marchant (*Presse médicale*, July 9th) showed to the Surgical Society of Paris a patient from whom he had removed the Casserian ganglion according to Quenu's method for intractable neuralgia. The cure was perfect, and there was no disfigurement.

Antisepsis in the Army.—According to the *Peoria Medical Journal* for July the adoption of strict antiseptic (aseptic?) methods in the army has had the result that almost no cases of surgical fever or suppuration occur, and that convalescence ensues with great rapidity. This will be a great triumph in the art of warfare, quite as important as any induced by the advances in war science proper.

Does Human Nature Change with the Centuries?—The following from the *Sun* for July 25th has, perhaps, no strictly medical bearing, yet, as showing the essential continuity of human nature through the ages, its record may not be without value even in a technical journal. The writer is discussing some fresh Egyptian papyri discovered among the Oxyrhyncus papyri last year by Grenfell and Hurst of Oxford, who published from the same find the Logia of Christ. He says that of the third section of these papyri many are full of interest for the general public; that they add to our knowledge of the everyday life of ancient Egypt; and that they go to make up such records as, some time ago, he lamented there was no Egyptian Pepys to tell us of.

"Take," he says, "for instance, this letter, written by a second or third century boy to his father. The handwriting is very boyish. Spelling and grammar also leave much to be desired:

"'Theon to his father greeting. It was a fine thing of you not to take me to the city! If you do not take me to Alexandria I won't write you a letter or speak to you or say good-by to you—that is what will happen if you won't take me. Mother said to Archelaus, "It quite upsets him to be left behind." It was good of you to send me presents on the 12th, the day you sailed. Send me a lyre, I implore you. If you don't I won't eat; I won't drink; there, now.'

"I wonder if that boy got to Alexandria.

"Now for a formal invitation to dinner; the style has not changed much this last sixteen or seventeen centuries:

"'Chæremon requests your company at dinner at the table of the Lord Sarpis, in the Serapeum, to-morrow, the 15th, at nine o'clock.'

"An invitation to a lady for a festival is also very interesting:

"'Greeting, my dear Serenia, from Petosiris. Be sure, my dear, to come up on the 20th, for the birthday festival of the god, and let me know whether you are coming by boat or donkey, in order that we may send for you, accordingly.'

"Other letters are there, all most interesting and wonderfully typical of human life in all ages. One friend writes to another to get a number of things out of pawn; another wants the stuff for a dress matched. But it is certainly not characteristic of modern days for a trainer of race horses to commence a business letter with an invocation to the Saviour!"

Medical Journalism.—The *Boston Medical and Surgical Journal* for July 21st, in an editorial, says that within the past few years the increase in number of medical weekly and monthly publications has been so enormous that all contributors, however unworthy, are easily accommodated, if not in one direction then in another. Everybody who styles himself "M. D." now finds abundant opportunity to air his views, or to solicit advice in a perplexing case.

A critical examination of the contents of certain specimens of the class of medical journals to which we refer reveals on the part of their contributors an ignorance of the most commonplace facts of medical science that is simply deplorable, and a sublime disregard for rules of syntax that is none the less deplorable, although infinitely more amusing.

Dialect stories can not compare, for bizarre spelling and phraseology, with the communications of certain medical gentlemen in distress over patients with "a touch of the consumption" or a complex of symptoms designated (shades of Charcot!) "a spell of the hysterics." Finally, the very acme of elegant simplicity of diction is encountered in journals of the "correspondence" type. In these we find "Doc" So-and-So communicating his perplexities to "Doc" Somebody-Else or bestowing upon him an infallible remedy for piles in exchange for a prompt and safe emmenagogue. All these little amenities are characterized by a style of diction that rivals the masterpieces of the "Ready Letter-writer.

Such contributions can be of no positive value to scientific medical literature for the reason that they aid in no way toward a better understanding of disease processes. The movement which has set such a class of writings on foot is retrograde in that it tends to foster empirical methods of prosecuting a calling which now, more than at any other period of its existence, demands that its true representatives shall be scientists in the fullest sense of the word, and not mere dispensers of powder and pellet.

We have gained so much of exact knowledge through pathological and experimental research that future contributions to current medical literature should be stripped almost entirely naked of theory and speculation, those barriers to scientific progress. To achieve this the medical writer must needs be an investigator, at least to the extent of finding out how far such views as he is about to put forth are substantiated by the facts of pathology. The neglect of such a preliminary step is to-day a tacit avowal of both laziness and ignorance, since our library facilities for such work are abundantly adequate. When the writer has before him all necessary material, he should aim, above all, at clearness and accuracy. His English should be terse, not oratorical and certainly not colloquial; it should be free from hybrid technical terms, especially those with Greek roots and Latin endings. Finally, his bibliography should be such as will bear verification, for there is nothing more maddening to the man who is searching the literature than to find reference after reference which resists all attempts at identification. The only accurate way to refer is to refer in full, even to the page number of every quotation.

Reference is made, in conclusion, to two faults which are rife enough among contributors to medical journals to be considered annoying, to say the least. The first is the eternal dragging in of the *ego;* and the second, an inordinate fondness for the sensational. With respect to the first, no man's writings will ever lose anything of dignity or worth by being, as far as possible, impersonal. As regards the second, if the reader will but compare the earlier literature of the X ray with that which now represents the thoughts of men who have probed its usefulness to the bottom, the moral lesson will be obvious.

Europhen in Phthisis.—Dr. Edward O. Otis (*Boston Medical and Surgical Journal*, July 21st) says that so far as evidence has accumulated regarding europhen, its chief effects appear to be an improvement of the appetite, increase in weight, and a diminution of the cough. Ransome, who is careful in his statements, says he believes it is one of the best of the medicines that can be given for the purpose of assisting nutrition and alleviating cough. Flick applies europhen by inunctions, using the following formula:

℞ Europhen	1 drachm;
Oil of rose	1 drop;
Oil of anise	1 drachm;
Olive oil	2½ ounces.

M.

Rub about a tablespoonful thoroughly into the inside of the thighs and into the armpits before retiring at night. If the odor is objectionable the patient can be sponged with bay rum in the morning.

The Ætiology and Nature of Syphilis.—Van Niessen, of Wiesbaden (*Centralblatt für Bakteriologie, Parasitenkunde und Infectionskrankheiten,* vol. xxiii, Nos. 2 to 7 inclusive, 1898; *International Medical Magazine,* July), in an exhaustive article embodying the result of much original work states that: 1. Syphilis is a chronic infectious disease of the blood, the contagium reaching the blood from without by means of the lymphatic vessels, and in turn is brought to the other tissues of the body from the blood by means of the lymphatics. 2. The contagium of syphilis in every case and in every stage of the disease from the moment of its entrance into the blood is capable of microscopical demonstration by staining and by cultivation. In many cases it can be found in the urine and milk; the semen, the sputum, the sweat, and the excrement may also contain the germs of the disease. 3. The contagium is not found in cases other than syphilis, or in disease complicated with it. 4. The virus of syphilis is a pleomorphous form of bacillus which stands in close relation to the higher organized fungi, such as the actinomycetes of the class *Dematium* and *Cladosporium.* 5. The detection of the ætiological factor of syphilis in the blood is an absolutely sure criterion for the diagnosis of syphilis, and is therefore of the highest diagnostic importance in disputed cases requiring differentiation. 6. In all its stages syphilis is inheritable and communicable. This applies also to rabbits which are capable of being infected experimentally with syphilis. 7. With the therapeutic means known up to this time syphilis is absolutely incurable. Relative healing merely denotes a latency of the disease. It is therefore of the greatest importance to mankind that a really curative agent be discovered.

An Operation for Hæmorrhoids.—Dr. George K. Sims (*North Carolina Medical Journal,* July) recommends, after the usual aseptic precautions, the following method of operation:

Introduce a speculum (Cook's and Mathews's are the best) and divulse the sphincters as widely as the instrument wil distend them. Then with the thumbs still further stretch until completely paralyzed. The piles will now present themselves, but not in their entirety; they should be everted as much as possible and the rectum and circumanal region well irrigated with a 1-to-2,000 mercuric chloride solution. The tumors, one by one, are now caught with four-pronged forceps, pulled out and held by the assistant; then, with a sharp scalpel, the mucous membrane is cut through around the base of the pile and a silk ligature tied tightly (in the groove made by the incision), including only the blood-vessels and connective tissue. The pile is then cut off close to the ligature, leaving only enough to hold it, and the cut edges of the mucosa are brought together over the stump with continued sutures of catgut. If the tumor is large, with a curved needle pass a double suture through its base and ligate it in two portions; then the mucous membrane is sutured as above.

If there are external piles present, also, the same method may be used to remove them if large and vascular, or if due to a thrombus; but if they are small or are much indurated they may be simply cut off close to the skin, any bleeding points caught with forceps and ligated, the cut edges brought into close apposition, with interrupted sutures of silk. The field of operation is again irrigated with a hot bichloride-of-mercury solution, the parts dusted with iodoform or aristol, the mucosa pushed in well, and a small piece of iodoform gauze inserted, leaving the end protruding from the anus. A pad of gauze is placed over the anus, and over this a pad of absorbent cotton is bound firmly with a "T" bandage. A hypodermic injection of morphine, one quarter grain, with atropine, one one-hundred-and-fiftieth of a grain, is given and the patient put to bed.

The bowels should not be moved for three or four days, by which time the wounds should be nearly healed; they should then be moved by salines and enemata. The advantages claimed for the operation are, that by leaving only closed wounds, made under antiseptic precautions, we lessen the risk of suppuration and perhaps more serious infection; that they heal in a much shorter time and with less pain and suffering; that there is less danger of hæmorrhage and of distortion, and perhaps neuralgia, of the rectum, from contraction of the cicatricial tissue.

The Removal of Wax from the Ear.—The *Indian Lancet* for June 16th, quoting the *Union médicale du Canada* for January, states that Alberto Ricci, of Turin, has ascertained that the solution of hydrogen dioxide possesses the peculiar quality of rapidly disintegrating the obstructive masses of cerumen in the ear. It suffices to pour into the meatus auditorius externus a small quantity of the solution, and leave it for a few minutes in contact with the ceruminous plug. The latter is then most easily and safely removed by syringing with water, even though it were a hard concretion.

The Skiagraph as an Evidence of Death.—De Bourgade (*Indépendance médicale; Gazzetta medica Lombarda,* May 9th) concludes as a result of his researches that in skiagraphy we have a good means of diagnosticating death, since skiagraphs of the thoracic organs in the living give a confused image, while in the cadaver they are outlined with distinct sharpness.

A Large Vaginal Calculus.—Griffault (*Indépendance médicale; Gazzetta medica Lombarda,* May 9th) records a case in a woman forty years of age of a calculus in the vagina, separating the labia majora and projecting some two centimetres externally. The author found great difficulty in inserting the right index, which was only done by forcibly depressing the fourchette and causing great pain. Following up the calculus, which was cylindrical in shape and long, the author found a reflection of the mucosa which encircled its base. It seemed adherent to the anterior wall. When the calculus was with difficulty detached from the vaginal wall and extracted, about two spoonfuls of liquid with all the physical characters of urine and slightly reddish in tint flowed away. The author thinks that this calculus was formed directly in the vagina in consequence of a urine strong in lime trickling through a vesico-vaginal fistula, which probably dated from a previous pregnancy.

Jambul Seed in the Treatment of Diabetes Mellitus.—Dr. William Piper, of Bellaire, Ohio, writes that in the latter part of May, 1897, he was taken with a severe attack of diabetes mellitus, sugar being found in the urine in large quantities, as shown by frequent tests. There were extreme pains in the liver, stomach, and bowels, attended with loss of appetite and rapid loss of flesh, also the other symptoms described by the leading authors in text-books. After he had consulted some of the leading physicians of the State and undergone treatment for five or six months, there was but very little improvement in his condition. During this time he observed closely the diet recommended in the disease. He adds that for four or five weeks of this time he lived almost exclusively on a wild-game diet, which gave satisfactory results for the time being. He also tried the morphine and codeine treatment, which somewhat lessened the amount of sugar excreted, but never caused it to disappear entirely.

Throughout these several periods of treatment he was using tonics and reconstructives, as suggested by medical friends and journals, from which he derived some improvement in his general condition. The obstinacy of the disease seemed to baffle all treatment. Being advised by his son, Dr. William O. S. Piper, to try powdered jambul seeds in five- to ten-grain doses, three times a day, Dr. Piper procured some of the drug from Parke, Davis, & Co., through a Pittsburgh drug firm. After using it three days he found, to his great surprise, a marked decrease in the amount of sugar excreted. He continued the use of it for about three months regularly, and has occasionally taken it up to the present time. A test made some few days before the date of his writing revealed no sugar whatever, and he was then feeling almost as well as before the attack. He is confident that he owes his recovery almost entirely to the jambul seeds. He is now using ordinary diet, and there has been no return of the sugar.

He does not advocate the entire cutting off of the farinaceous diet, believing from his own experience that it is not absolutely necessary. Sugar, he says, is an essential element in the formation of animal tissue; so with a reliable curative agent (which we no doubt have in jambul seeds) we are at liberty to give larger scope and wider range to our dietary.

The New York County Medical Association's Scheme for Hospital Appointments.—The association's committee on hospitals, consisting of Dr. Louis Fischer (chairman), Dr. Thomas H. Manley (secretary), Dr. George T. Harrison, Dr. Joseph E. Janvrin, Dr. Thomas H. Holgate, and Dr. J. S. Peterson, recently passed the following resolutions:

Resolved, That the Hon. John D. Kellar, commissioner of charities, be respectfully requested to reorganize all the medical staffs now attending in all hospitals in the department of charities, and that the said reorganization be put into effect at as early a date as possible.

Resolved, That it be recommended that in the said reorganization, or subsequently in filling places on medical staffs, the appointments be all made from a list of candidates furnished by a medical advisory board constituted of five members from the County Medical Association and five from the County Medical Society of New York, with their presidents included, twelve in all; the said board to send to the commissioner of charities, to select from and appoint, three names for *each* vacancy or position, and the said advisory board to always take into consideration the nomination of any practitioner who shall have been and is commended by the commissioner of charities himself.

Resolved, That it be further recommended, in the interests of fairness to the profession and with a view of promoting and improving the public service, that hereafter the honorable commissioner do not appoint or reappoint to active hospital service, as visiting physician or surgeon to a hospital, any one who occupies a position as visiting physician or surgeon to any other hospital in the service at the same time.

Resolved, That it be recommended that the honorable commissioner do not appoint to active hospital service, as visiting physician or surgeon, any practitioner who simultaneously holds a permanent salaried position in the police, fire, or health department of New York.

Resolved, That the honorable commissioner be requested to retire every practitioner in his department after ten years' active service as visiting officer, and that any practitioner who has reached the age of sixty-five years be retired from active duty.

The Annual Meeting of the Medical Society of the County of Chautauqua, N. Y., was held in Chautauqua, on July 12th, Dr. Morris N. Bemus, of Jamestown, presiding. The annual election of officers resulted as follows: President, Dr. M. N. Bemus, of Jamestown; vice-president, Dr. V. M. Griswold, of Fredonia; secretary and treasurer, Dr. C. A. Ellis, of Sherman; censors, Dr. J. Murphy, Dr. T. D. Strong, and Dr. W. M. Bemus. The president, in his annual address, related a case of secondary hæmorrhage due to constipation. Dr. William C. Krauss, of Buffalo, read a paper on Hysteria and Brain Tumors. Several very interesting cases were presented. Dr. V. M. Griswold gave a report of the recent small-pox epidemic at Fredonia and exhibited a number of photographs of the patients. Dr. C. C. Fredericks read a paper on The Early Diagnosis of Malignancy in Abdominal and Pelvic Disease. Dr. William Seaman Bainbridge, of New York, read a paper on Silver and Silver Salts in Surgery, with Special Reference to Wound Treatment.

The Mississippi Valley Medical Association will hold its twenty-fourth annual meeting in Nashville, on the 11th, 12th, 13th, and 14th of October, under the presidency of Dr. John Young Brown, of St. Louis. The address in medicine will be given by Dr. James T. Whittaker, of Cincinnati, and the address in surgery by Dr. George Ben Johnson, of Richmond. Members intending to present papers should send the titles of them to the secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky.

The Woman's Medical Journal.—In the recent failure of the Recorder Publishing Company, of Toledo, Ohio, the *Woman's Medical Journal* was included in the assets, with a circulation of five hundred and appraised at five hundred dollars. It was bought in by Miss M. L. Hockedorn, and will be operated by Miss Hockedorn and her associates.

Original Communications.

ON AMYLOID, COLLOID, HYALOID, AND GRANULAR BODIES IN THE CENTRAL NERVOUS SYSTEM.*

By WILLIAM G. SPILLER, M. D.,
PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM
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ASSOCIATE IN THE WILLIAM PEPPER CLINICAL LABORATORY,
UNIVERSITY OF PENNSYLVANIA.

[From the William Pepper Clinical Laboratory.]

Last year I had the privilege, through the kindness of Dr. Lloyd, of presenting to this society specimens from the spinal cord of a man of forty years of age who had died from a disease resembling, in some respects, Landry's paralysis. I was especially impressed by the great number of amyloid bodies in the spinal cord of a person of forty years. It is true that these bodies begin to be quite numerous at this age, and increase in number as life advances. They are indicative of the senile changes which occur in every central nervous system, and they are especially abundant in the olfactory tracts of man. The person to whom I refer had arteriosclerosis of the vessels of the central nervous system in a high degree, and we may, perhaps, look upon this as a possible cause of the great number of amyloid bodies present in this case, for it has been said that "a man is as old as his arteries." We do not regard these bodies as a sign of great value in acute degenerative processes, but possibly we do not recognize their full significance. They were found in such large numbers in the case referred to that they seemed to be one of the signs of disease of the spinal cord. They were present in the posterior columns, within the sæpta, about the vessels and the central canal, and especially within the zones of Lissauer. They extended also a short distance into the posterior roots. (See Fig. 1.)

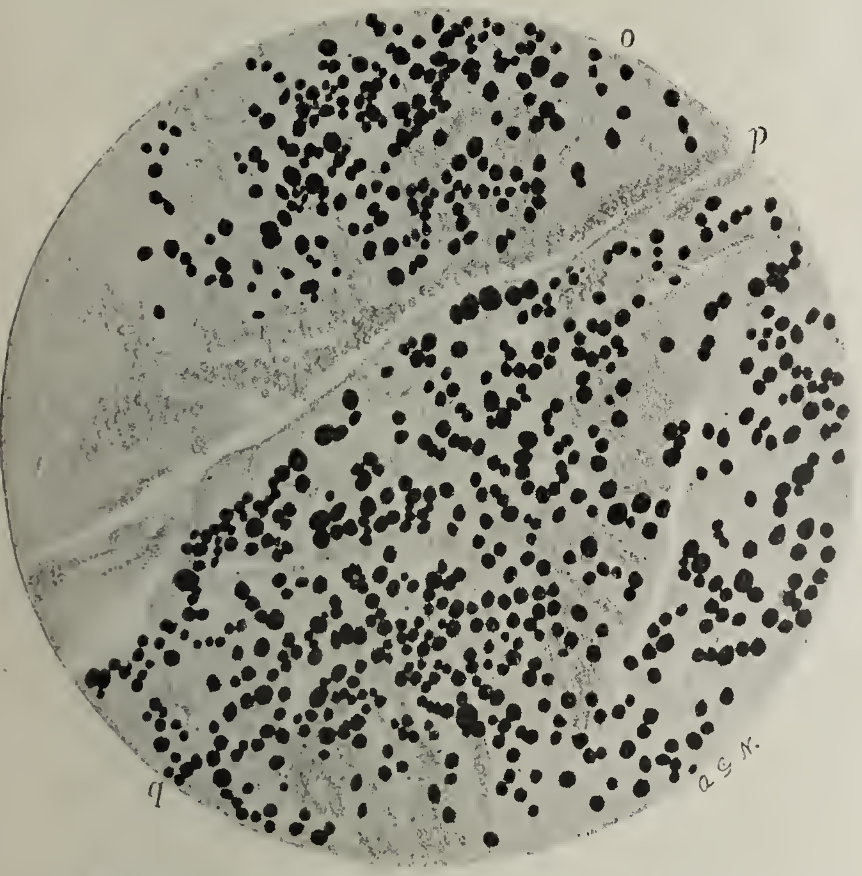

Fig. 1.—Amyloid bodies in a case of meningo-myelitis. *o*, posterior root; *p*, pia; *q*, zone of Lissauer and column of Burdach. (Stained with Lugol's solution.)

Redlich * believes that these bodies are derived from the neuroglia cells, but Homén † states that in the spinal cord of a dog, in which he had cut nerve fibres, he was able to find a few amyloid bodies within the degenerated areas twenty days after the operation. He not only found these fully formed, but was able also to observe intermediate stages between these bodies and altered nerve fibres. Homén believes, therefore, that the amyloid bodies are derived from degenerated fibres.

The findings of Karl and Gustaf Petrén ‡ are of much interest. These investigators observed numerous amyloid bodies in the spinal cord of a human fœtus. They refer to the fact that Redlich has never been able to find them in the nervous system of persons less than eighteen years of age, and they have shown, therefore, that their development may be intra-uterine.

The writer has been able to study these bodies within the central nervous system in a great many cases, and has found that they always present the same appearances. They stain a light purple with Delafield's hæmatoxylin and a reddish-brown with Lugol's solution, which changes to a purplish color on the addition of a little sulphuric acid. They are not exactly the same as the amyloid substance found elsewhere in the body, or as the amyloid bodies of the prostate gland.

Dr. Dercum and the writer, in studying a very typical case of amyotrophic lateral sclerosis, have found formations which resemble quite closely the amyloid bodies, and yet differ from them in important respects. They are larger, but are in general round, and when deeply stained are homogeneous. When faintly stained some of them are seen to have a pale central core surrounded by a deeply stained circle, and this in turn is surrounded by a thicker circle of the same shade as the central core. They do not stain with Delafield's hæmatoxylin, methyl green, or acid fuchsine. With gentian violet they are of the same color as the surrounding tissue, but may be detected. They are a deep purple when thionin is employed, but on exposure to light the color soon fades and they become invisible. The tissue in which they are found has been hardened in formalin and alcohol.

These bodies are especially numerous within the medulla oblongata and in the circumvascular spaces of this region, but they extend also into the surrounding tissue. We were at first almost inclined to look upon them as artifacts, but the existence of three rings within some of them, and the fact that they may also be detected with gentian violet and Lugol's solution, although staining like the surrounding tissue, show that this view is not tenable.

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* Read before the Pathological Society of Philadelphia, March 10, 1898.

* Redlich. *Jahrbücher für Psychiatrie*, 1891, x. Abstract in *Neurologisches Centralblatt*, 1891.

† Homén. *Atlas der pathologischen Histologie des Nervensystems*, No. vi, pp. 12 and 18.

‡ Karl and Gustaf Petrén. Virchow's *Archiv*, Band cli, Heft 2.

They differ from the hyaloid bodies in their reactions to stains; in the number and appearance of their circles, although many are homogeneous; in their globular form and more nearly equal size; and in the absence of a tendency to form irregular masses, except when the tissue has been kept some time in the hardening fluid. When Lugol's solution is employed they stain yellow, while the amyloid bodies are reddish-brown.

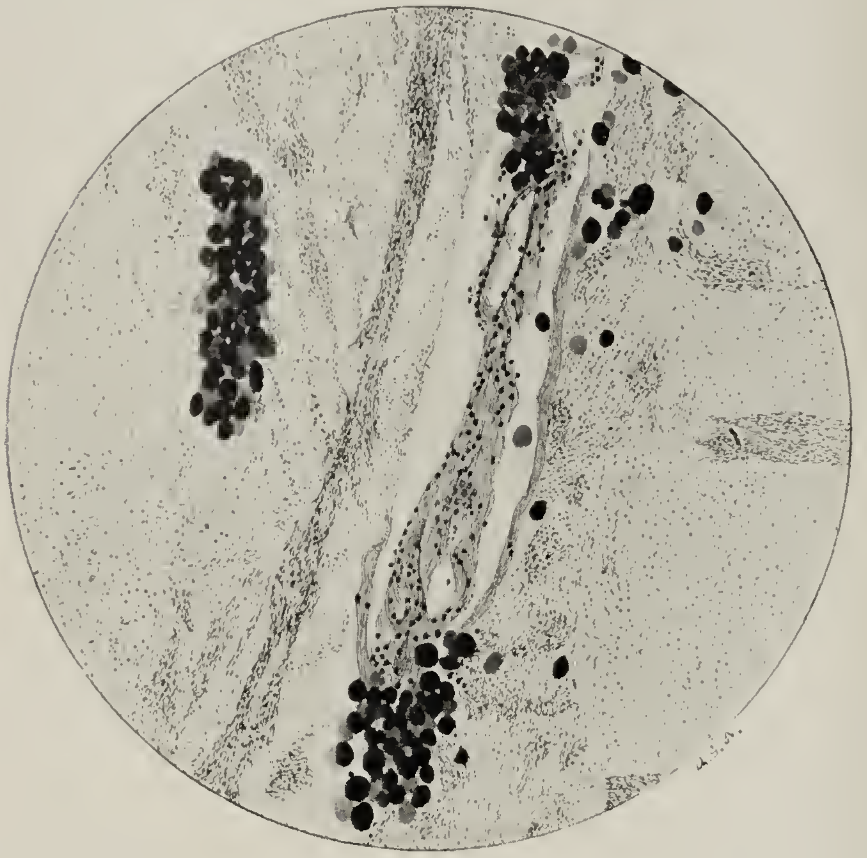

FIG. 2.—The so-called colloid bodies in a case of amyotrophic lateral sclerosis. (Stained with thionin.)

W. Bevan Lewis* speaks of peculiar formations under the name of colloid degeneration. These are minute round or oval bodies, from six to twelve microns up to forty microns in diameter, and are frequently found in the central nervous system of the insane. They are supposed by him to be derived from the medullated nerve fibres. Bevan Lewis acknowledges that the name is unfortunate, for it indicates a colloid transformation of neuroglia cells similar to that of epithelial cells, and these bodies are not derived from neuroglia cells. They are spherical, ovoid, or pyriform, and in later stages may also be crenulated, a condition which we also have found. They are homogeneous, devoid of concentric markings, colorless, and pellucid. They may be slightly tinged by hæmatoxylin, but not by carmine or aniline dyes, and they exhibit no reaction with iodine and sulphuric acid. Bevan Lewis observed these bodies in great numbers in a case of bulbar paralysis. They are usually found only in the white matter.

I believe that the bodies found in my case of amyotrophic lateral sclerosis with bulbar symptoms resemble more closely the colloid bodies of Bevan Lewis than any other with which I am familiar. (See Fig. 2.)

In a case of tumor of the base of the brain, in which the symptoms of acromegaly had been observed during life, I have found the hyaloid bodies recently mentioned by Dagonet.* I am indebted to Dr. F. A. Packard and Dr. H. W. Cattell for the pathological material, but shall at present refer to it only in so far as concerns the bodies under consideration.

These are most irregular in shape, and many of them show a concentric arrangement. They vary greatly in size, and in some places form quite large masses. They have little resemblance to the formations previously described, and could hardly be mistaken for those. With Weigert's hæmatoxylin stain they are brown; with eosin, pink; with thionin, purple; with carmine, very pale pink; with Delafield's hæmatoxylin, deep purple; with acid fuchsine, red; with Weigert's fibrin stain, the color of the surrounding tissue; with iodine, yellow, like the surrounding tissue; with gentian violet, purple, with a tinge of pink; with Van Gieson's stain, deep reddish brown. Boiling water, acid, and alkali do not dissolve them.

They not infrequently have deeply stained edges and pale centres, and each seems to be surrounded by a space very much like that found about the vessels. They are situated in the cortex, and form large, irregular masses in the much-thickened ependyma. Not infrequently they are elongated and present much the appearance of thickened vessels, a resemblance which is in-

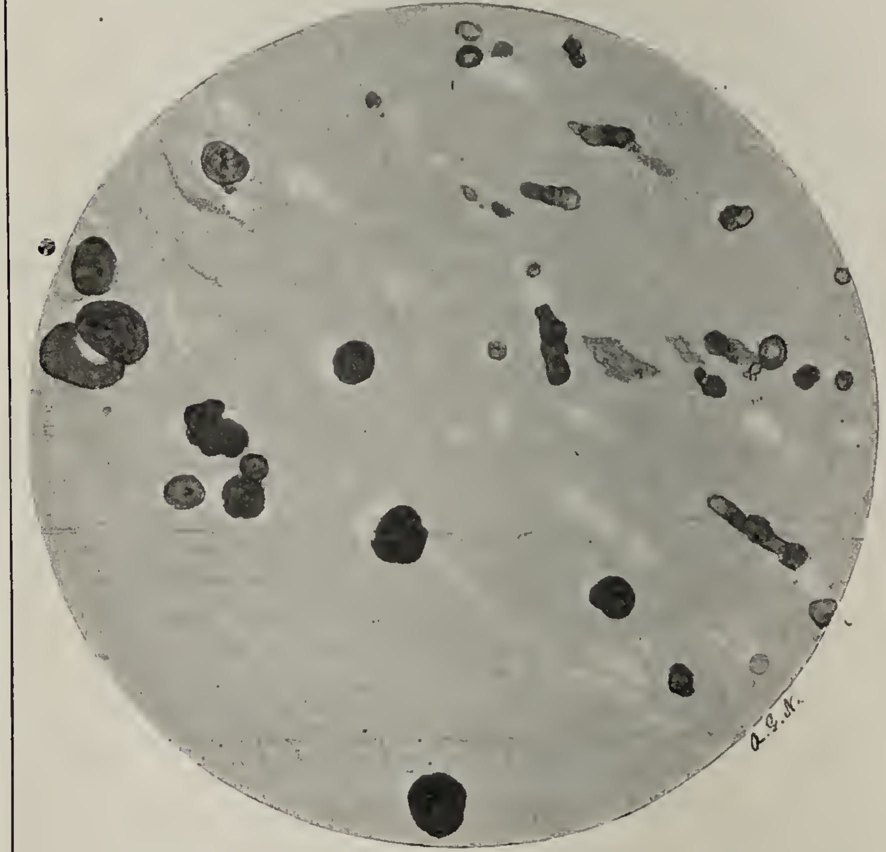

FIG. 3.—The hyaloid bodies in this field are small, and resemble altered vessels.

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* Lewis. *A Text-book of Mental Diseases*, p. 465.

* Dagonet. *Système nerveux central. Coupes histologiques photographiées.*

creased by the space about each of them often extending a short distance beyond them. (See Figs. 3 and 4.)

Edsall and Sailer * have recently spoken of bodies very similar to these, and have referred to the literature bearing on the subject. Since Adler described them, in 1875, comparatively little, according to Dagonet, has been written concerning them.

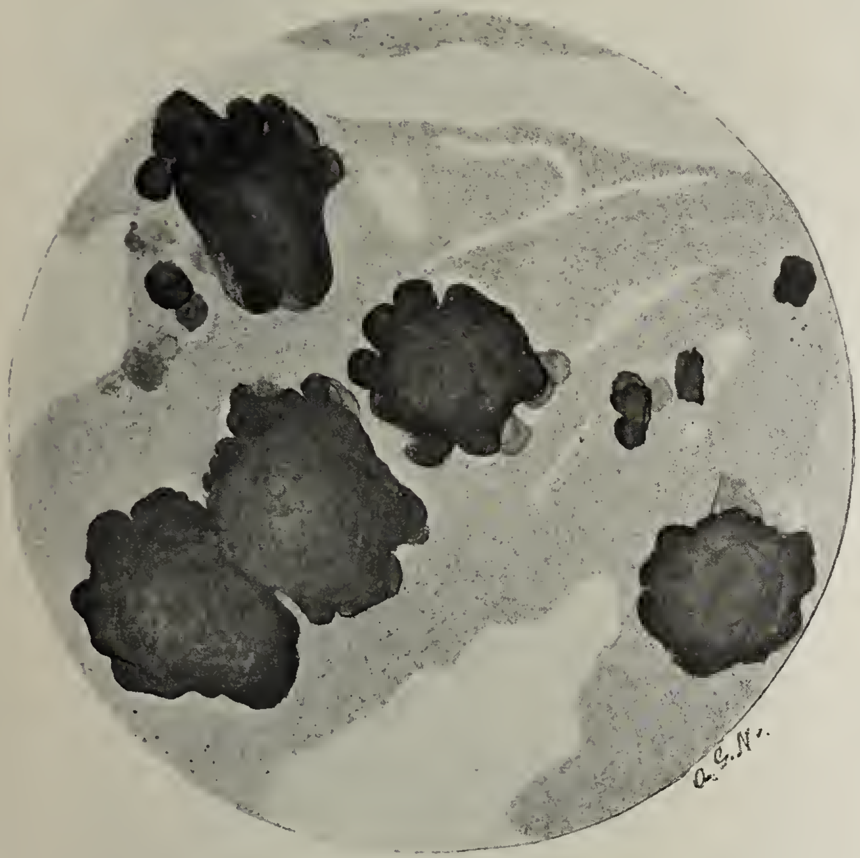

Fig. 4.—The hyaloid bodies in this field are large and irregular. (Same magnification as in Fig. 3.)

Careful study has led me, contrary to views originally held, to conclude that probably some of these bodies are thickened vessels. The spaces surrounding them, the concentric rings, much like those I have found in diseased vessels elsewhere, the elongated form of certain of these structures, with surrounding spaces extending further than the hyaloid masses, are very suggestive of diseased vessels. Alzheimer † also found colloid masses separate from the vessels, and believed that they were deposited from the fluid within the tissues. He showed that the chemical reactions of the colloid degeneration of the cerebral vessels are very different in the reported cases, but he does not believe that the degeneration in those cases is essentially different. He states that he regards the possibility of glia or nerve cells undergoing colloid degeneration as very doubtful, although the cells of the vessels may do so.

The granular bodies, the *corps granuleux* of the French, the *Fettkörnchenzellen* of the Germans, are very different structures from those previously mentioned, but like them they are indicative of degeneration. Indeed, in former days, when the microscopical technique was less perfect than at present, their presence was regarded as of great value in determining the existence of degenerative processes.

These bodies may be seen in various diseases of the central nervous system, and I have found them in large numbers a few days after fracture of the spinal vertebræ. I have seen them in masses crowded together close upon one another in processes of long duration. In old cases of hemiplegia I have found them, when the method of Marchi was employed, filling the circumvascular spaces and leaving the rest of the cord free, so far as could be determined by this method. When examined in the fresh state they are much larger than when a hardening fluid has been employed, and are filled with fat drops.

When they wander into the nervous tissues they seem to be unable to find their way out again. They are quite large cells, and are very numerous in the brain of the newborn, and for this reason it has been thought that they may be instrumental in carrying material for the formation of the medullary sheaths (Obersteiner).*

They are very numerous in all acute forms of degeneration when the nerve fibres are affected, and may be shown by the method of Marchi to be filled with a substance resembling fat. It is believed that they are formed by fatty degeneration of nerve cells, connective-tissue cells (neuroglia ?), and even from the smooth muscular fibres of the vessels (Huguenin, cited by Obersteiner). Guizzetti † states that these cells are derived partly from wandering leucocytes and partly from transformed endothelial elements of the circumvascular lymph sheaths, that they multiply by caryocinesis, and that the ganglion cells and neuroglia cells do not take part in their formation.

I have recently had the opportunity to study vessels in a condition of arteriosclerosis from the region of the pons, and have found large accumulations of these cells within the vascular walls. They are filled with drops of fat, as shown by the osmic acid. They have usually only one round or somewhat elongated nucleus, but, occasionally, two nuclei may be found. They form granular masses in certain parts of the vascular walls, in which the individual cells can be seen only with great difficulty.

Effect of Alcoholism upon Healing of Wounds.—M. Kiparsky (*Presse médicale,* July 16th), in a communication to the Russian Medical Society of St. Petersburg, contends, as the result of experiments conducted on rabbits, that the healing of wounds is retarded by acute or chronic alcohol poisoning, as a consequence of the general diminution of chromatic substance in the epithelial tissues, consequent upon lessened vital resistance and idioplastic energy of the tissues.

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* Edsall and Sailer. *Proceedings of the Pathological Society of Philadelphia,* vol. i, No. 4.

† Alzheimer. *Archiv für Psychiatrie,* vol. xxx, No. 1.

* Obersteiner. *Anleitung beim Studium des Baues der nervösen Centralorgane.*

† Guizzetti. Abstract in *Neurologisches Centralblatt,* No. 5, 1898, p. 211.

FISSURA CALCARINA HYPERTROPHY AND ATROPHY.

TWO CONTRASTING CASES.

By WALLACE WOOD, M. D.

When first asked where he sees his father's ghost, the sombre Dane replies, "In my mind's eye, Horatio." Had Hamlet been a medical student of to-day he might have replied, "In my calcarine fissure, Horatio," or still more explicitly, "In the calcarine fissure between the cuneus and lignlate lobule of the mesial surface of my occiput, Horatio." This strange locality, in truth, is the only spot upon earth where ghosts are ever seen, for it is the centre of mental vision, the cerebral eye itself. The calcarine fissure is the cortical retina. Such, at least, is the demonstration of Henschen, accepted by Ferrier, Mills, and others.

I have in my possession at the present time two pairs of brains which, by their unusual and interesting contrast of maximum and minimum, seem to present a fine illustration of the newly discovered truth. The first is that of a Parisian man of letters, an individual who may be said to have seen too much, since he died from general paralysis brought on by "too constant reading of books"; while the other case is that of a French woman who never saw at all, having been born blind. "Aberrant cases yield crucial tests." Here we have, on the one hand, thirty years of overstrained mental vision, and, on the other, thirty years of mental darkness. Let us compare gyri and sulci.

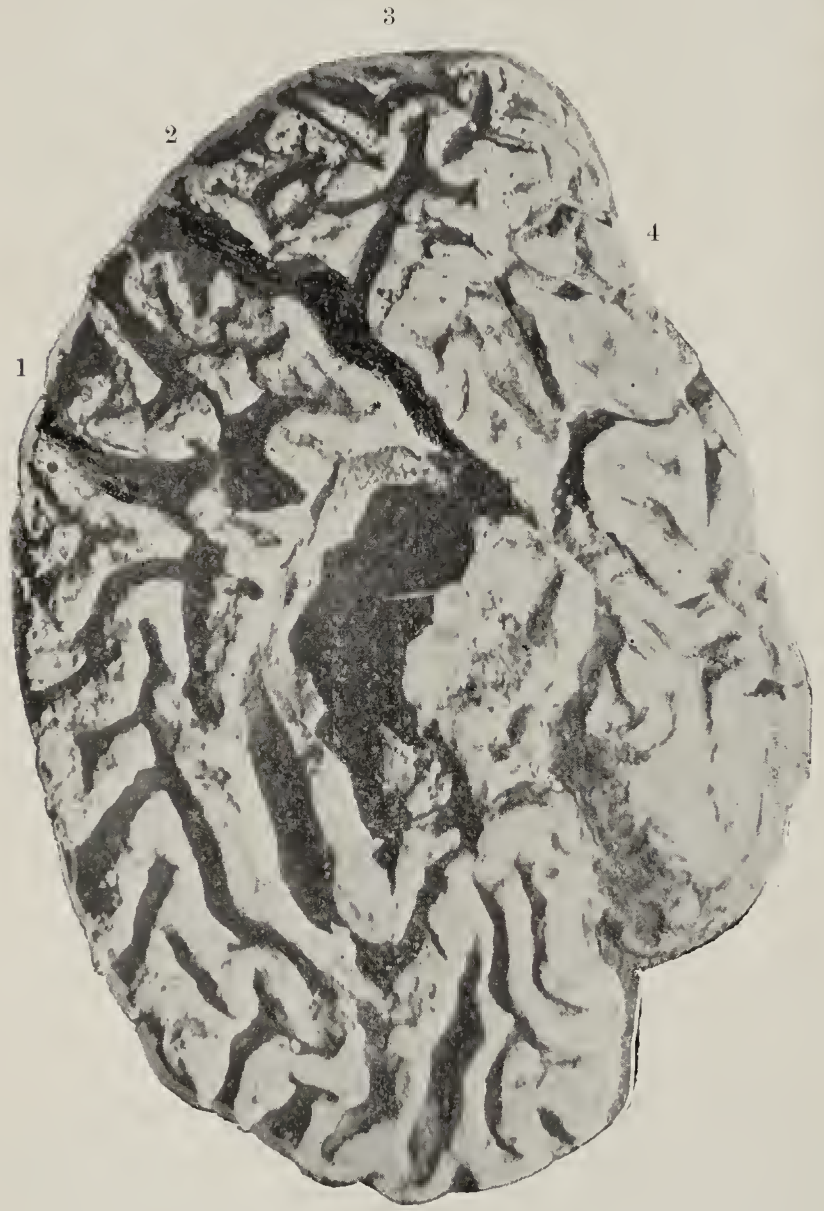

Fig. 1.—Right brain of M. Pequoit, a Parisian man of letters: inside surface showing hypertrophy of the over occipital lobe (cuneus and calcarine fissure) and atrophy or dwarfing of the under occipital lobe (ligula and fusiformis). 1, the quadrate lobule; 2 the cuneus expanded to a quadrate; 3, the calcarine fissure expanded to a star and bordered by a ribbon; 4, the lower occipital lobe cramped and dwarfed or shortened. The calcarine fissure dominates, tyrannizes, and occupies almost the entire space.

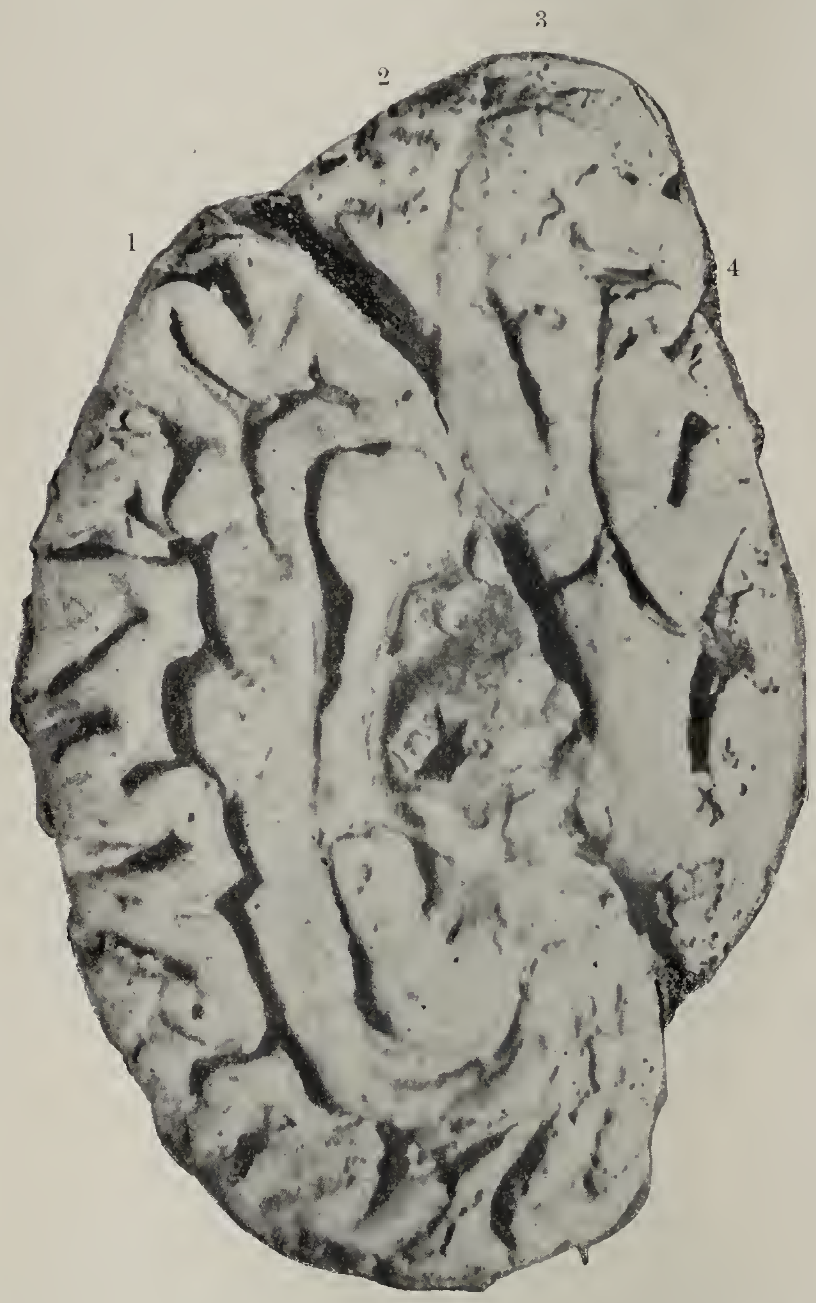

Fig. 2.—Right brain of Madame Rodin, a blind woman: inside surface showing diminution of the cuneus, and closing of the calcarine fissure with high and perfect development of the under occipital lobe. 1, the quadrate lobule, unusually broad; 2, the cuneus small and but slightly marked; 3, the fissura calcarina closed up; 4, the lower occipital lobe well expanded and extended in both lobules.

The brain of M. Pequoit, the man of letters, offers several peculiarities, but among the most prominent is the overdevelopment of the inside surface of the right occiput and seemingly corresponding overdevelopment of the outside surface of the left. At these two points the cortex has burst forth into a blossom or a star.

These stellate or rosetted formations are tetramerous or cruciform in shape, but are somewhat irregular, and the borders are finely accentuated by a lip or ribbon. The primary sight is apparently in the right hemisphere, the secondary in the left. . . .

Comparing the two pairs of brains together, it is found that in the man of letters both calcarine fissures are expanded into crosses or radiant centres. Looking straight at these starry formations, it requires but small stretch of the imagination to picture them in life as flashing eyes or flaming asterisks. In the other pair the fissures are both tightly closed, like eyes closed in sleep or death. The cuneus, a lobule which also belongs to the visual area, is in the left hemisphere of Case II, the blind lady, completely atrophied, while that in the left hemisphere of Case I, the overstrained man of letters, is wide and highly wrought, and in the right hemisphere still further expanded, until it is no longer a cuneus but a quadrate. The whole over portion of the occiput presents a singularly hypertrophied appearance.

Taken altogether, the cerebrum of Case I shows hypertrophy of the over-occiput and a crowding and dwarfing of the under-occiput, while the cerebrum of Case II shows high and full growth of the under-occiput and atrophy of the over-occiput on both inside and outside surfaces.

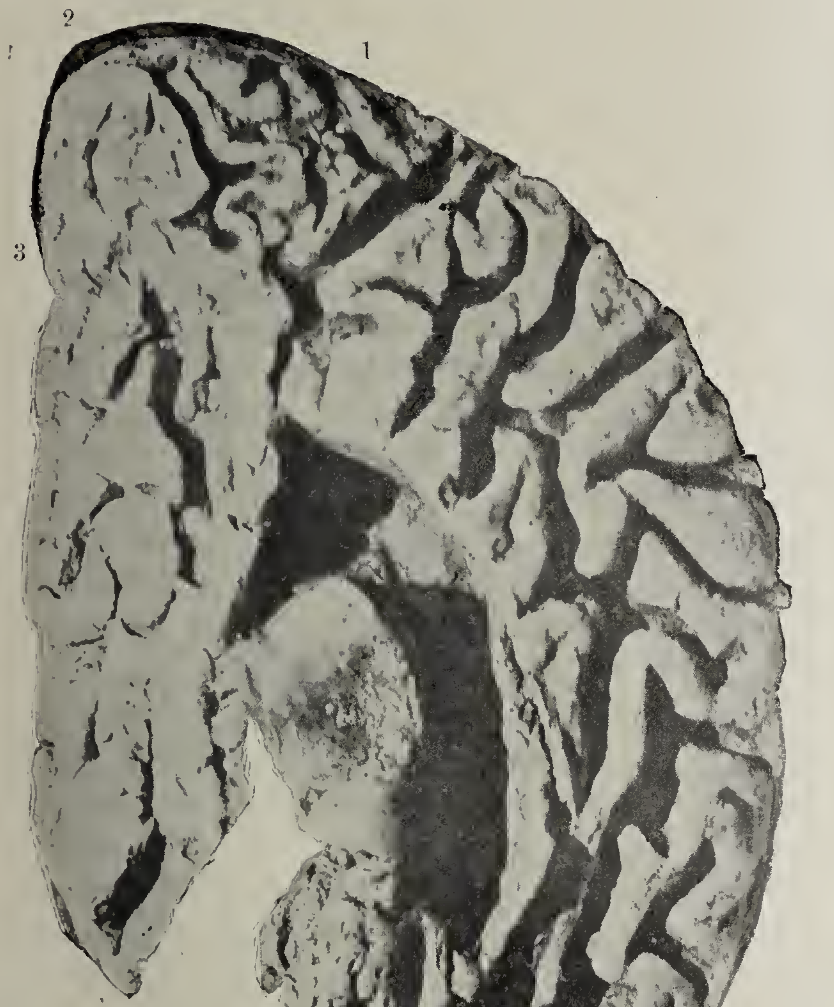

Fig. 3.—Left brain of Pequoit, a man of letters: inside surface exhibiting hypertrophy of the over-occiput and narrowing and shrinkage of the under-occiput. 1, the cuneus, highly convoluted; 2, the calcarine fissure, of stellate or cruciform shape; 3, the combined ligula and fusiformis crowded, narrowed, and shrunken.

One parting glance at the calcarine fissure in hemisphere No. 1. Often in our walks by the seashore we pick up an empty shell and speculate upon the form and being of its once living tenant, but here we have a radiate shell from the shore of the great unknown, and its former occupant was the eye of a human soul.

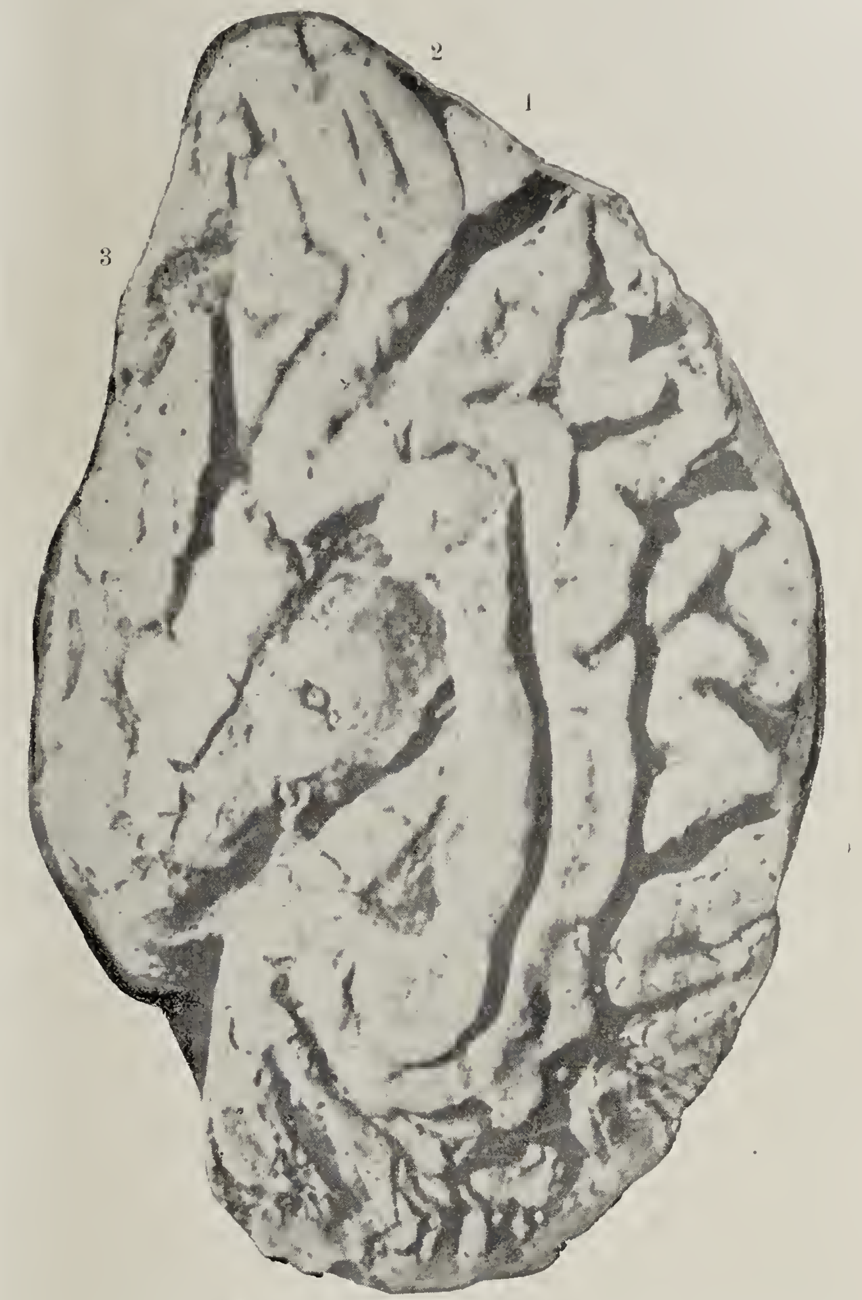

Fig. 4.—Left brain of Madame Rodin: inside surface showing atrophy of the upper occipital lobe and expansion of the under occipital lobe. 1, the cuneus, completely atrophied, reduced to a rudiment; 2, the fissura calcarina, small and closed; 3, magnificent development of the lower occipital lobe, which here dominates and occupies the entire space, exhibiting a condition the direct reverse of hemisphere No. 1.

RADICAL CURE OF FEMORAL HERNIA,

WITH PERSONAL EXPERIENCE OF THE INGUINAL METHOD.*

By HENRY MANN SILVER, M. D.,

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PROFESSOR OF CLINICAL SURGERY,
UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE;
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The surgeon who is interested in the operative treatment for the radical cure of hernia, and who may have occasion to look up the literature of the subject, will be astonished to find, first, such an enormous number of papers on hernia, and second, that such a very small number treat of the femoral variety.

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* Read before the Society of Alumni of Bellevue Hospital, March 2, 1898.

Although surgeons had been working for some years on the treatment of inguinal hernia for radical cure, it was not until 1890 that they really began to devote any attention to the radical cure of the femoral variety. Quite recently gynæcologists have turned their attention to this subject, as a considerable number of their patients suffering from retrodisplacements of the uterus also suffer from femoral hernia, a condition much more frequent in women between eighteen and forty than in men. I was very much surprised, in looking over Coley's (9) statistics, to note that six of the twenty-five patients operated on for femoral hernia were under ten years of age.

Before giving my own experience it will be interesting to study the work of others, classifying it under the head of that thought which dominates their treatment in securing a radical cure.

I. Methods which deal with the sac alone: Socin (45), Mitchell Banks (2), and my own cases.

II. Methods which have in view the closure or obliteration of the internal ring and canal by relaxing Poupart's ligament: Fabricius (18), Fowler (19), Delagénière (14).

III. Methods which have in view the restoration of the femoral canal to its normal relations: Bassini (3), Raffa (38), Deneffe (16), Coley (9), and many who follow Bassini.

IV. Methods which make an attempt to close the rings or canal with some substance that will plug the canal or act as a barrier at the internal or external ring: Salzer (40), Watson Cheyne (8), Moullin (31), Schwarz (42), Poullet (37), Trendelenburg (49), Hackenbruch (20), Körte (25), and Wolff (52).

Before speaking of the different operations for radical cure of femoral hernia, a short review of the various methods of managing the sac used by the most prominent surgeons will be of interest. Haidenthaler (21) states that if the sac was no larger than a hen's egg, the chance for radical cure was three to one; if larger than a hen's egg, the chance of a relapse was two to one.

According to Macewen (29), McBurney (28), Fowler (19), De Garmo (54), Braisted (5), and others, the ideal management of the sac has in view the restoration of the peritoneal cavity to its normal size and shape, in order that pressure of the abdominal contents may be evenly distributed over every part of the peritoneal surface, and not at a single point. Braisted states the case clearly as follows: "We must remove the tissue forming the wedge itself—that is, the infundibulum sac—which, if left behind, either after being returned to the abdominal cavity or left as a plug in the femoral canal, results in the one case in destroying the normal symmetry of the peritoneal surface, and in the other prevents the walls of the crural canal from coming in direct apposition," and really aids in the formation of a new hernia. To meet the above indications, Berger (6), O'Hara (32), Delagénière (14), Deldalle (15), Deneffe (16), and Lockwood (27) ligate the sac high up and suture the stump to the abdominal wall above Poupart's ligament.

Kocher (24) twists the sac while still in the canal, then passes it through an opening in the abdominal wall, and fastens it to Poupart's ligament, but more recently he carries it outward toward the anterior superior spine of the ilium and fastens it to the aponeurosis.

Greig Smith (43) twists the sac and sutures it just above Poupart's ligament, or directly above the ring. Bassini twists sac, ligates high up, cuts it off, and returns it within the abdomen.

Macewen (29), Lauenstein (26), and Kellogg (23) fold the sac into a pad, and stitch it against the opening of the femoral canal. Moullin (31) places it just above the ring.

Fabricius (18), Banks (2), Coley (9), and the larger majority of operators ligate the sac high up and return the stump to the abdominal cavity. Recognizing the fact that high ligation of the sac does not completely meet the indication, as a little dimple is formed, the apex of which presents in or at the femoral ring, and which may, under pressure, enlarge into the infundibulum mentioned above, Fowler (19) and Stinson (44) cut away the sac entirely, the edges of the peritonæum being brought together in such a manner that when sutured a smooth surface will be presented.

In order to accomplish the same result with the addition of a buttress, Davis (13) and A. M. Phelps (34) pass purse-string sutures around the neck of the sac where it joins the peritonæum, invert the sac, and tighten the suture. Davis, in order to strengthen that part where the ligature was tied, draws down on a catgut ligature previously placed and thus folds the sac on itself in a mushroomlike form on the interior of the peritoneal cavity.

I. *Methods which Deal with the Sac Alone.*—Socin (45), 1879, really began the radical operation. He believed that the sole cause of relapse of a femoral hernia was to be found in the omental fat, which was generally adherent. If this plug of fat was removed by excision the hernial opening would close spontaneously. As a contributory cause for relapse, he reckoned the loose tissue which was allowed to remain in the femoral canal, helping to keep up its patency. His operation deals with the sac alone, which is isolated, drawn strongly outward, ligated, resected, and replaced within the abdomen, and clears the femoral canal of all *débris.*

Mitchell Banks (2) isolates the sac, ligates the neck high up, resects it, and cuts it away, making no attempt to close the canal.

I have four cases to report later, treated by rolling the sac from above Poupart's ligament, and suturing the rolled sac over the femoral ring.

II. *Methods which have in View the Closure or Ob-*

literation of the Internal Ring and Canal by relaxing Poupart's Ligament. Operation of Fabricius (18).—He first exposes Poupart's ligament, then the femoral canal by separating the superficial layer of the fascia lata at its insertion into Poupart's ligament. The femoral vessels are pushed beyond the ileo-pectineal eminence and held there with a blunt hook while the first stitch is taken to unite the ligaments of Cooper and Poupart from a point opposite the femoral vessels up to the spine of the pubes. The suture, threaded in a strongly curved needle, is passed first through the pectineal fascia, through the muscular fibres and periosteum to the bone, and then transfixes Poupart's ligament. Five or six sutures are required in all. In order to attach Poupart's ligament as closely to the bone as possible without tension, he nicks the edge of the lesser falciform process and even the ligament at its insertion to the spine of the pubes. The loosened superficial layer of the fascia lata is then sutured to the deep layer and the wound closed.

This operation fulfills what Fabricius thinks are the necessities for a true radical operation—viz., first, to do away with the funnel-shaped space; and, second, to attach as closely as possible Poupart's ligament to the horizontal ramus of the pubic bone. At the suggestion of Weinlechner (51), and to avoid a possible inguinal hernia, the external abdominal ring in males was narrowed by the insertion of two or three sutures, and completely closed in females. Fowler (19), in a recent article on the radical cure of femoral hernia, in which he advocates the method of Fabricius (18), goes farther and completely separates Poupart's ligament from the spine of the pubes and then the superficial layer of the fascia lata from it. He passes the sutures through the aponeurosis of the external oblique muscle about three eighths of an inch from its edge, so as to secure a good hold, then through the periosteum at the point of origin of the pectineus muscle, emerging about half an inch from the point of entrance upon the upper margin of the bone. Five or six sutures are placed, the suture material being kangaroo tendon.

Delagénière (14), in an interesting article, described an operation devised by him which carries out this same idea—viz., obliteration of the femoral ring and canal by relaxing Poupart's ligament. Through a vertical incision directly over the femoral canal Poupart's ligament is exposed and divided midway between the pubic spine and femoral vein. The vein being drawn to the outside, two or three strong catgut sutures are passed from before backward through the aponeurosis of the pectineus and the periosteum over the ileopectineal line. The posterior part of each suture is passed through Poupart's ligament near the point of division, some from the front, some from the back part of the ligament. As the ligatures are tightened the divided ligament is drawn down to the horizontal ramus of the pubes, transforming in this way the vertical incision into a triangular one, with the apex at the upper part and anteriorly. The triangular space is closed progressively by strong cicatricial tissue. After reconstructing the crural canal with catgut the external wound is closed. He reports three operations with complete success.

Method III. Those Operations which have in View the Restoration of the Femoral Canal to its Normal Relations.—Bassini (3) lays great stress upon the necessity for the surgeon to restore the original anatomical relations of the parts to be operated on, and proceeds as follows: With a strongly curved needle of medium size, and with a firm thread, three sutures are placed which draw together the lower posterior part of Poupart's ligament and the pectineal aponeurosis at the level of the pectineal crest. The sutures are close together and extend outward from the pubic spine. The first stitch is passed through the inner and posterior part of Poupart's ligament, then through the pectineal aponeurosis high up. Then half a centimetre externally the second suture is placed, and similarly the third and last. This one remains about a centimetre removed from the vein. These sutures are not yet tied, but three or four more are introduced to embrace the falciform process above and the pectineal fascia below, the lower suture entering just above the saphenous vein. The sutures are now tightened, beginning with the one introduced first. He reports fifty-four successful operations in fifty-one subjects; forty-one remained cured from two to three years, and twenty-seven from three to nine years. Trusses not worn, even at hard labor.

Coley (9) reports ten cases of operation by this method; no relapses.

Bassini (3) has many followers with his method.

Cabot (7), in order to prevent tension and cutting of stitches, which he thinks is a weak point in this operation, makes a semicircular incision through the fascia lata just beneath the saphenous opening, the vein having previously been cut away. The lower wall of the canal is now readily attached to Poupart's ligament. One case, no return after a year. Billroth (4), Czerny (12), and Schede (41) suture the middle third of Poupart's ligament to the adductor fascia. Wood (53), Berger (6), Deldalle (15), Picchaud (35), Raffa (38), and Thibaudet (47) attach Poupart's ligament to the pectineus muscle and fascia.

Marcy (30) closes the external part of the canal with a loop stitch of kangaroo tendon.

Coley (9) has had success with the purse-string suture suggested by H. W. Cushing (11), of Boston. He introduces the suture as follows: A curved Hagedorn needle threaded with kangaroo tendon is passed through Poupart's ligament; then, going down the pectineal fascia, some of the muscular fibres are picked up; the needle, being brought out, takes a second or third hold in the same tissue (forming floor of canal); then the needle is carried through the fascia overlying the femoral vein, and finally comes out through Poupart's ligament a quarter to half an inch to outer side of point of entrance.

On tying this suture the floor of the canal is brought up against the roof and the opening is obliterated.

IV. Methods which make an attempt to Close the Rings or Canal with some Substance that will Plug the Canal or act as a Barrier at the Internal or External Ring.—1. Salzer (40), in one case, used sterilized glass wool to block up the femoral canal; he abandoned this for a flap of pectineal fascia stitched with silk to the middle of Poupart's ligament. Two cases reported.

2. Watson Cheyne (8) plugs the crural canal with a flap of pectineus fascia and muscle, being held in place with stitches passed through canal and abdominal wall just above Poupart's ligament and tied without tension. Two cases, results perfect some months after. Stoneham (46) performs same operation. Reports four cases, three being perfect cures.

3. Moullin (31) uses a flap taken from the pectineus and adductor longus for the same purpose, holding it in place with two silk ligatures passed from before backward through the periosteum covering the pectineal surface of the pubic bone behind and Poupart's ligament in front, and traversing the flap so as to hold it in its place. Results: Five cases showed no sign of yielding after eighteen months; eight others doing well, but eighteen months had not elapsed.

4. Schwarz (42) placed a flap of the adductor longus muscle in front of the femoral ring, holding it to the crural arch and pectineal aponeurosis with silk sutures.

5. Poullet (37) uses a portion of the tendon of either the rectus femoris or adductor longus muscles, holding it in place with silver-wire sutures, which are removed in a few days. It would seem as if these barriers were placed at the wrong end of the canal to prove efficient and lasting.

6. Trendelenburg (49), Hackenbruch (20), Körte (25), and Wolff (52) do an osteoplastic operation. A long oblique incision opens up the hernial region. Portions of the recti, gracilis, and adductor magnus muscles are divided, and the anterior surface of the pubes cleaned. Then with a broad chisel a piece of bone is removed from the anterior surface of the pubes and symphysis. The segment made up of bone, cartilage, and periosteum, about two centimetres in breadth and several millimetres in thickness, is pried up, turned backward, so that its cut surface is in front and the periosteum behind, and fitted into the femoral canal, its upper extremity being placed behind Poupart's ligament and fastened with catgut. Free drainage provided. Five cases reported, three successful.

7. Thiriar (48), of Brussels, places a disc of decalcified bone against the femoral ring within, the disc being larger than the ring, the soft tissues being sutured to it. He claims that the disc is replaced little by little with a fibrous, thick, solid tissue, which will become adherent to the surrounding tissue, closing completely the hernial orifice.

In 1887 I operated on my first case of femoral hernia. It was a small, irreducible entero-epiplocele. The sac was exposed by a vertical incision, opened, and the contents returned after the adhesions were divided. The sac was ligated well up in the canal, cut away, and the superficial wound closed. The wound healed without suppuration. I was very much disappointed on examining the patient a year after operation to find that the hernia had returned. A second operation was refused.

At this time the radical cure of hernia, especially the inguinal variety, was beginning to occupy the attention of surgeons, when the able and remarkably clear paper of Macewen (29) on the management of the sac and closure of the inguinal canal appeared and seemed to give a new impetus to the subject. A careful examination of the tables given shows that the sac in femoral hernia was managed on the same principles as in the inguinal variety.

My second case, three years after, was a strangulated femoral hernia, the sac containing a small knuckle of intestine, with a considerable amount of adherent omentum. The constriction at Gimbernat's ligament was relieved, the knuckle of intestine drawn down with difficulty, inspected, and, as it seemed to be in good condition, was returned, the strangulation having been present but a short time. The neck of the sac was ligated high up, excised, and the external wound closed. Unfortunately, the patient developed peritonitis and died. A careful review of the technique of the operation impressed me that the cause of the failure was due to imperfect examination of the constricted intestine.

After reading Macewen's article on the radical cure of inguinal hernia, and while giving the courses on operative surgery at the Woman's Medical College of the New York Infirmary, I was deeply impressed with the ease with which the femoral ring could be exposed while applying a ligature to the external iliac artery. The thought occurred to me, Why not open the neck of the sac above Poupart's ligament, withdraw the intestine, make a careful inspection, meet the indications for treatment, and, after returning the intestine and omentum, make a pad of the sac and suture it against the abdominal aspect of the femoral ring, *à la* Macewen?

After the death of my second patient I did not see another case of femoral hernia, with one exception, for six years, although actively engaged in emergency hospital practice. Then four followed within a year.

Case I.—Mrs. D., aged forty-two years; married; mother of one child. Had a swelling in left groin for thirteen years, which gave but little trouble until a month ago, when it became strangulated and was replaced with difficulty. Before this it could, as a rule, be replaced with ease, but would return with any great exertion. Examination revealed an entero-epiplocele as large as a hen's egg in the left groin. On March 27, 1896, the following operation was performed: The usual incision, four inches in length, for ligating the external iliac artery was made half an inch above Poupart's ligament, but carried a little nearer the spine of the pubes than usual. The aponeurosis of the external oblique muscle was opened, the inner fibres of the internal oblique were cut, the underlying transversalis fascia divided, and the vessels and femoral ring easily reached. The deep epigastric vessels were drawn to the outer side. The neck of the sac was isolated and seized with the left hand, which made gentle traction, while the fingers of the right manipulated the sac at or just within the femoral opening; it was soon loosened and drawn out of the canal. The sac was opened, a small quantity of omentum reduced, and the opening closed with a fine catgut. The fundus was then grasped gently with a clamp and the sac was rolled like a scroll, longitudinally, in order to avoid traction on the bladder, until it pressed against the peritonæum. As the clamp was withdrawn a suture of catgut was passed through the folds of the roll and tied, in order to prevent the scroll from unrolling. Three sutures of chromic catgut were then passed through Poupart's ligament above and Cooper's ligament below, then through the rolled sac; when these sutures were tightened the mass was brought down over the internal femoral ring, no attempt being made to close the tendinous structures of the ring. The divided fibres of the internal oblique muscle were carefully united with silver sutures, the aponeurosis of the external oblique with chromic catgut, the skin with subcutaneous suture. No drainage. For three or four days after the operation the patient was very hysterical and restless, a condition quickly relieved by hypodermic injections of sterilized water. During this time it was necessary to use the catheter to empty the bladder. She complained of no pain about the wound, which was found to be perfectly healed when the dressings were removed ten days after operation. Remained in bed three weeks.

Result: Have been unable to trace this case.

Case II.—M. B., aged thirty-five years; married; mother of nine children; suffered much from prolapsus uteri, also from pain in left side, especially when lifting heavy weights.

Examination revealed a small, firm, irreducible mass just below and to the outside of the spine of the left pubic bone. Operation, July 9, 1896. An incision four inches long and parallel to Poupart's ligament exposed the aponeurosis of the external oblique, which was opened the length of the inguinal canal.

The round ligament was drawn to one side, the floor of the canal opened, and the deep epigastric vessels drawn to the outside. The technique of the remainder of the operation was the same as in Case I. No drainage.

On the fourth day after operation patient complained of some pain in wound, also in bladder during micturition. Ice bag placed over site of wound. On the ninth day the dressings were removed for the first time and the wound was perfectly healed, but the distress in the bladder continued for two weeks more, when it disappeared. Patient remained in bed three weeks.

Result: No return of hernia twenty months after operation.

Case III.—A. L., aged forty-one years; married; mother of sixteen children.

On December 7, 1896, I was called in consultation by my friend, Dr. Francis Huber, to see this patient at her home. She was suffering severe pain in her right groin, where there was a hard, tender swelling about the size of a lemon. There was no impulse on coughing, and the swelling could not be reduced. Bowels constipated, but have moved daily with enemata. There was no tympanites or abdominal tenderness. The swelling had not been noticed until the pain began three days before. A diagnosis of femoral epiplocele, somewhat constricted, was made, and I advised removal of the patient to the infirmary for operation, she seeming to suffer not from strangulation, but sepsis. Patient was operated on December 9th, a vertical incision being made over the swelling. When this was reached and isolated it was found to be a mass of softened, greenish, congested properitoneal fat, protruding from the femoral canal. After a thorough washing with hydrogen peroxide, an incision was made above and parallel to Poupart's ligament, the neck of the sac exposed, opened, and its contents proved to be a hard and congested appendix epiploon; this was ligated and removed. The fatty tissue about the sac without the canal was removed, and the sac was isolated with some difficulty from the canal. The bladder was adherent to the neck of the sac, and separated by careful dissection without injury. The sac and upper wound were treated as mentioned above, the lower wound was packed with iodoform gauze. Dressings changed on third day: upper wound perfect, dressings in lower wound stained with blood; cavity washed out with hydrogen peroxide and repacked. For the next three days patient's temperature steadily rose, pulse grew weaker, and she had a drowsy, septic look, with red, dry tongue. Dressings removed on eighth day. All sutures removed from upper wound and its edges separated down to the aponeurosis of the external oblique muscle. There was no suppuration or discharge, but the fat presented a grayish look with a few small grayish sloughs in depth of wound. The lowest deep suture was removed, and a strip of gauze carried down to drain the deeper tissues. Both wounds were packed with iodoform gauze. Patient's general condition improved at once, and after frequent dressings and a slow convalescence she returned home a month afterward with wounds just about closed.

Result: Hernia remained perfectly cured fifteen months after.

Case IV.—A. W., aged thirty-five years; married; mother of six children, the oldest being eight. Admitted to the New York Infirmary February 22, 1897. About two months after last confinement, nearly two years ago, a small lump, the size of a marble, appeared in the left groin. This continued to increase in size slowly and always gave some pain, but no constipation. It seemed a little smaller in the morning. Three weeks before admission, while carrying a pail of water, she slipped, giving herself a severe strain; immediately the swelling in groin became as large as a hen's egg and she was seized with cramplike pains, beginning in the groin and radiating to the umbilicus, then over whole abdomen. After suffering agonizing pain for five hours the hernia was reduced by a physician, giving instant relief.

Examination after admission to the hospital revealed a reducible entero-epiplocele. Glands in groin somewhat enlarged. Patient was operated on February 23d, with the same technique as in previous operation, excepting that catgut sutures instead of silver wire were used. Just a word about the sac, which, after gentle but prolonged traction, was drawn from the ring surrounded by a considerable amount of properitoneal fat. The sac was found to end in two blind pouches, the neck of the smaller one being more constricted, with vessels engorged. In both, the serous lining was smooth and glistening. Patient's convalescence was rapid, and after remaining in bed three weeks she was discharged from the hospital.

Result: No return after a year.

(*To be concluded.*)

THE TREATMENT OF DIARRHŒA.

By G. C. H. MEIER, M.D.

The treatment of the simple forms of diarrhœa, in contradistinction to those which accompany constitutional diseases, such as typhoid, cholera, phthisis, etc., has undergone a marked change within the last ten years. Especially is this true of the various forms of infantile diarrhœa, which are much more amenable to treatment than they were when I first entered the practice of medicine. The treatment by astringents was then very much in vogue, and bismuth, tannic acid, subacetate of lead, and opium were the specifics with which we attempted to check all kinds of intestinal discharges. With the discovery of the fact that nearly all of these disorders are due to certain microbes or their toxines, our reliance on these remedies has been greatly modified and their use has been restricted to the more chronic and subacute forms of intestinal disorders.

From a clinical point of view, we may group all diarrhœas into two large classes—namely, the acute and the chronic forms.

The very first object in the management of an acute gastro-enteritis should be directed to rendering the whole intestinal tract as aseptic as possible. Instead of running the gamut of astringent remedies, as was formerly the case, we now withhold, first and foremost, all fluids or foods which are liable to fermentation and which may become a medium for the propagation of the various bacteria concerned in poisoning the system, thus starving the microbes out, so to speak; at the same time we must endeavor to clear the whole alimentary tract of any undigested and irritating particles of food, which is best accomplished, in my experience, by small but not too small doses of calomel, repeated hourly until the characteristic calomel stools make their appearance. In the mean time the patient should be fed on absolutely nothing but barley water, rice water, or toast water, either one or the other according to his preference. The most efficient and blandest nutriment in these cases, and that which, as a rule, is retained when everything else is vomited, is a solution of the white of one egg in about ten ounces of boiled or sterilized water to which a pinch of salt has been added. This is usually eagerly imbibed by the little patient, and if the stomach can retain anything at all, it will be this solution of egg albumin.

As an additional measure the irrigation of the intestinal tract with large quantities of a normal salt solution (a teaspoonful to a pint of lukewarm water) three or four times a day, through a long catheter passed into the bowels to the extent of six or eight inches, gives great satisfaction in soothing the irritable mucous membrane and washing out acrid fluid and particles of undigested and partly decomposed material.

After the disinfection of the intestinal canal has been accomplished by the measures referred to above, a notable improvement will have taken place in the condition of the child. Vomiting, as a rule, ceases first, the diarrhœa, although still fluid and watery, will appear at lengthened intervals, and the case now enters the subacute stage. Here is the field for astringent remedies, of which tannic acid from time immemorial seems to have received the preference. Bismuth, subacetate of lead, tincture of catechu, etc., which also possess the power, but in a much weaker degree, of toning up the relaxed and weakened mucous membrane, which allows the transudation of serous or mucous fluid, often for an indefinite period after the exciting cause has been removed, all have their advocates, and are frequently given in large doses. The objection to tannic acid has been that it had to be administered in large amounts, which frequently irritated the stomach and the greater part of it was absorbed in the upper part of the gastro-intestinal tract, so that very little of it passed into the lower intestine as such. This disadvantage has been recently overcome by the introduction to the profession of tannic-acid combinations which have been experimentally shown to pass through the stomach unchanged, and to liberate their tannin only when coming in contact with the alkaline fluids of the intestine. The latest and most valuable of these is undoubtedly tannopine, a condensation product of tannic acid and hexamethylenetetramine. As regards its physical properties, it is a brown, odorless and tasteless, fine, non-hygroscopic powder, insoluble in water, weak acid, alcohol, ether, etc., but slowly soluble in alkaline fluids. It contains about eighty-seven per cent. of tannin and thirteen per cent. of hexamethylenetetramine. The dose of tannopine is fifteen grains for adults, three or four times daily, and from three to eight grains for children. These doses may, however, be exceeded with impunity, as it has no poisonous property so far as is known.

In the serous form of diarrhœa, where there is only an increase in the number and consistence of the passages, tending to diarrhœal discharges, without much constitutional disturbance, such as fever and pain, I formerly used with great satisfaction the salicylate of calcium, according to the following formula:

℞	Salicylic acid	2 grains;
	Prepared chalk	4 "
	Syrup of ginger	20 minims;
	Peppermint water, enough to make	1 drachm.

M. S.: Such a draught to be taken after each movement.

Tannopine may, however, be substituted for this, as it gives like favorable results, and is not so apt to irritate the stomach, when its use is long continued, as the salicylic-acid preparation is.

Another very efficient remedy in the gastro-enteric affections of children I have found to be minute doses of arsenate of copper; a one-grain tablet may be dissolved in a tumblerful of cold water, and a teaspoonful of this solution, given to a child every fifteen minutes, will often speedily arrest the diarrhœa and check the vomiting. The administration of this drug need not be preceded by that of calomel or other purgatives, as it seems to possess the power of stopping the growth of the bacteria and neutralizing their toxines. This is the only bactericidal drug, however, to my knowledge, that possesses this quality in such minute doses to so marked a degree.

In cases of dysenteric diarrhœa, where there is much tenesmus, the stools being frequent but small, consisting in greater part of mucus, with perhaps some streaks of blood, the old-fashioned castor-oil emulsion with an astringent, like bismuth or tannopine, and a small dose of opium can not be excelled. The usual formula for a child is:

℞ Castor oil .... 8 to 10 minims;
Powdered gum arabic, enough to make an emulsion;
Tannopine .... 4 grains;
Camphorated tincture of opium 10 minims;
Peppermint water, enough to make .... 1 drachm.
M. S.: This amount to be taken every two hours.

As an adjunct to this medicinal treatment, rectal injections of half a pint to a pint of hot water in which some antiseptic, such as boric acid or even table salt, has been dissolved, should be administered after each stool, and in the more chronic cases, approaching the type of true dysentery, where there are probably present abrasions and ulcerations of the mucous membrane of the rectum, a solution of nitrate of silver, from half a drachm to a drachm to three pints of water, acts like a charm, and will frequently cure a chronic dysentery in the adult which has resisted the most scientific and faithful internal treatment. The injections, where necessary, may be repeated once in two or three days, and in obstinate cases the strength of the solution may be increased to a drachm to the pint. As a rule, it is not necessary to follow these irrigations by a solution of salt in water. If, however, the strong solution is used, or if the injection is retained for some time, it would be judicious to neutralize the silver nitrate by following it with an enema of salt solution, so as to prevent absorption.

As regards the treatment of cholera infantum (heat diarrhœa), which we are apt to meet with in large cities during the latter part of July and in the month of August, especially among children reared in crowded tenement houses, in cases in which the rise of temperature in the patient is a factor in the disease, the cold pack, repeated every three hours by the mother, is a life-saving procedure, and will accomplish wonders in resuscitating a child which seems doomed to certain death. In these cases the patients are frequently so very ill and low seemingly in vitality that the mother and neighbors object very strongly to taking the child on the water or to the seaside during the day, as ordered. If we place patients of this kind before an open window during the hottest portion of the day, and instruct the mother to wring a piece of toweling in ice water, and envelop the child's body with this, leaving the arms and legs free, and to renew this every three or four hours, at the same time placing hot-water bottles or hot-salt bags to the feet, the vomiting and diarrhœa due to the excessive depression of the vital forces by the heat can in the majority of instances be arrested. It is now feasible to administer stimulants combined with internal astringents, for example, bismuth, tannigen, or, better, tannopine, which being now retained will exert their favorable influence, when their previous administration could not have been of any earthly use.

In the chronic forms of diarrhœa, usually met with in adults, where the stools are fluid and more frequent than natural, without the presence of pain or nausea, the so-called chronic intestinal catarrhs, tannopine is an ideal remedy. The diet, of course, should be regulated, and laxative food, fruits, and malted drinks should be forbidden. The dose and frequency of exhibition of tannopine should be regulated according to the number of stools, a large dose, from fifteen to twenty grains, being ordered after each movement. The remedy is easy of administration, being tasteless, and can be given in wafers or mixed with some viscid vehicle in tablespoonful doses, or even placed dry on the tongue and followed by a swallow of water. It is best prescribed alone or, if preferred, mixed with some bismuth salt, or, where pain is present, with a small amount of Dover's powder; to children it may be given in their pap or rice. The great advantage that tannopine possesses over any other intestinal astringent is that it passes through the stomach unchanged, and only after reaching the intestine is it decomposed with the liberation of tannic acid, which is then enabled to exert its astringent and antiseptic properties directly on the diseased mucous membrane. Experiments have demonstrated that the gastric juice exerts no solvent action on this drug, but that the secretions of the intestinal glands decompose it gradually and render it locally effective.

The following cases in which tannopine was employed are selected from those which have come under my personal notice, while testing its value in various forms of intestinal flux:

Case I.—Mrs. A. M., aged forty-eight years, complained of attacks of diarrhœa whenever she was worried. They would come on all of a sudden, when perhaps she had previously been constipated or regular. No pain was complained of, but suddenly she had a desire to go to stool, and then would have to hurry to the closet quickly, not being able to control the action of the bowel for any time. Tannopine in twenty-grain doses in a little milk would check this nervous diarrhœa whenever it occurred, without rendering her constipated afterward.

Case II.—A. B., eight months old, bottle fed, had had diarrhœa off and on for a week; the number of passages some days was four to six. He was fed on milk, scalded and diluted with half its quantity of barley water. Tannopine, in doses of five grains, four times a day, reduced the number of stools to two, and then two five-grain doses during the day were sufficient to keep them down to this number. As an additional measure his intestines were flushed with a normal solution of salt twice daily.

Case III.—Baby F., four months old, had a slight attack of dysenteric diarrhœa, without any constitutional disturbance, however. An emulsion of castor oil with a medium dose of tannopine sufficed to check the disorder in three days, and the stools again returned to normal.

Case IV.—Adelina N., seven months old, had an acute attack of gastro-enteritis. The intestinal tract was flushed out with boiled water every four hours; all food, except small quantities of cold egg-albumin solution, was withheld for twelve hours, and tannopine prescribed in doses of five grains every two hours in a little barley water. The child was able to resume its bottle with sterilized milk in three days and promptly recovered.

Case V.—Joseph K., ten months old, had been suffering with diarrhœa and vomiting for twenty-four hours. All milk was stopped, and plain barley water, cold, was substituted for it. Calomel, in grain doses, was directed to be given every hour until the stools should assume a homogeneous spinach-green color. A weak mustard plaster was applied to the pit of the stomach and allowed to remain until the skin was slightly reddened. On the following day the vomiting had ceased, but the stools were still fluid and of frequent occurrence. Tannopine, eight grains every four hours, was now ordered, and irrigation of the bowels with a solution of boric acid, lukewarm, was performed twice a day. Three days later the stools had returned to their normal consistence.

In conclusion, I would say that the use of intestinal astringents in diarrhœa must be judiciously timed, and, although they are invaluable remedies in this affection, we must before employing them be certain that the alimentary canal is perfectly free from foreign and fermenting material, otherwise we simply aid the retention of matter which Nature is attempting to throw out because it is harmful. Do not prescribe any drug or remedy indiscriminately, but use your reasoning powers as to the time and the stage of the disease when it is apt to exert its specific qualities; this applies as well to astringents in diarrhœa as to any other drug administered for the cure of disease. If this is borne in mind disappointment will rarely be experienced in the effects of our remedies, and we shall be pretty well able to predict what success will follow the administration of certain drugs.

Sir William Henry Broadbent, Bart., M. D., has, according to the *Lancet* for July 23d, been appointed one of her Majesty Queen Victoria's physicians extraordinary, in the room of the late Sir Richard Quain.

FUNCTIONAL OR INORGANIC HEART MURMURS.*

By HENRY H. SCHROEDER, M. D.

Frequent examinations of healthy, as well as of unhealthy, individuals applying for life insurance have called the writer's attention to the fact that inorganic or functional murmurs occur more frequently, and imitate true organic murmurs more closely, than most of the text-books would lead us to believe. In a large number of these cases it is difficult, and sometimes impossible, to determine at a single examination whether the murmur is due to a structural lesion or whether it is occasioned by some unimportant cause or temporary condition. The question is worthy of the consideration of both the general practitioner and the medical examiner, for erroneous diagnoses of heart affections have often resulted in much needless alarm and anxiety, have prompted the uncalled-for administration of powerfully acting drugs, and have led to the loss of much good business by the insurance companies.

The previous history of the patient usually aids us in the formation of our opinions, but it is capable of causing confusion instead of rendering assistance. Acute articular rheumatism is by far the most common cause of acute endocarditis, to which, in turn, the majority of valvular lesions owe their origin. The structural changes in the valves, however, may be due to an acute endocarditis complicating one of the acute infectious diseases, or to a chronic endocarditis following the acute attack, or resulting from chronic alcoholism, chronic tobacco poisoning, constitutional syphilis, gout, Bright's disease of the kidneys, or immoderate muscular exercise. In a few rare cases the chronic endocarditis may be idiopathic. It is important to remember these facts, for, according to Strümpell, only a little more than half the cases of valvular disease can be traced back to acute articular rheumatism. Again, many cases of chronic endocarditis are due to that form of rheumatism peculiar to childhood, the prominent characteristic of which is a marked tendency to implicate the heart, even when the joint symptoms are so mild and vague that they escape notice. In still other cases, endocarditis fails to leave any after effects, or its sequelæ may be confined to the walls of the heart, leaving the valves and orifices intact. The absence or existence, then, of a history of rheumatism, and even of endocarditis, is not an infallible guide in assisting us to discriminate between the organic and the inorganic heart murmurs.

Enlargement of the heart coexistent with a murmur does not positively decide the case in favor of valvular leakage, for the hypertrophy may be the result of prolonged and violent muscular exertion, of some obstruction in the general circulation, or of perverted action due to tobacco or alcohol poisoning, excessive venery, anæmia, or neurotic disorders. Furthermore, a slight hypertrophy, for reasons to be noted farther on, does not always reveal its presence; therefore, a murmur apparently without cardiac enlargement may be organic.

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Adventitious heart sounds may be produced by a variety of conditions, such as pericarditis, pleuritis, and the action of the heart upon pulmonary cavities and consolidations, but those which properly come within the scope of this discussion are the hæmic, cardio-respiratory, and dynamic murmurs.

The intracardiac murmurs of anæmia due to blood changes are invariably heard at the base of the heart during systole, and are sometimes conveyed up the arteries of the neck. They are produced at the orifices of the aorta and the pulmonary artery. Unfortunately, systolic basic blood murmurs possess no special quality which would serve to distinguish them under all circumstances from the aortic obstructive murmurs, though they are commonly of lower pitch, softer, more blowing or whiffing, more diffused about the base, but not transmitted so far as the organic aortic murmur. They are heard over the pulmonary interspace rather than the aortic, are rarely detected below the nipple, and are probably never perceptible as far as the left apex or outward toward the axilla. They are easily rendered temporarily harsh by excitement of the heart, and are thought to be more intense in the recumbent position. The distinction will be based chiefly on the absence or presence of the venous hum in large veins, such as the jugulars or subclavian; also, if a strong blowing murmur is heard in the innominate and subclavian arteries (care being taken not to produce a murmur by too deep pressure with the stethoscope, and not to be deceived by the sounds from the air-passages in the neck), a coexisting systolic murmur at the base is, in part at least, inorganic; on the other hand, the cardiac murmur may be truly inorganic, and yet the arteries be perfectly free from abnormal sonorousness. A most important point of difference is that aortic obstruction is usually attended by enlargement of the left ventricle, whereas the hypertrophy of anæmia is a general one. Another fact which may occasionally lead to confusion is that the aortic and mitral obstructive murmurs, unlike others due to structural defects, disappear at times. It is generally accepted that a constant murmur at the apex during systole is always indicative of mitral regurgitation, and never due to the blood changes in anæmia, yet we have good authority for the statement that transient murmurs are occasionally heard at the apex in systole, and in rare cases during diastole. The probability is that these apex murmurs are due to dynamic changes. It should also be remembered that an existing anæmia may be the result of cardiac affections, and is not always the cause of an existing murmur.

Cardio-respiratory murmurs are probably more common than any other abnormal heart sound not due to organic changes. They are always systolic and are heard most distinctly during inspiration, or at times at the end of a full inspiration. They are usually created by the forcible expulsion of the air from the air vesicles by the impulse of the heart; in some instances, however, the respiratory murmur itself may simulate a systolic heart murmur. Naturally, then, these murmurs are usually heard at the apex, but occasionally they are seated at the base. As a rule, the false murmur fails to modify the normal heart sounds during expiration, and at once disappears when the patient holds his breath, especially at the end of expiration, when the air vesicles are relaxed. A point to be remembered here, however, is that forced expiration, such as we are apt to request of the patient in trying to clear up such a case, is capable of producing the dynamic murmur, which is to be mentioned later. Exceptions are met with in which the murmur persists throughout expiration, although it is perhaps not so marked as during inspiration; in other words, the murmur does not clear up satisfactorily in any stage of respiration, being heard with sufficient constancy and distinctness to give considerable trouble in distinguishing it from murmurs due to valvular leakage. This is especially apt to happen if the heart is acting forcibly, as it often does during an examination, when the patient is in more or less of an excited state. At such times there is nothing to do but to postpone definite diagnosis until another examination can be made at a more favorable time. As soon as we detect that the murmur is absent while the patient holds his breath at any particular point in respiration, we are justified in concluding that we are dealing with a functional murmur. It is well to call attention to the fact that the murmur due to mitral stenosis appears and disappears. It is presystolic, however, and characterized by a blubbering sound. Complete absence of hypertrophy, especially of the left side of the heart, is usually an indication that the murmur is not due to structural changes of the valves, and we could always rely upon this fact for the completion of our diagnosis, were it not for the occasional revelation at autopsy of an enlarged heart which had escaped the observation of men of unquestioned skill. This uncertainty may be accounted for by the variation in the extent to which the lung tissue invades the space between the heart and the anterior chest wall, in the degree to which the lungs recede or advance during inspiration, and in the amount of expansion of the air cells.

Dynamic murmurs accompany perverted or abnormal action of the heart, the result of some condition which increases the force or changes the direction of the blood current in the heart, or which modifies the anatomical relations of the valve structures. They are heard during systole and usually at the base, though sometimes at the apex. Dynamic murmurs from an overacting heart are often met with among athletes during or just after violent exercise, though in some they are fairly constant;

they are apt to be associated with hypertrophy, which may add to the difficulty of diagnosis. This form of murmur will sometimes be heard in a perfectly healthy person immediately after unusual exertions. In these cases the murmur is created by increase in the force of the blood currents and possibly by changes in the direction of the current, the blood being propelled against the edges of the valves instead of through them. As soon as the heart action becomes less violent the dynamic murmur usually disappears in healthy persons. In choreic and other neurotic patients the heart may undergo dynamic changes, interfering with the closure of the mitral valves, and thus creating a murmur which has the attributes pertaining to mitral regurgitation. In these cases the columnæ carneæ are supposed to share in the spasmodic movements and pull the mitral valves open. In neurotic cases the murmur disappears at intervals, as a rule, just as the external choreal movements do for a few seconds or minutes at a time. This apex murmur becomes inaudible as the primary neurotic disease disappears. It is a question, as has already been stated, whether a true hæmic murmur is ever heard at the apex, yet anæmia may give rise to apex systolic murmurs, not through changes in the composition of the blood, but by creating dynamic changes in the following way: the heart muscle and the papillary muscles become flabby from fatty degeneration and the cardiac walls become weakened and somewhat dilated, while the tougher tissues about the valves remain more normal. This allows two things to happen: the mitral valves recoil too far and permit a slight backward leakage, and the dilatation of the ventricles, without enlargement of the valvular orifices, constitutes a condition corresponding to normal cavities with stenosis of the valve opening. It may be, however, that the dilatation allows a vortiginous movement of the blood within the ventricle sufficient to give rise to a systolic murmur. Pressure of the heart, such as occurs in forced expiration when we are trying to eliminate a cardio-respiratory murmur, may so distort the valves as to interfere with their complete closure and thus allow a leakage. Pressure of the stethoscope upon thin, yielding chest walls, in rare instances, produces the same result. Walsh describes a systolic murmur at the left apex occasionally met with in masturbators who are perfectly free from any of the acknowledged physical signs or symptoms of anæmia and who have none of the usual attendants of organic mitral regurgitation.

I do not wish to be understood as stating that great difficulty is experienced in arriving at a diagnosis in the majority of cases of functional murmur. On the contrary, we are usually able to determine the nature of the false heart sounds by the exercise of moderate care. Yet, especially in life-insurance examining, it is demonstrated almost daily that the extreme cases alluded to do actually exist. For instance, a number of cases have come under my own observation in which a diagnosis of true valvular disease with cardiac hypertrophy had been made several years previously, and corroborated by several skilled examiners at about the same time, each one acting independently without knowledge of the other's opinions; when these cases were brought to my notice, there was unquestionably not the slightest trace of heart disease. At other times, the abnormal sound disappears in a few minutes; we may hear a marked systolic murmur at the base, possessing all the qualities of those due to structural changes, which disappears while we are examining the other organs, being quite inaudible when our attention is once more directed to the heart.

As a rule, then, functional murmurs do not strictly accord in position and conduction with those due to valvular disease; it is well to remember that all inorganic murmurs are practically always systolic, that they are seldom transmitted (the few exceptions being at the apex, and then only slight in degree), that they are usually unaccompanied by enlargement of the left ventricle, although occasionally a general cardiac hypertrophy coexists, and that they always disappear sooner or later, and sometimes during the first examination. A history of rheumatism, fever, previous heart disease, or the presence of anæmia, is, as we have seen, of value, but is not conclusive.

The subject is not of less importance because we are dealing with the exclusion rather than the existence of an incurable and dangerous condition. If the patient who suffers from disturbance of the heart action (whether it be a mere consciousness of its abnormity, severe palpitation, or anginoid attacks) can truthfully be assured that his troubles are not mortal, a most important step is taken in the treatment. On the other hand, most of us have seen persons whose lives have been rendered miserable by the ever-present fear of death, owing to a hasty and ill-considered diagnosis of a diseased heart, a diagnosis that never should be made without the gravest sense of responsibility, and in some cases necessitating not one, but several minute and careful examinations.

THE NONMALIGNANT NEOPLASM
OR
SO-CALLED POLYPUS OF THE RECTUM AND ANUS:
ITS ORIGIN, FORMATION, ÆTIOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT.

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The object of the writer on this occasion is to call attention to the interesting subject of the nonmalignant neoplasms or so-called polypi of the rectum and anus. These singular, exaggerated, and undetermined new outgrowths are not confined solely to the rectum, in which, however, they more especially abound, but are peculiar to all the mucous cavities of the body; consequently they are found in the uterus, the vagina, the nose, the ear, the bladder, etc.

Now, so far as the rectum itself is concerned, these morbid growths are of quite sufficient importance to entitle them to a much more elaborate consideration than at present obtains, for it must be conceded that too little attention has been bestowed upon them by practitioners generally; they are still too often diagnosticated as hæmorrhoidal or other tumors of the rectum, as the writer during a long practice could truly testify by giving numerous well-authenticated instances. And, furthermore, these neoplasms occur much more frequently and are much more serious in their consequences than is generally supposed. The writer, in the course of a private practice of fifty-nine years, has treated ninety cases of rectal polypi, so called, in persons aged from three to seventy-five years; fifteen were in children under five years old, forty-five were adult females, and thirty were males. Less than a century ago rectal polypi were considered a disease of rare occurrence. Sir Astley Cooper says that in the whole course of his practice he met with only ten cases, that the disease generally occurred in children and very rarely in adults, and that the most advanced age at which he met with it was twenty-two. Mr. Syme says the extreme rarity of rectal polypi may be estimated from the statement of Sir Astley Cooper. He further says that most of the cases which came under his own observation were in persons who had attained or passed the middle period of life. Mr. Baillie says that polypi of the intestines are by no means frequent; but he doubtless formed his opinion from the result merely of *post-mortem* examinations. Dr. Bushe says that if we may form any opinion from the cases of polypi of the rectum that have been recorded, they appear to have generally occurred in adults, and for the most part in women.

Now, in making an estimate of the real number of rectal polypi reported, we must consider that those who treat the diseases of the rectum as a specialty observe many more of such cases, and report them, than surgeons in general practice; that such cases are often overlooked, or are diagnosticated as hæmorrhoidal tumors; that patients having the disease in a mild form never consult a surgeon; that in the early stage of the disease, or when located in the superior portion of the rectum, the patients themselves may be ignorant of its existence; that in children a polypoid tumor is often mistaken for a prolapsus recti; that rectal polypi sometimes result in a spontaneous cure, as is well known, and may never be reported.

It may here be observed, however, that considerable research has been made in recent times by eminent anatomists and pathologists in the particular field of anatomy, histology, and pathology comprising the many and the different varieties of neoplasms. These valuable researches contrast most widely with the meagre knowledge upon this particular subject possessed in former times. The subject, however, is by no means yet exhausted. The writer will therefore endeavor, as briefly as possible, to make some practical observations upon it with the view to call attention directly to it, being, however, very sensibly impressed with the truth that it is impossible to do the subject full justice in a single discourse, but he hopes to present such an exposition of it as will include the principal salient points.

Appellation.—The technical term *neoplasm* is from the Greek νεορπλάσμα, a new growth, from νέορ, new, and πλάσμα, growth, which means simply a new formation or production. The Latin term *polypus* is derived from the Greek πολύπους, many-footed—that is, from πολύς, many, and πoῦς, foot. Now, why the term polypus, which has come down to us from remote antiquity, should always have been employed in surgery to designate a peculiar abnormal pedicellated growth of tissue, is strange indeed, and can not be satisfactorily explained, for it certainly can have no reference to the many attachments—feet, tentacles, or filiform processes—possessed by the marine animal of that name, as some authors declare. The writer will, however, on this occasion, for the sake of convenience and of being well understood, employ the terms *neoplasm* and *polypus* as synonymous, regardless of their etymology and signification, implying thereby that such a growth, as a rule, must have but one pedicle, whether slender or broad.

The writer, however, must not omit to state here that he has observed in his practice three cases of large adenomatous neoplasms of the rectum, all of them in adults, and all suffering from chronic inflammation or catarrh of the rectum; in each case, besides being united to the mucous tissue by the principal narrow pedicle, there were seen two or three adhesions or attachments to the same in the form of small, delicate feet or roots, doubtless the result of plastic inflammation; but even such cases must be rare indeed.

Neoplasms in and above the Rectum.—It is well known that the neoplasms are not solely confined to the rectum, but have been found to occupy different portions of the intestinal canal, and according to the valuable labors of Leichtenstern, the relative frequency in each of the designated portions of the intestinal tract is as follows; Duodenum, 2; jejunum, 5; ileum, 30; ileo-cæcal valve, 2; cæcum, 4; colon, 10; and rectum, 75.

Diversity of Rectal Neoplasms.—In order to arrive, if possible, at a more precise description by which the real nature and character of these abnormal growths, severally called polypi and neoplasms, may be the more readily understood and elucidated, the writer will proceed to give a brief description of the most striking phenomena in their variable character. They vary in situation, number, form or shape, size, consistence, exterior aspect, and sensibility.

These peculiar tumors are situated in different parts of the rectum—high up, and as low down as the verge of the anus—but they are usually located about two or three inches above that point, and often even much higher up and completely beyond the reach of the finger; and, as has already been shown, they are situated beyond the rectum in all the designated portions of the intestines. In number they are generally single, but may be occasionally double or multiple, and in rare cases may be exceedingly numerous and small, like granulæ or papillæ, and in appearance they indeed much resemble the exuberant granulations in an ulcer. The writer has seen two adult patients in whom a large part of the surface of the rectum was completely studded with them. Professor Rudolph Virchow (*"clarum et venerabile nomen"*) calls them *granuloma*, from the fact that they do not advance beyond the stage of granulation. Such cases have been described and reported by Cripps, Luschka, Billroth, and Richet (*vide* Bibliography). The shape of these neoplasms is generally pyriform, and when so their attachment is effected by means of a narrow neck or ligamentous peduncle; they are scarcely ever globular, and when so they have a broad base, and often not mobile; they are sometimes cylindrical in form, like earthworms, and of variable length. Several such cases have come under the observation of the writer, some of them measuring from one to three inches long; Sir Astley Cooper and Mr. Ball report a similar case. In size these outgrowths vary from that of a grapeseed or a pea, to that of a hen's egg, a walnut, or even to that of a large orange. The writer has removed many polypi, but none were larger than a hen's egg. M. Boyer mentions a case in which the polypus of the rectum was as large as two fists. Baillie reports the case of a polypoid tumor of the sigmoid flexure of the colon which was as large as the fist. M. Trélat, as reported by M. Pozzi, removed from the rectum of an adult male a very large neoplasm of the adenomatous variety. The growth measured eight centimetres in height by seven centimetres in width. Mr. Bowlby reports the case of a very large fibroma, as quoted by Mr. Ball, as follows: "A woman, while straining at stool, felt something come down which she was unable to return; an examination showed a tumor the size of a fœtal head attached by a pedicle an inch and a half in diameter to the anterior wall of the rectum, about four inches up. The base was transfixed and ligatured, and the mass cut away. It weighed two pounds, all but one ounce, and section showed it to be composed of loose connective tissue, the meshes of which contained a viscid fluid." Mr. Barnes also reports a similar case, as quoted by Mr. Ball, in which a tumor in the rectum, of the size of an orange, obstructed labor, and was removed by the galvanic cautery; it proved to be a connective-tissue tumor, in part cavernous.

The consistence or texture of these growths varies from soft, lacerable, or friable to firm or hard; when soft, which is most common, they feel like mucous membrane; they are but seldom hard.

The exterior aspect of these neoplasms is originally smooth, but sooner or later may become lobulated and roughened by deposits of lymph, and even abrasions, fissures, and ulcers are often discovered on their surface. As to their color, it is usually a dark red, but sometimes it is a bright red, just according to the number of blood-vessels by which they are supplied; their color, too, also varies with the structure of their exterior covering, whether that is either mucous, mucocutaneous, or cutaneous; pulsation may often be detected in those of a bright red color; in rare instances, however, their color is grayish, or of a dingy yellow. All neoplasms of every variety lack more or less sensibility.

Complications.—The neoplasm of the rectum and anus, as a rule, is neither attended by nor connected with any other affection, but it may sometimes be found associated or coexistent with some disease, in which it may be complicated or involved either as a cause or as an effect of it, such as internal hæmorrhoidal tumors, procidentia recti, anal fissure, catarrh of the rectum, obstruction of the rectum, etc.; this last cause is, however, of rare occurrence, yet von Esmarch gives a very interesting case in which the rectum was completely blocked by an enormous neoplasm weighing four pounds.

When a neoplasm is complicated with an anal fissure, it is always with the fibroid variety of it, according to the observation of the writer; in such cases the fibroma will be found situated at the superior extremity of the fissure, or at its inferior extremity, or a fibroma at each extremity may be seen at the same time, as the writer has often observed. In such instances the fibroma may either be the cause of the fissure or the effect of it; it may be the cause by a large fibroma producing a laceration of the mucous tissue of the anal canal, by violent defæcating efforts to extrude it; such a rent, by being constantly kept open and irritated at each subsequent evacuation of the bowels, may ultimately result in a painful fissure. The fibroma may, on the contrary, however, be the effect of the anal fissure, produced by the great irritation and inflammation of the mucous tissue which always attend that excruciating affection, for it can not well be denied that such a cause in the submucous tissue in which the fibroma takes its rise might result in its production.

Symptoms.—In its inception the neoplasm of the rectum is unattended by any symptoms sufficiently marked to call attention to its existence, neither are there any definite symptoms manifested when the tumor is situated in the superior portion of the rectum; but as soon as the tumor becomes well developed it generally gives rise to an exudation of mucus and blood mixed, which soils the patient's linen; and even pure blood is sometimes discharged by the anus, especially in children; sooner or later dull pains will be felt at the situation of the tumor, weight and fullness in the rectum, with tenesmus, and a sensation as if some foreign body were in it, and with considerable difficulty in evacuation. When the stools are of a certain consistence they are usually contracted and covered with blood, mucus, or pus, so as to lead to the belief that a stricture of the rectum exists. If the tumor is situated low down, or has come down from high up, by a gradual elongation of its pedicle, it will be protruded at each evacuation of the bowels.

Ætiology.—The cause of these neoplasms or polypi of the rectum and anus is by no means well understood, even at the present time, and in former times it was involved in obscurity. It seems to be a spontaneous affection, often occurring in persons who were previously healthy. Some authors, who speak of its origin, say that among the predisposing causes may be mentioned the lymphatic temperament, the herpetic, the syphilitic, or the scrofulous taint, and sedentary employment. The writer in some of the many cases of rectal polypi which he has seen and treated found that they were complicated either with anal fissure, rectal catarrh, or hæmorrhoidal tumors, and was of the opinion that the irritation and inflammation which always attend these painful affections were in these cases the cause of the polypi, and not the effect of them.

Classification.—In consequence of the many and the various characteristics which accompany the nonmalignant neoplasms of the rectum and anus, some pathologists of recent times have divided them into eight varieties, according to the different kinds of tissue or material of which each one is composed, as follows: Adenoma, fibroma, papilloma, teratoma, lipoma, cystoma, enchondroma, and angeioma.

Now, the division of these progressive and, as it were, undetermined neoplastic growths into so many varieties, with their expressive titles—and their number could, upon the same basis of division, be easily increased indefinitely—seems, in the opinion of the writer, to be more fanciful than practical and useful; for, inasmuch as the main characteristics of these growths are common to all of them, and the symptoms, causes, pathology, and treatment are about the same in the one as in the other, then why so many varieties? for it is most difficult, if not impossible sometimes, to diagnosticate correctly the different varieties of these rectal neoplasms, and to differentiate them from all other growths of the rectum. In former times all polypoid tumors, regardless of the signification of the name, were, as a genus or class, considered pedicellated or pedunculated, and in shape generally pyriform. This was the old and the only important distinction or pathognomonic evidence of polypi, wherever situated in the body. Subsequently, however, another division, as to variety, was made—namely, into soft and hard. The former included the adenomatous and the latter the fibrous varieties.

Time will not permit the writer on this occasion to enter into an exposition of the origin, formation, structure, and pathology of each of these varieties of rectal polypi, but he will confine himself more especially and briefly to the consideration of the few of them which are the most numerous; he will therefore begin with the adenomatous variety, which is the first, the most numerous, and the most common of all the designated varieties, and which, according to the observations of the writer, is, as a rule, nonmalignant.

Adenoma.—The adenomatous variety of the rectal neoplasm is simply an exaggeration, and, as it were, an undetermined outgrowth of some of the numerous and minute glands, follicles, or crypts of Lieberkuhn, as they are severally so called by histologists. This strange, abnormal typical gland structure, from some exciting cause, first manifests itself by an increase in the number of the glands themselves, as well as an excessive enlargement and elongation of them; even the peculiar cylindrical cells by which these tubuli are lined also become hypertrophied and lengthened; consequently, as this morbid change continues to progress, the glands become more and more convoluted. The tumor thus built up and enlarged in all its parts and in connection with the mucous tissue, which it involves and blends, projects into the cavity of the rectum at a higher or a lower point, where it is the cause of more or less opposition to the free egress of the fæcal mass, and by the automatic action of the organ itself, the tumor being a foreign body, is constantly urged or forced downward, by which a slender pedicle of mucous membrane is formed, which is soft and yielding and gradually becomes elongated, and so further favors the descent of the tumor, so that by these combined agencies the tumor, even from a considerable height, may ultimately reach the anus and be protruded through its orifice.

Fibroma.—The fibroma is a tumor of the second variety of the rectal neoplasm and originates in the cellular membrane. It consists of an exuberant outgrowth of this lax tissue. It is covered with a smooth mucous membrane, is pedicellate and generally pyriform, and is often found in the rectum and known as the fibrous polypus. This cellular-tissue tumor is usually small, but sometimes attains a very large size, as the cases of Mr. Bowlby and Mr. Barnes, already mentioned, show. The writer, however, has never seen a fibroma of the rectum larger than a pullet's egg. When large, this tumor on section is sometimes found to be cavernous.

Papilloma.—The papilloma is the third variety of the rectal neoplasm, and is both a very remarkable as well as a very uncommon filiform growth of the rectum. It is composed of the morbid papillæ of the mucous tissue, which from some irritating cause have become abnormally proliferous; and in process of time the projections of the morbid growth attain several lines in length. This remarkable tumor is either attached to the mucous membrane by a short, thick, or broad pedicle, or it is sessile; if it is examined when protruded beyond the anus, it appears as a mass of slender processes or projections, supported by a pedicle, or seated directly upon the mucous membrane when sessile. This singular shaggy tumor sometimes attains a large size and gives rise to profuse bleeding, as well as a constant sanguineo-mucous or serous discharge, and, when the tumor is situated low down, occasions much suffering and trouble by the frequent involuntary protrusions, and the difficulty of replacing it and of keeping it in place.

The technical term *papilloma,* in the opinion of the writer, is, in this instance, defective, in that it lacks that essentially exclusive property which all definitions and technical terms must absolutely possess in order to be effectual as such. The term papilloma is too elastic and embraces too much, and besides, it is employed, too, in a very loose and vague manner. It plainly includes in its grasp numerous cutaneous affections, such as various excrescences, vegetations, corns, warts, etc.

It is said that the papilloma resembles the villous polypus of the rectum so closely that it is almost impossible to distinguish the one from the other, hence some include the villous polypus in the papillous variety. Mr. Curling, however, calls it the villous tumor of the rectum, von Esmarch calls it the villous polypus of the rectum, and M. Gosselin calls it granular papilloma. There is evidently, however, a considerable difference between the papillous and the villous tumors. The villi and the papillæ are both normal constituents of the mucous membrane, and can be most readily distinguished, the one from the other, by the use of the glass. The former are much finer and more delicate, and Lieberkühn has applied the term *ampullula* to the extremity of each villus, while the latter are much coarser and shaggy, and their extremities club-shaped. In the morbid condition of the villi and the papillæ the difference is still much more strikingly evident. Their function also differs. Now, this difference is more than sufficient to entitle the villous tumor to a separate consideration, and to justify the introduction, as the fashion is, of another variety of the neoplasm of the rectum, which may with propriety be called *villioma.* The writer will next give a brief description of this variety.

(*To be concluded.*)

MEDICAL EXAMINATION FOR LIFE INSURANCE IN THE FIELD.

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To treat this subject exhaustively would require the space of a volume rather than that allotted to a magazine article. I do not think, however, that the ramifications of the subject need be gone into minutely. The men to whom the subject is of interest, and who would be eligible as medical examiners, are educated physicians. They have attained in college and practice the knowledge involved, and the point of vital interest is how most advantageously that knowledge may be manipulated to satisfy the needs of the life-insurance companies. It is the gathering together and bringing to bear most forcibly upon certain points of materials already in their possession. Examining for life insurance is a good deal of a specialty.

A successful physician, in the ordinary acceptation of the term, is not necessarily a good examiner. Indeed, if he has had little experience in this line of work, he is fairly sure of not being so. Some peculiar traits of disposition and manner, as well as mental adaptability and wisdom—and by wisdom I mean not only knowledge, but good judgment—and keen, accurate powers of discrimination are essential for the development of the highest type of the successful, efficient medical examiner.

Premium rates are based upon calculations derived from averages in the longevity of individuals under varying circumstances. These circumstances are the present physical condition of the applicant, his past health history, occupation, age, ancestral tendencies, etc. The object of the examination is to ascertain these points, and the nearer to the truth the company is able to get, the more reliable will be its judgment of the risk. As the reliability of the judgment increases, the premium rates can be reduced—within certain limits, of course; whereas, as the reliability decreases, the premiums must be larger, to furnish a safe margin for covering the increased death-loss contingent thereon. Hence the examiner is a bulwark for the policy-holder as well as the company, and the greater his skill the more complete will be the elimination of excessive premium rates.

The tendency to-day is toward cheap insurance, and, as its beneficent effects are being more and more recognized by the people at large, increasing its popularity, the position of the examiner becomes one of great responsibility. He has two interests to consider—first, that of his company, and, second, that of the applicant. He must not allow his company to be imposed upon, and subjected to the assumption of a risk which is in excess of its calculated hazard by a faulty examination due to ignorance or carelessness; and, on the other hand, he must remember that the privilege of life insurance is a boon of incalculable price to those who need it, and the right to this privilege of each applicant who comes before him is a matter which demands his serious consideration. A "rejection" amounts to little if anything to the examiner; it means a great deal to the applicant, as it casts a stigma over his whole future with every company he ever applies to, so far as acquiring assurance is concerned. A stock question upon every examination blank is whether or not the applicant has previously been rejected by any company.

Therefore, every care should be taken to determine whether a cardiac abnormity present at the time of examination is due to the temporary nervous excitement caused in some finely strung organizations by the ordeal, or to organic pathology; whether a nervous tremor when the applicant is under the eye of the examiner, or when he affixes his signature, may not be due to the same causes, or to the irritability of alcoholic or other excess; whether a "fistula" afflicting the applicant at some period of his past history may not really have been an anal fissure or an attack of hæmorrhoids; in short, whether a departure from the normal present at the time of examination, or a suspicious circumstance in his history, may not be due to an ephemeral factor which will disappear as soon as the examiner does, leaving the risk as safe as could be desired; to a cause which would impair the applicant from the company's standpoint; or to errors of understanding on his part by reason of which he innocently causes the interrogator to imbibe false impressions. Many an applicant has been rejected because these points have not been thoroughly and intelligently investigated, his chances of securing insurance in other companies hopelessly destroyed and always more or less impaired, and the consequences of the injustice of it can only be measured by the circumstances which make a life-insurance policy more or less desirable to the applicant.

Further, the company wishes to carry as many safe risks as it can secure, and when an applicant is unnecessarily "turned down" through a misapprehension of his true physical condition at the home office, it suffers a loss of revenue which is an injustice to itself as well as to the agent, who has sometimes worked hard and spent much time to secure the application and earn his commission.

It follows that an examiner's disposition should be cheerful, to inspire a like condition in the mind of the applicant; his manner open, unostentatious, and free from arrogance or pomposity, to avoid exciting that hysterical fear and dread of the ordeal which will sometimes send the pulse up to 100 beats per minute, throw the apex half an inch out of its natural position, and cause the applicant to say things he doesn't mean; and that his mental qualifications should be such as will enable him to note accurately and rapidly any deviations from the normal, and to trace them to their proper source quickly and systematically. In these days rapidity in "going over" an applicant is of great value, but accuracy and thoroughness should never be sacrificed to it. If an agent can tell a busy man that "*Our* doctor won't keep you more than half an hour," it will occasionally enable him to seize an opportunity, write the application on the spot, and get the man examined immediately; whereas, if his client was obliged to lose an hour, he would never reach a point where he thought that he could spare that much time.

A point of very great importance is promptitude in examining an applicant after the agent has handed in his papers. This affects the agent and the company, inasmuch as there are usually in these days of close competition two or more agents after the same man, and if the physician does not consummate the examination pretty soon after the agent "closes" him, another may step in, upset the first agent's plans, and get his doctor there before the dilatory examiner puts in an appearance. The company thus loses the application and the agent his commission. Or the applicant may change his mind, after thinking it over for a day or two, and have decided by the time Dr. Slow gets around "not to be insured." When an applicant has once been examined he feels himself somewhat obligated to the company, but it is not safe to relax vigilance until the insurance is effected. The examiner will save his company the loss of many a premium and his agent the loss of many a commission by following promptly in the latter's footsteps.

The first step in the examination, then, is to meet the applicant affably, quietly, and familiarly. Put him at case, if necessary, by a few minutes' conversation about something foreign to the matter in hand, in the meanwhile observing closely his external appearance with the object of ascertaining the existence or absence of three things—viz., dyscrasiæ, cachexiæ from drug habits or internal lesions, and the objective symptoms of physical or mental degenerations and organic disease. I do not mention acute diseases, because no one so affected will be presented for examination unless the disease is in its earliest incipience, and even then the examination will be pretty certain to unmask it. Even if it did not, the company would be protected, because by the time the policy was ready for delivery the disease would have developed, and it is always stipulated that the assured must be in good health when the policy is delivered.

Among the dyscrasiæ the tuberculous stands preeminent, the *bête noire* of life-insurance companies. The tubercle bacillus is their most dreaded foe, and the likelihood of the existence of a soil favorable to its development is to be most carefully investigated. The large, bright eyes, delicate sensitive skin, thin figure, narrow and hollow chest, and clubbed fingers should lead one to look during the physical examination for scars of old cervical lymphatic abscesses, to scrutinize rigidly the individual's past history with reference to bone, joint, and intestinal affections, the lungs, and his ancestral characteristics.

The presence of "tophi" in the finger joints will betray the lithæmic dyscrasia, and calcareous lesions in the circulatory apparatus will probably be found associated therewith. But more of this when we get to degenerations and the physical examination.

The cachexiæ produced by latent or hidden lesions and drug habits will frequently stamp their impress upon the skin of the face, as we see, for instance, in the hectic flush of incipient phthisis, the waxy skin of chronic nephritis, the dirty gray of cancer. I do not mean to imply by this that it is possible to diagnosticate an internal lesion by the appearance of the facial integument, or that such diseases always produce these identical abnormal appearances; but that cachexiæ from such lesions will frequently so change its appearance that it becomes noticeable to a careful, practised observer, and will lead him to look for something which might otherwise have escaped unnoticed and which the applicant may not be aware of, or, if he is, may not tell him about.

The drug habit with which we come most frequently in contact is that of the tobacco user, although this habit furnishes a very small proportion of the causes of rejection, and I believe, in spite of sensational newspaper reports to the contrary, that constitutional impairment from tobaccoism is rare. The cigarette is popularly believed, I think with reason, to be responsible for a large majority of the cases that do occur, and the yellow stains upon the fingers of the cigarette smoker should lead us especially to be on the lookout for signs of excess. This is not because the cigarette is in itself more harmful than the cigar or pipe, but because the cigarette smoker usually consumes more tobacco than he who uses the weed in other forms, and also because he inhales the smoke, thereby absorbing much more of the toxic principles than can pass through the buccal and nasal mucous membranes. Excessive inhalation also tends to produce low grades of chronic laryngeal and bronchial inflammations.

It has lately been stated upon good authority that the chewing of tobacco is productive of more harm than any other method of consumption, but my own observation leads me to believe that when we take into consideration the indirect and remote consequences of excessive cigarette and cigar smoking, the point will admit of discussion. However, this is not a treatise upon the tobacco habit.

An *excessive* use of tobacco can not be determined by any fixed limit as to the actual quantity consumed *per diem.* Individual constitutions vary in their susceptibility to the action of the drug, and a quantity which one man may consume with perfect impunity would wreak destruction upon another. Therefore, we must base our judgment as to excess upon the physiological manifestations present rather than the absolute quantity consumed. Objective symptoms of excess are pale skin, cold, clammy hands, irritable nervous system betrayed by a sensitive heart, and muscular tremors, especially in the lips and hands, occasionally slight conjunctivitis, and slight hacking cough. By inquiry we shall discover digestive disturbances, frequently insomnia, and sometimes chronic intermittent local neuralgias.

Next in frequency we shall meet with the habitual ingestion of alcoholic beverages, and this weakness will not infrequently give us cause to question the applicant's fitness for insurance. It is not the man who "gets drunk occasionally" that will require our most earnest consideration, it is he who styles himself a "moderate" drinker. When the ingestion is excessive it will betray itself by the characteristic odor in the breath, injected conjunctivæ, and the dilated and congested capillaries in the skin, especially about the end of the nose and over the cheek bones. Irritability of the nervous system and muscular tremor may be present, but are more frequently absent during examination. The applicant takes a "bracer" before he comes up for inspection.

These are the individuals who develop cirrhosis of the liver, nephritis, etc., and who rapidly succumb to pneumonia, typhoid, and other exhausting diseases. Here, again, we must depend, when judging of excess, upon the physiological evidences present rather than the absolute quantity consumed *per diem,* to say nothing of the unreliability of the "moderate" drinker's statements as to quantity.

The morphine *habitué* will not often try to secure a life-insurance policy. In addition to the fact that the indulgence has made him absolutely selfish and indifferent to the welfare of his family or anybody else, he dreads the exposure of his weakness with an exceeding great dread. When threatened with discovery he will lie in the most outrageous manner and resort to *any* subterfuge to avoid it. I have known denial of the habit to be persisted in after the victim had been confronted with absolute and irrefutable proof of my knowledge of his indulgence. For this reason, when he does come up for examination, the physician will have to depend entirely upon his own unaided acuteness of observation for information upon this head. Contracted pupils, face evenly and faintly flushed; slightly hoarse and slightly thick, somewhat impeded and uncertain articulation; rather slow and uncertain muscular movements, uneasy manner, and anxious, wavering glance caused by his fear of detection, with the frequent scratching of his itching skin, particularly about the nose, should arouse the physician's suspicions in this direction. These evidences will usually be more distinctly observable because the applicant will be likely to have taken a "jab" shortly before he interviews the examiner, to strengthen his nerves for the ordeal. If he happens to receive an unexpected call from the examiner when he is not prepared and comfortably under the influence of the drug, the nervous symptoms, which progressively increase as the effect of the dose wears off, will be so exacerbated that one's attention will be attracted to the fact that something is wrong. The patient will leave the room to take an injection, and his changed appearance when he returns in a few minutes quieted and "braced" will lead to his detection.

The cocaine habit will so rarely come under the notice of the insurance examiner that it hardly deserves a mention. In a personal experience with several thousands of applicants from all grades of society I have never met with a case. When it does obtain, however, the evidences of mental and physical degeneration will pretty surely be sufficiently pronounced to quickly attract the examiner's attention to the undesirable character of the risk.

Almost the same may be said of mental degeneracy when it exists to any extent, and the milder cases, with the attempt to secure insurance upon which we are sometimes confronted, will not usually offer much difficulty in the way of their detection, through the applicant's manner and the character of his answers during the course of the examination.

Of the physical constitutional degenerations the commonest is the calcareous, and we shall frequently see it indicated by the arcus senilis, the little light-colored ring which appears to surround the iris. This ring of pathological tissue was formerly supposed to be pathognomonic of fatty degeneration of the heart. As a matter of fact, however, it is produced by anything which interferes with the active function of the blood-vessels nourishing the part, and calcareous change in the arterial walls does that more frequently than anything else. Another evidence is cataract formation.

The fatty tendency does not show itself to the eye by any other sign except obesity, and the physical examination and past history of the individual, especially as regards cardiac and respiratory phenomena, will have to be depended upon to reveal it.

Degenerative changes in the central nervous system will produce visible symptoms identical with those due to deep nervous lesions from other causes. Indeed, many of the chronic nervous diseases are pure and simple degenerations, and I shall touch upon them later among the objective signs of chronic disease.

Dermatoses present on the face or hands will readily attract the attention, and in so far as they are connected with internal pathology will lead us to search for the two gravest diseases which include these phenomena among their manifestations—viz., syphilis and diabetes—and for digestive derangements and the gouty diathesis. The limits of this article will not permit my going into the different anatomical characters of skin eruptions, as to their relative value in indicating what constitutional depravity may be the cause thereof, nor do the necessities of the case demand it. In fact, in the most important of all, syphilis, because of its comparative frequency and gravity and the very commonly mild or latent non-obtrusive character of its symptoms, it would be about absolutely useless. The cutaneous manifestations of this disease have an unlimited variability in appearance. Suffice it to say, therefore, that the presence of any cutaneous eruption should bring the possibility of the existence of these conditions to our attention.

As to syphilis, I will say here that we should always examine the mouth and throat and question the applicant as to his past history bearing upon this point. Many people have it and do not know it, but its present pacific attitude is no guarantee that its future conduct will be as innocuous. I once had an applicant come before me, janitor by occupation, of splendid physical appearance, irreproachable character, and apparently of vigorous health, giving a history of occasional eczematous attacks since babyhood. Had had two children, both of them afflicted in the same manner, but no suspicion of specific trouble had ever entered his mind or been suggested to him by his physician. He was an intelligent fellow of an inquiring mind, homœopathic in his sympathies, and told me naïvely that the only drug which mitigated the attacks was "mercurius." On looking into his mouth I found mucous patches under the tongue and on the cheek where some of his teeth impinged. A subsequent course of mercury and potassium iodide, taken under my direction and by the advice of a skin specialist whom I called in consultation for extensive ulceration posterior to the corona glandis and spreading over the mucous surface of the prepuce, associated with great œdema and nervous prostration, confirmed my diagnosis by dissipating the whole train of symptoms and curing the "eczema." This man had had syphilis all his life, innocently acquired beyond a doubt, and probably inherited, but his constitutional resistance had been sufficiently powerful to confine its ravages to an occasional attack of eczema. I mention this case to illustrate my assertion that many people have syphilis and do not know it, and to emphasize the advisability of looking up carefully the significance of remote and apparently trivial symptoms. We shall sometimes be astonished at the incongruity of what appears to be the case, what the applicant believes or would have us believe is the case, and what actually *is* the case.

As to diabetes, some life-insurance companies require a urinary examination in all cases, but all require it for policies amounting to three thousand dollars and over, and the detection of the disease in these cases is provided for. When a urinary test is not called for, however, a harsh, dry, or itching skin, or furunculous tendencies with a history of recurrence, should induce us to make one on our own responsibility, or to notify the chief medical examiner, that he may order it if he sees fit. This disease usually shows itself plainly, but not always, and it is the rare masked, hidden, or incipient cases, against which we must be particularly on our guard. Persons who know they are ill seldom apply for life insurance.

The acne of digestive derangements, and the gouty diathesis, can usually be easily traced to their respective causative factors by the concomitant symptoms which will be present.

Lastly, the pale skin and colorless lips of anæmia, idiopathic or secondary, can hardly fail to arrest the attention, and Addison's disease, as indicated by the "bronzed" skin, need barely be mentioned because of its rarity. I have never encountered a case.

The greatest number of the symptoms of chronic pathological conditions which are detectable by scanning the applicant are furnished us by his eyes; and they are the exophthalmia of Graves's disease, the puffy eyelids of some varieties of nephritis, the yellow conjunctivæ of some varieties of malignant hepatitis or gall-duct occlusion; nystagmus and ptosis, pointing to lesions of the central nervous system; unequally contracted pupils, sometimes indicating brain lesions and sometimes caused by the pressure of a thoracic aneurysm upon the sympathetic innervation of the iris, and which it may be well to mention in passing should always induce a search for a history of iritis, as old adhesions will sometimes deform the iris so as at first sight to closely simulate the enlargement of graver conditions; and the cold, fixed, expressionless stare associated with deficient control of the facial muscles, due to an old cerebral hæmorrhage in which absorption of the clot has been fairly complete.

It may appear superfluous to detail these items to physicians who have been educated in the symptomatology of disease, but examining an applicant for life insurance involves, as I have previously intimated, a different way of exercising one's faculties for the detection of physical impairment than that which obtains when one is called to see a patient who is avowedly ill and seeking relief. In the latter case the victim frankly tells the doctor all he knows about his ailment. In the former case he either does not know that anything is wrong, in which case he will of course have nothing to tell, or, if he does know that he is impaired, he will strive to hide it from the examiner in order to get the policy. I have known examiners of professional ability but limited experience in this line to overlook unequally contracted pupils, Graves's disease with slight ophthalmia, arcus senilis, and traces of old cerebral hæmorrhage, strange as it may at first sight appear, and in the light of this experience I consider it worth while to emphasize these points.

Other ocular evidences of deep nervous lesions are the twitching lips of commencing bulbar paralysis, the "scanning" speech and sometimes barely perceptible "intention tremor" of incipient multiple sclerosis, the rhythmical tremor of paralysis agitans, modifications of gait, a striking example of which we see in the spasticity of the same in tabes dorsalis, the thyreoid enlargement usually present in Graves's disease, and the opaque corneæ of old syphilis.

This brings us to the last of the outward and visible or audible symptoms—viz., the characteristic respiration of the asthmatic; the slight hoarseness and cough of chronic laryngitis, which may be tuberculous or syphilitic, or due to pressure upon the recurrent laryngeal nerve by a thoracic aneurysm; enlargement of cervical lymphatic glands, syphilitic or "scrofulous"; visible throbbing of the cervical blood-vessels, sometimes occurring in aortic regurgitation; the muscular contractures and joint deformities of old rheumatism, spinal curvatures, and the ankylosis of hip-joint disease.

The last-mentioned would perhaps more properly come under the head of deformities than symptoms, but, as they are the results of inflammatory processes pretty certainly tuberculous in nature, they will serve early in the examination to call our attention to the possible existence of other results of the diathesis which may or may not have been outgrown by the victim.

Of the deformities in general, whether congenital or acquired, it is only necessary to say that they should always be minutely and accurately described in the report, as they may be valuable means of identification when the death-claim is presented, if nothing more.

These symptoms will rarely be found well marked because, as I have said, people who are consciously ill or impaired seldom apply for insurance. It is therefore only in their incipience, when symptoms are faintly manifest, that we shall meet the diseases of which they are the expressions. Hence the desirability of being able to detect quickly the presence, and grasp rapidly and accurately the significance, of *any* deviation from the normal.

It will be observed that a few moments' preliminary inspection of the applicant will sometimes give a practised eye some valuable indications as to the lines which should be emphasized during the subsequent conduct of the examination, especially if the applicant be desirous of concealing anything.

(*To be concluded.*)

Therapeutical Notes.

A Snuff for Ozæna.—The *Journal de médecine de Paris* for May 8th attributes the following formula to Meyer:

℞ Powdered charcoal, Powdered cinchona, Powdered myrrh,	..........equal parts.
M.	

Ichthyol in Neuralgia.—According to Erlenmeyer (*Centralblatt für die gesammte Therapie; Riforma medica,* June 28th), ichthyol is an excellent remedy for neuralgia, when locally applied, according to the following formula:

℞ Ichthyol	300 grains;
Absolute alcohol, Sulphuric ether, } of each	2½ ounces.
M.	

To be rubbed into the affected part.

The Declining Stage of Acute Bronchitis in Old Persons.—Patton (*Clinical Review, June*) recommends the following mixture for use when the acute symptoms are past, but the cough, with moderate secretion, still persists:

℞ Sodium iodide	90 grains;
Codeine sulphate	5 "
Fluid extract of grindelia	6 drachms;
Syrup of Tolu, enough to make	3 ounces.

M. The dose is not stated.

A Lotion for Itching of the Scrotum.—The *Gazette de gynécologie* for July 1st gives a prescription of Leistikow's as follows:

℞ Corrosive sublimate	4½ to 7½ grains;
Alcohol	375 "
Chloroform	5 drops;
Distilled chamomile water	375 grains;
Cherry-laurel water	750 "
M.	

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THE INEFFICIENCY OF NONCONSOLIDATED FIELD HOSPITALS.

THE *Indian Medical Gazette* for July has the following remarks in an editorial upon Field Hospitals in the Tirah Campaign: Their Defects and Remedics. They emphasize in a remarkable manner the very points laid down in our leading article on The Breakdown of Medical Supplies in Cuba in our issue for August 6th:

It is generally admitted, says our contemporary, that the field hospitals proved to be too cumbersome for the mountain warfare in Tirah; and as a consequence, despite the untiring exertions of the medical officers, many brave lives were lost which otherwise might have been saved had the hospitals been more mobile. The sheer size and weight of all the equipment has seriously impeded the efficiency of the hospitals, and to this were superadded the defects of organization, an indifferent transport, insufficient guards, crowding in camp, etc.

The *Gazette* then examines the chief defects in detail, and endeavors to point out their remedies. As to organization, it says that the various individuals of the establishment of the field hospitals were collected from all parts of the empire. Medical officers from the various commands were put more or less indiscriminately together. The medical subordinates were collected in the same way. They were strangers to each other, and to the medical officers under whom they served. And it was the same with regard to menial servants, the commissariat and transport subordinates attached, and the remainder of the *personnel* of the hospital. The result was that at the beginning of the expedition, when the work was the most arduous, the field hospitals were wanting in cohesion, and the medical officers, with a few exceptions, had had no previous training in working them. Almost without exception the medical subordinates had to be taught their special duties; and it was only when the active part of the campaign was over that the hospitals really began working as cohesive units. No one, says the *Gazette,* would venture to take a few men from a number of different regiments, from all parts of India, put them together just in time to take part in an expedition, officer them from regiments in other provinces, and expect them to do good work. Yet this is what is done in the case of field hospitals.

The *Gazette* concludes this portion of its article as follows: "Troops are constantly being trained for war service in camps of exercise. Can not the same be done with field hospitals? These are stored at the medical store depots, as well as at various other centres throughout India. Would it not be possible to so arrange that the establishment of the hospital could be taken from the district in which the hospital is located? Each of these hospitals could have a more or less permanent establishment during peace time; and during camps of exercise, the hospital should be mobilized, and medical officers and subordinates made familiar with its equipment and working. A roster could be kept showing the numbers of the next hospitals for service. When war broke out, each man would then know his place and his duties, and the hospital would be in a position, from the very first, to treat the wounded promptly."

The analogy between the situation upon which our Indian contemporary is commenting and that presented in some of our own hospitals is perhaps sufficiently close to warrant our taking a hint from its article, especially if, as is to be hoped, our regular army is soon greatly augmented.

THE TEACHING OF "PHYSIOLOGY" IN THE PUBLIC SCHOOLS.

THE folly of legislation calculated solely to gratify a handful of zealots has often been pointed out, and we still hope to see the time when the majority of legislators will not vote for pernicious bills to subjugate the individual conscience, however much they may desire the cooperation of the promoters of such bills in the enactment of measures of their own. A resolution offered at the Denver meeting of the American Medical Association by Dr. Lautenbach, of Philadelphia, ought to go far toward remedying one phase of the evil, that of compelling the teachers in the public schools to instill lies into the pupils' minds under the guise of physiology. The craze has reached its height in the State of New York, where actually the law lays down a specified number of hours to be spent weekly in reiterating highly overdrawn pictures of the evils due to alcohol, tobacco, etc. We are glad, therefore, that the sensible people of this State are now getting some moral assistance from people in other parts of the country, as is denoted by Dr. Lautenbach's resolution and by an excellent editorial on the subject published in the July number of the *Medical Register,* of Richmond.

The resolution points out that errors in public-school text-books treating of physiology, hygiene, chemistry, and other subjects allied to medicine are prone to cause misapprehension and doubt, and may occasion serious damage to the life, health, and welfare of the people; and it provides that the president of the American Medical Association shall appoint a committee of five who shall be empowered to examine all such works and communicate with their authors and publishers with regard to errors found in the books, with a view to the elimination of those errors, and report the results to the association annually.

Our Richmond contemporary, taking the resolution as its text, says: "There can be no doubt of the fact that, properly taught, physiology and hygiene are among the most important branches of instruction in our public schools, serving not only as mental training but filling also the more important rôle of imparting to pupils a knowledge of the human system and removing ignorance as an excuse for abuses of its functions. Unfortunately, the advantages which would be gained by the proper teaching of these branches are not secured to any great extent by the methods now in vogue, and the first difficulty lies in the text-book. This is not to be wondered at when it is remembered that the prime idea in selecting these books is usually to impress upon pupils an exaggerated and terrifying conception of the injurious effects of alcoholic beverages and tobacco, and that a brief but imperfect description is given of the structure and functions of the body only with the view of showing how they are injured by these destroyers of mental, moral, and physical well-being.

"The text-book which teaches but little physiology (and that little inaccurately), but devotes much space to the consideration of the injurious effects of alcohol and tobacco and to reciting harrowing anecdotes of the ruin they have wrought, has a far better chance of being adopted in our public schools than has the accurate, carefully prepared book wherein real, though elementary, physiology is taught and the effects of alcohol and tobacco stated in their true terms. Where there is a demand for a product it will always be forthcoming, and hence a horde of writers have supplied the kind of books which meet the requirements of our educators as influenced by the W. C. T. U. No competent physiologist, possessing a love for the truth, can be found who would overstate the matters as required, and hence the text-books are written by individuals of limited requirements along these lines. We do not for a moment wish to underestimate the injurious effects of spirituous liquors when taken to excess, nor to deny that there are many individuals who should not indulge in tobacco, but to make these topics the main theme in text-books of physiology and hygiene, and that at the expense of correct teaching, is altogether wrong."

What the *Register* says on this subject will, we are sure, be confirmed by everybody who is really versed in physiology and hygiene. It is expressed with moderation and dignity, and we welcome it as well calculated to aid in checking the vicious tendency to legislate in the interest of cranks' purposes.

MINOR PARAGRAPHS.

HAIRPINS IN THE BLADDER.

Several cases have been recently reported of hairpins in the bladder. Dr. Andrew F. Currier, in the *Annals of Gynæcology and Pædiatry* for August, has an article on The Method of Choice for the Removal of Hairpins from the Bladder of Women. He points out the large number of recorded cases, and has analyzed no fewer than fifty-six. The principal reasons for their introduction are as an adjunct in masturbation and for the production of abortion, the urethra being entered by mistake for the vagina. Cystitis, pain, dysuria, and frequent micturition follow their introduction, with occasionally hæmaturia and constitutional disturbance. Mucous, phosphatic, or uric-acid concretions speedily gather upon the hairpin. The wall of the bladder is frequently thickened, or the anterior vaginal or rectal walls perforated. The usual position for the hairpin to occupy is in the transverse axis. The time of retention varied from a few hours to fourteen years. The modes of detection were by a sound in the bladder, by the finger in the urethra or vagina, by cystoscopy, and by the X ray. Of the process of removal he says that in twenty-four cases the urethra was dilated and the finger introduced into the bladder. Strange to say, very few cases of incontinence followed this treatment. In seven cases, most of them in the earlier reports, the urethra was incised to facilitate either the introduction of a finger or of an instrument of some character. In eight cases, in addition to dilatation or incision, lithotrity was practised upon the calculus or calculi before withdrawing the hairpin. In thirty-six cases the hairpin was withdrawn through the urethra with a forceps or hook, the instrument being improvised in some instances for the purpose. In a number of cases it was possible to remove the offending body without dilating the urethra, but such good luck can not usually be anticipated. In eleven cases it was removed through a vaginal incision, in one by suprapubic cystotomy, in three it was passed through the urethra spontaneously with the calculus which surrounded it, and in four it was removed by a hairpin extractor. Of this instrument, there are several types, including Courty's, Galli's, Collin's and Leroy d'Etiolle's. Unless used with a certain amount of skill and dexterity an instrument of this kind may do much damage. In one of the cases the operator perforated both bladder and rectum with it. The result in these cases may be said to be very gratifying. In forty cases there was immediate, in four there was gradual cure. One case resulted in chronic cystitis, four in incontinence, which may not have persisted, and four in fistula. As to the method of treatment, his own preference would be, almost without exception, vaginal incision. If the case is a fresh one, it is a simple matter to remove the hairpin through a small opening, irrigate the bladder, and immediately close the wound. If the case is one of long standing, the bladder should be opened to permit of drainage and relief to the chronic cystitis. If a stone must first be crushed, it can be done with great ease through such an opening; and whatever the position of the hairpin may be, it can be accurately determined and its removal can usually be accomplished without doing further injury to the structure of the bladder.

THE PROPER METHOD OF CATHETERIZING WOMEN.

Dr. L. B. Allen (*Medical Council,* August) emphasizes the folly of allowing æsthetic considerations to override safety in this operation, and calls attention to the fact that the exposure of a woman's genitalia is a trifling matter compared with the great danger of introducing septic infection to the bladder which is consequent upon the old-fashioned attempt to catheterize without exposure under the bedclothes. There is nothing new, of course, in this in these days, but as sufficient attention is by no means commonly given to the subject we reproduce his directions for the proper method of procedure. He says substantially: Cleanse the hands, catheter, and patient. Carefully expose the genitalia, and with the fingers of the left hand separate the labial folds. After saturating a small pledget of absorbent cotton in a (weak) carbolized solution, or other suitable antiseptic, thoroughly sponge the vestibule and around and over the meatus. Now, being able to see, you will not have to touch the point of the catheter or the surrounding tissues, but can insert it directly into the meatus. This will prevent as much as possible the danger of the introduction of germs into the urethra and bladder, and may thereby save both patient and physician subsequent trouble.

THE PATIENT'S POSTURE IN BED.

Gerhardt (*Zeitschrift für Krankenpflege,* 1898, No. 4; *Deutsche Medizinal-Zeitung,* July 18th) remarks that the patient's posture is of particular importance with regard to the occurrence of pulmonary atelectasis and hypostasis in the course of severe febrile diseases, also to the prevention of bedsores. If the bed stands with one side against a wall, which is not desirable, solidification of the lung generally takes place on the side on which the patient is inclined to lie. In unilateral bronchiectasis and pulmonary gangrene the patient should frequently lie on the sound side, to favor the escape of the discharges.

SUTURE OF MUSCLES IN A CASE OF CLEIDO-HUMERAL NEARTHROSIS.

At a recent meeting of the French Academy of Sciences (*Gazette hebdomadaire de médecine et de chirurgie,* June 16th) M. Ollier reported the case of a man who met with a gunshot wound of the shoulder in 1870. The wound closed in seven months, but it broke out anew thirteen years later, in 1883. Three operations were resorted to for the purpose of stopping the suppuration: In 1884 the head of the humerus was resected, in 1885 a part of the scapula was removed, and in 1890 the remainder of the shoulder-blade was taken away. The suppuration then ceased, but the limb hung down powerless, having nothing to sustain its weight but a few muscular fibres springing from the anterior aspect of the clavicle. In December, 1893, when the man was forty-eight years old, M. Ollier removed a slice from the end of the humerus, preserving the periosteum, and attached the bone to the freshened surface of the clavicle. The result was a fibrous joint admitting of sufficient movements of the arm in all directions, especially forward and backward. The deltoid was freed from its cicatricial adhesions and sutured to the trapezius so as to form a digastric muscle. Wherever the trapezius was wanting, having been lost in scar tissue, the deltoid was sutured to the periosteal and fibrous investments of the extremity of the clavicle. Other scapular muscles were treated in the same manner, and the operation resulted in a useful arm.

COMMERCIAL WINE OF CINCHONA.

It seems that a concoction purporting to be the official wine of cinchona of the *Codex* is sold in some of the cafés and dram-shops in Paris. The *Gazette médicale de Paris* for July 9th summarizes an article on the subject, by M. Carles, which appeared in the *Revue de chimie analytique appliquée.* According to Carles, this so-called wine of cinchona seldom if ever contains any of the characteristic constituents of Peruvian bark, but generally owes its bitterness to a little gentian, quassia, or common centaury.

HYPERTHERMIA AND THE CORPUS STRIATUM.

Thoele (*Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie,* iii, 1; *Centralblatt für Chirurgie,* July 23, 1898), who restricts the term hyperthermia to cases of abnormally high temperature without other symptoms of fever, relates the case of a man, thirty-one years old, who was trephined for epilepsy consequent upon an old fracture of the skull. Directly beneath the dura mater there was found a large cyst. It proved to be the lateral ventricle, much dilated. The wound was tamponed, and after the removal of the tampon there persisted until the thirty-fifth day a fistula which discharged a great deal of cerebro-spinal fluid. Up to the forty-fifth day there was a rise of temperature which reached 104° F., but the pulse was good and there were no other symptoms of fever. The hyperthermia in this case was regarded as the result of direct irritation of the corpus striatum by the operation and the consequent changes of the intracranial pressure and circulation. It is added that, according to recent researches, the corpus striatum seems to be the chief heat centre.

INUNCTIONS OF METALLIC SILVER IN SEPTIC AFFECTIONS.

Credé, of Dresden (*Archiv für klinische Chirurgie,* lv, 4; *Centralblatt für Gynäkologie,* July 23, 1898), whose investigations of silver as an antiseptic are accepted as being very promising, finds that a mass of ointment containing from fifteen to forty-five grains of chemically pure metallic silver, rubbed into the cleansed skin for from fifteen to thirty minutes, has a manifest good effect in conditions due to staphylococci and streptococci. The affections in which it acts particularly well are lymphangeitis, phlegmons, septicæmia, and those septic processes which accompany such infectious diseases as scarlet fever, diphtheria, erysipelas, tuberculosis, intestinal infections, typhoid fever, and gonorrhœa.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 6, 1898:

DISEASES.	Week ending July 30.		Week ending Aug. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	28	8	29	15
Scarlet fever	99	15	71	6
Cerebro-spinal meningitis	0	7	0	11
Measles	94	8	102	11
Diphtheria	152	16	118	12
Croup	2	2	2	2
Tuberculosis	200	157	100	145

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and plague were received in the office of the supervising surgeon general during the week ending August 6, 1898:

Small-pox—United States.

Hurricane Bayou, Ala.	July 28	1 case.	
Mobile, Ala.	July 30	1 "	
Boulder Co., Col.	July 26	1 "	
Los Animas Co., Col.	July 26	5 cases.	
Atlanta, Ga.	July 27	1 case.	
(Imported probably from West Point, Ga.)			
Laurel, Miss	July 28	2 cases.	
Meridian, Miss	July 28	2 "	
Asheville, N. C.	July 19	1 case.	
Catawba, N. C.	July 19	6 cases	in 1 family.
Cleveland, Rowan Co., N. C.	July 19	7 "	
Durham, N. C.	July 19	1 case.	
Elmwood, Iredell Co., N. C.	July 19	2 cases.	
Mooresville, Iredell Co., N. C.	July 19	1 case.	
Reidsville, N. C.	July 19	1 "	
Spartanburg, S. C.	July 26	4 cases.	
Goshen, Clermont Co., Ohio.		15 "	

Small-pox—Foreign.

Ghent, Belgium	July 8–16	2 cases.	
Hong Kong, China	June 4–11	1 case,	1 death.
India, Singapore	May 1–30		4 deaths.
Southampton, England	June 18–25	2 cases,	3 "
(One case removed from S. S. *Ebro* and one from S. S. *Briton*.)			
Marseilles, France	June 1–30		1 death.
Odessa, Russia	June 2–9	2 cases.	
St. Petersburg, Russia	July 2–9	6 "	3 deaths.
Christiania, Sweden	July 2–9	6 "	1 death.
Christiania, Sweden.	July 9–16	1 case.	

Yellow Fever.

Araraguara, Brazil	April 1–May 31	125 cases,	57 deaths.
Descalvodo, Brazil	May 1–31	2 "	1 death.
Ribeira Bonito, Brazil	April 1–30	6 "	3 deaths.
Rio de Janeiro, Brazil	June 10–17	28 "	26 "
Rio de Janeiro, Brazil	June 17–24	15 "	12 "
Santos, Brazil	April 1–30	103 "	52 "
Tampico, Mexico	July 17–24	15 "	7 "

Plague.

Hong Kong, China	June 4–11	22 cases,	103 deaths.
Hong Kong, China	June 11–16	15 "	20 "

The Health of Dr. Guitéras, of Philadelphia.—Dr. John Guitéras, who has been in the field since the war began, returned home on August 5th. From the excessive duties imposed upon him during the epidemic of yellow fever his health gave way, and he lay for several days prostrated with fever, from which he has not yet fully recovered. We learn that his return was due solely to broken health and that there is absolutely no truth in the reports of differences between him and the Red Cross people. He is said to have remarked that there was only one dispute of importance down there, and that occurred between the Spaniards and the Americans. He further states that yellow fever is not the most serious disease in Santiago, as so far it has proved mild, but that malarial fever and typhoid are responsible for most of the sickness.

The Late Dr. William Pepper.—The name and fame of Dr. William Pepper are to be perpetuated in Philadelphia by the erection of a bronze statue by the department of archæology and palæontology of the University of Pennsylvania on the grounds of the Philadelphia Commercial Museums. The memorial figure is by Karl Bitter, of New York, and represents Dr. Pepper seated in a characteristically pensive attitude. The pedestal is to be of granite decorated with figures and bronze tablets. Various societies, including the Philadelphia Club, have adopted fitting testimonials to Dr. Pepper's memory.

A Sanitarium for Consumptives in Pennsylvania.—The overcrowded condition of the Philadelphia Hospital has for some time received the attention of many physicians whose duty it is to look after the city's poor. The wards for patients with tuberculosis, like all the others, are filled to overflowing. The Pennsylvania Society for the Prevention of Tuberculosis has for some time been trying to devise ways and means by which to correct this evil. It is now proposed to build a sanitarium for the purpose. A proper situation has been selected in Luzerne County. A city sanitarium is also spoken of where those suffering from this disease might be properly treated without exposing others to infection.

The Canadian Medical Association.—The thirty-first annual meeting will be held in Quebec on August 17th, 18th, and 19th, under the presidency of Dr. J. M. Beausoliel, of Montreal. In addition to the president's address the programme includes the following papers: On the Duty of the Medical Profession to the Question of the Treatment of Inebriates, by Dr. A. M. Rosebrugh, of Toronto; Monocular Diplopia, by Dr. G. Sterling Ryerson, of Toronto; Septic Peritonitis Consecutive to Appendicitis, and its Surgical Treatment, by Dr. D. Marsil, of St. Eustache; Goître, by Dr. C. R. Dickson, of Toronto; Traumatic Rupture of the Bile Duct followed by Operation, by Dr. R. H. Garratt, of Kingston; A Case of Fracture of the Pelvis with Rupture of the Bladder; Operation; Recovery, by Dr. R. A. H. Mackeen, of Glace Bay; Observations on Septic Peritonitis, by Dr. Clarence J. Webster, of Montreal; The Treatment of Convalescent Clubfoot, by Dr. V. P. Gibney, of New York; The Treatment of Accidents under Anæsthetics, by Dr. Thomas Walker, of St. John; Spinal Caries, by Dr. Clarence L. Starr, of Toronto; Genito-urinary Instruments required by the General Practitioner, by Dr. Ferd. C. Valentine, of New York; The Pioneers of Medicine in the Province of Quebec—Madeleine Vercheres (a poem), by Dr. W. H. Drummond, of Montreal; Intestinal Anastomosis by Means of a New Forceps, by Dr. Ernest Laplace, of Philadelphia; A Case of Strangulated Umbilical Hernia, by Dr. W. J. Gibson, of Belleville; Neurasthenia, by Dr. D. Campbell Meyres, of Toronto; Laryngeal Diphtheria, with Special Reference to Cases requiring a Choice between Tracheotomy and Intubation, by Dr. A. Gandier, of Sherbrooke; Foreign Bodies in the Larynx, by Dr. Hubert D. Hamilton, of Montreal; The Surgical Treatment of Empyema, by Dr. J. M. Elder, of Montreal; Plastic Induration of the Corpora Cavernosa, by Dr. M. J. Ahern, of Quebec; Notes on the British Pharmaeopœia, by Dr. T. D. Reed, of Montreal; and Infection and Serotherapy, by Dr. Edmond Laberge, of Montreal.

The Seventeenth Annual Announcement of the New York Post-graduate Medical School and Hospital, University of the State of New York, for 1898–'99, has just been issued. It shows that five hundred and twenty-three practitioners of medicine have attended its courses during the past year. They came from the various States of the Union and the Dominion of Canada. There were ten physicians from foreign countries, two from India and one from Japan. Only ninety-six were from the State of New York.

The Obsequies of the Late Dr. William Pepper.—To conform with his mode of life, the obsequies of Dr. Pepper were most simple. They took place in St. James's Episcopal Church, Philadelphia. The interment service was strictly private. Two provisions of his will have been complied with, one of which was that his body should be cremated, the other that his brain be given to the Anthropometric Society, of which he was a member, the latter clause being one of the agreements entered into on his becoming connected with that body.

Charitable Bequests in Philadelphia.—By the will of Emily A. Lippincott the following bequests have been made: To the Hospital of the Protestant Episcopal Church, $5,000, an endowment for a free bed; to the Children's Hospital, $2,500, also in addition a like sum of $2,500, an endowment for a perpetual free bed; to the Philadelphia Home for Incurables, $500. By the will of Jane K. Barclay the following bequests are made: To the Presbysterian Hospital, $5,000, and $5,000 to the Home for Widows and Single Women.

Change of Address.—Dr. Gregory Costigan, to No. 351 West Thirty-second Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2 to August 10, 1898:*

APPEL, DANIEL M., Major and Surgeon, is relieved from duty with the First Division, Seventh Army Corps, and will proceed to Camp Thomas, Chickamauga Park, Georgia, and report for duty.

BUTTLER, CHARLES V., Acting Assistant Surgeon, will proceed from Norwich, Connecticut, to Camp Alger, Falls Church, Virginia, and report for duty.

CLOUD, MARSHALL M., First Lieutenant and Assistant Surgeon, is granted leave of absence for two months.

CRAIG, CHARLES F., Acting Assistant Surgeon, will proceed from Danbury, Connecticut, to Camp Thomas, Chickamauga Park, Georgia, and report for duty.

DE NIEDMAN, WILLIAM F., Assistant Surgeon, Twenty-second Kansas Volunteer Infantry, is honorably discharged as assistant surgeon of the above-named regiment.

DESSEZ, PAUL T., Acting Assistant Surgeon, will proceed to Tampa, Florida, and report for duty.

DODGE, JOHN P., Major and Brigade Surgeon, United States Volunteers, will proceed to Washington and report for duty.

GESSNER, HERMANN B., Acting Assistant Surgeon, will proceed to Tampa, Florida, and report for duty.

HICKS, JOHN R., Acting Assistant Surgeon, is relieved from duty with the steamer *Manitoba* and will report to DE WITT, CALVIN, Major and Surgeon, in charge of the United States General Hospital at Fort Monroe, Virginia.

HOLMES, T. G., Acting Assistant Surgeon, will proceed to Montauk Point, Long Island, N. Y., and report for duty.

KENNON, CHARLES E. V., Acting Assistant Surgeon, will proceed to Camp Thomas, Chickamauga Park, Georgia, and report for duty.

LEAHY, JEREMIAH E., Acting Assistant Surgeon, will proceed to Camp Alger, Falls Church, Virginia, and report for duty.

MACDONALD, WILLIS G., Major and Brigade Surgeon, United States Volunteers, is honorably discharged.

MARBURY, CHARLES C., Acting Assistant Surgeon, will proceed to Camp Thomas, Chickamauga Park, Georgia, and report for duty.

NEFF, WALLACE, Major and Brigade Surgeon, will proceed to Fort McPherson, Georgia, and report for duty.

NETTLEROTH, ALEXANDER W., Acting Assistant Surgeon, will proceed from Louisville, Kentucky, to Camp Thomas, Chickamauga Park, Georgia, and report to the commanding general at that place for duty.

NEWELL, J. M., Acting Assistant Surgeon, will proceed to New York for transportation by United States Steamer *Breakwater* to Santiago de Cuba, and report for duty.

NORMAN, SEATON, Major and Surgeon, will proceed to Tampa, Florida, and take the first transport to Santiago de Cuba, and report for duty.

REED, WALTER, Major and Surgeon, will proceed to Camp Alger, Virginia, Fort Thomas, Kentucky, Camp Thomas and Camp McPherson, Georgia, and Fort Monroe, Virginia, and make an investigation of the administration of the United States general hospitals and division field hospitals at those places.

RUTH, CHARLES E., Major and Brigade Surgeon, United States Volunteers, is honorably discharged.

SHANNON, J. R., Acting Assistant Surgeon, will proceed to Tampa, Florida, and take the first transport for Santiago de Cuba, and report for duty.

SLAYTER, JOHN T. H., Acting Assistant Surgeon, will proceed to Camp Alger, Virginia, and report for duty.

WAKEMAN, WILLIAM J., Major and Brigade Surgeon, United States Volunteers, is relieved from duty at Camp Thomas, and will report to TAYLOR, BLAIR D., Major and Surgeon, for duty at the United States General Hospital at Fort McPherson, Georgia.

WILLIAMS, JOHN M., Acting Assistant Surgeon, will proceed from Louisville, Kentucky, to Chickamauga Park, Georgia, and report to the commanding general at that place for duty.

WINTER, FRANCIS A., Captain and Assistant Surgeon. The leave of absence granted him is extended two weeks.

Society Meetings for the Coming Week:

MONDAY, *August 15th:* New York Academy of Medicine (Section in Ophthalmology and Otology);

Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *August 16th:* New York Academy of Medicine (Section in General Medicine); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chemung (quarterly), Kings, and Livingston (quarterly), N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, *August 17th:* New Jersey Academy of Medicine (Newark).

THURSDAY, *August 18th:* Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis.

FRIDAY, *August 19th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital.

Answers to Correspondents:

No. 466.—Robin (*Gazzetta degli ospedali e delle cliniche,* July 19th) gives the following prescription for obstinate hiccough:

℞ Potassium cyanide .... ¾ grain;
Syrup of morphine,
Syrup of orange flowers, } each.. 2½ ounces.

M. One teaspoonful to be taken every hour, but without exceeding one third of the bottleful in twenty-four hours. The "syrup of morphine" mentioned in the formula is probably the *sirop de chlorhydrate de morphine* of the French *Codex,* which consists of 1 part of morphine hydrochloride, 1,980 parts of syrup, and 20 parts of water. We can not vouch for the efficiency of the treatment.

No. 467.—There is no exemption. Everybody who wishes to begin the practice of medicine in the State of New York must undergo the examination by the State board of medical examiners.

Births, Marriages, and Deaths.

Married.

CLOUGH—READ.—In Lake Charles, Louisiana, on Sunday, July 24th, Dr. Ernest Linwood Clough and Miss Hattie L. Read.

KENNEDY—MURDAGH.—In Norfolk, Virginia, on Thursday, August 4th, Dr. Robert M. Kennedy, of the United States navy, and Miss Bessie M. Murdagh.

MORRIS—WHEELER.—In Bryn Mawr, Pennsylvania, on Wednesday, August 3d, Dr. Henry Morris and Miss Ethel Bowman Wheeler.

Died.

CRUM.—In Binghamton, N. Y., on Friday, August 5th, Dr. E. Gertrude Crum, in the thirty-second year of her age.

GRIFFIN.—In Moss Point, Mississippi, on Sunday, July 31st, Dr. E. F. Griffin.

HUBBARD.—In Tottenville, Staten Island, N. Y., on Wednesday, August 3d, Dr. George C. Hubbard, aged sixty-seven years.

SHEPPARD.—In New York, on Sunday, August 7th, Dr. Henry Sheppard, in the seventy-fourth year of his age.

Letters to the Editor.

OF WHAT, IF OF ANY, CURE IS *SIMILIA SIMILIBUS CURANTUR* THE LAW?

LA PORTE, INDIANA, *July 26, 1898.*

To the Editor of the New York Medical Journal:

SIR: I think that in past discussions of homœopathy much time has been spent, and that not to the best advantage, both by advocates of homœopathy and by its opponents, because they lacked accurate definition of the particular cure of which, if of any, *similia similibus curantur* was the law; and that at some future time all discussion of the subject will be preceded by such definition. Such definition would at least secure agreement as to what was the point at issue, and I do not see how without such definition this agreement can be secured.

I think that there is a cure of which *similia similibus curantur* is the law, and that this particular cure is an immediate transformation from abnormal to normal (or approximately normal) vital processes and, in consequence, their effects. The word *immediate* here has no reference to time: it simply means that this cure is the first effect of the drug—that the drug produces no pathogenic effect mediate to the cure. It should be noted that there may be different degrees of this cure—that there may be restoration to the normal, or that there may be a change to what only approximates the normal, and that when the cure is partial it is still *in kind* the same as if it were complete.

Now, this cure can not be attempted in rational practice, for in any given rational practice the immediate object is a definite change in conditions which are in themselves knowable, as vital processes are not: they are known only in their effects. And this cure can not be intelligently attempted in empirical practice, for any intelligent practice of empiricism has this in common with rational practice, that the specified therapeutic effects which it seeks are all in themselves knowable. In an intelligent practice of empiricism I should not include a practice with a drug fixed upon at haphazard: we can conceive that a drug so fixed upon might effect the cure above defined, but in a given case we could entertain no reasonable expectation of its doing so.

Whether or not there really is such a cure as is above defined, I think the tentative assumption that there is, and that *similia similibus curantur* is the law of it, is proving to me useful as a working hypothesis. At all events, this tentative assumption makes clear, I think, that there is not necessarily any inconsistency in one's accepting homœopathy and at the same time accepting rational medicine and empiricism, attempting in any given practice of homœopathy a cure quite different from that which he attempts in any given rational or empirical practice.

CHARLES S. MACK, M. D.

VASELINE IN THE TREATMENT OF CHORDEE.

3612 FIFTH AVENUE, PITTSBURGH, PA., *August 1, 1898.*

To the Editor of the New York Medical Journal:

SIR: Some time ago I was called during the night to see a patient in the agony of a chordee; the day previous he had taken large doses of the bromides as a prophylactic, but seemingly they had no effect. Noting that the glans penis and the prepuce were very dry and sensitive, and seeing a jar of vaseline on the dresser, I thought it rational to expect to relieve him by anointing the glans with it; but I was not prepared for the complete, instantaneous results, for, as soon as the glans was well smeared, the entire organ became flaccid and of necessity painless. This he tried again during the two succeeding nights, with a like result.

Soon after this I had another patient with gonorrhœa and advised vaseline as above used should chordee develop, which it did in due course, but as quickly vanished under the soothing influence of the vaseline on three distinct occasions.

Not being able to recall having read this at any time, and deeming it might be of use to others, I put it before them.

George W. Ely, M. D.

Book Notices.

BOOKS, ETC., RECEIVED.

A Manual of Surgery for Students and Practitioners. By William B. Rose, M. B., B. S. Lond., F. R. C. S., Professor of Clinical Surgery in King's College, London, etc., and Albert Carless, M. S. Lond., F. R. C. S., Senior Assistant Surgeon to King's College Hospital, etc. New York: William Wood and Company, 1898. Pp. viii–9 to 1162.

Manual of Diseases of Children. By John Madison Taylor, A. M., M. D., Professor of Diseases of Children, Philadelphia Polyclinic, etc., and William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xii–17 to 743. [Price, $4.]

Clinical Manual of Mental Diseases. For Practitioners and Students. By A. Campbell Clark, M. D., F. F. P. S. G., Mackintosh Lecturer on Psychological Medicine, St. Mungo's College, etc. New York: William Wood and Company, 1898. Pp. viii–9 to 484.

Wounds in War. The Mechanism of their Production and their Treatment. By Surgeon-Colonel W. F. Stevenson (Army Medical Staff), A. B., M. B., M. Ch. Dublin University, Professor of Military Surgery, Army Medical School, Netley. New York: William Wood and Company, 1898. Pp. xvi–437.

A Manual of Bacteriology; Clinical and Applied. With an Appendix on Bacterial Remedies, etc. By Richard T. Hewlett, M. D., M. R. C. P., D. P. H. (Lond.), Assistant in the Bacteriological Department, etc. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–439. [Price, $3.]

Thirty-seventh Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati for the Fiscal Year ending December 31, 1897.

Proceedings of the Tenth Annual Session of the Association of American Anatomists, held at Cornell University, Ithaca, N. Y., December 28 to 30, 1897.

Report of the Mount Sinai Training School for Nurses, 1896–'97. Presented at the General Meeting, May 2, 1898.

Annuaire de l'Université Laval, pour l'année académique 1898–'99. No. 42.

Charred Straw in Surgery. Translated by W. F. Arnold, M. D., of Nashville. [Reprinted from the *Georgia Journal of Medicine and Surgery.*]

Handbook of Materia Medica for Trained Nurses. Including Sections on Therapeutics and Toxicology, and a Glossary of Terms with Dose and Use of each Drug. By John E. Groff, Ph. G., Apothecary in the Rhode Island Hospital, Providence. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–9 to 235. [Price, $1.25.]

Cataract Operations; Mules's Operation Illustrated by Skiagraphs; Capsulotomy; Operation for Pterygium. By L. Webster Fox, M. D., of Philadelphia. [Reprinted from *International Clinics.*]

Revision of Army Form A, 7. By Surgeon-Captain D. M. Moir, of the Indian Medical Service. [Reprinted from the *Indian Medical Gazette.*]

Suggestions for Blood Study. By W. F. Arnold, M. D., of the United States Navy. [Reprinted from the *Philadelphia Medical Journal.*]

Clinical Observations of a New Antipyretic. By M. A. Shlenker, M. D., of Providence, Rhode Island. [Reprinted from the *Atlantic Medical Weekly.*]

Physical Characteristics of Ten Thousand Men. By Lieutenant-Colonel Charles Adams, of Chicago. [Reprinted from the *Medical Standard.*]

Der neueste Angriff gegen die Heilserumtherapie der Diphtherie. Erläutert von Adolf Baginsky. [Sonderabdruck aus der *Berliner klinische Wochenschrift.*]

Miscellany.

Physicians in Java.—Some years ago, says the *Revue médicale* for July 27th, the Dutch Government in Java decided to educate native physicians. The school being opened, in order to attract scholars, an appeal was made to the residents, who instituted a propaganda among the families. The *patresfamilias* love schools, all sorts of schools; not that they trouble themselves about what is taught there, but because there are trained scholars and writers who will, perhaps, one day write and read in the government offices for the honor and profit of their families. Consequently they willingly sent their children to the school of medicine.

The school flourished and trained these young men. It taught them Dutch, physics, chemistry, botany, anatomy, therapeutics, and even surgery; then at the end of five or six years it gave them diplomas and bade them return to their homes. The *patresfamilias* hastened to the school. "What are you going to do for my son?" "Our part is finished," was the answer. "Your son is a physician; he will go and establish himself in his village, tend the sick, and earn his livelihood." "Good," was the reply. "But what kind of a headdress will he wear?" "A headdress! What do you mean?" "Yes. A headdress to mark his rank and designate his office." "But he has no office. He has no rank." The fathers were indignant. After having given six years of his life to receive nothing in return, and to return to his village to find himself in the assemblies relegated to a position at the foot of the table below the mayor, after the writers, and with the workmen! It was necessary to compromise; so the government granted the physicians the headdress of a subprefect, and the uproar was stayed.

Unfortunately, the subprefects have not only the headdress; they also have promotion. They become in turn prefect, magistrate, often even governors. The doctors of Java, however, are not promoted. Before long they will see their comrades change their headdress, and then will come fresh outcries. It will be necessary to regulate this matter of costume, for peace itself depends upon it.

Auxiliary Treatment of Chronic Blennorrhagia.—Dr. Malling (*Hospitalstidende*, 1896, p. 1203; *Annales des maladies des organes génito-urinaires*, July) recommends as an auxiliary to other methods massage of the painful points of the urethra every second day by means of a sound with a sufficiently large bulb.

Canonized Physicians.—We learn from the *Gazette médicale de Paris* for July 16th, which cites as its authority the *Dictionnaire encyclopédique des sciences médicales*, that no fewer than sixty-eight physicians have been elevated by the Catholic church to the dignity of sainthood. All of them practised without gain and are credited with some miracles.

Universities in China.—According to the *Gazette médicale de Paris* for July 16th, a dispatch from Pekin confirms the statement that an imperial decree is to issue for the establishment of foreign universities in that city.

Remarkably Small Kidneys.—M. Flament (*Nord médical*, July 15th) presented to the Anatomo-clinical Society two kidneys weighing respectively only six hundred and six hundred and seventy-five grains. Their pathology was not determined.

A Word for the General Practitioner.—Dr. Joseph Price (*Denver Medical Times*, July) thus closes a paper on the Importance of Simplicity in All Surgical Detail: I assert without hesitancy, from conviction, that the great broadening of our therapeutical resources and our great advances in both general and special surgery are largely due to our general practitioners. From their ranks came the fathers. They have not indulged in lofty flights, but have stayed down on the ground and followed the plain, simple ways of common sense.

Morphinism in a newly Born Infant.—According to the *Memphis Medical Monthly* for August, Layne (*Cin. Lancet-Clinic*, vol. xli, No. 2) reports the case of a woman, aged twenty years, addicted to morphine, who, after a lengthy but uneventful labor, was delivered of a six-pound child which soon began to show symptoms due to the withdrawal of its customary stimulant, the morphine which it had been getting *in utero*. Small doses of morphine were given it at intervals, with prompt improvement in the child's condition. These are still being given. Layne says of the case:

1. It shows plainly that the fœtus *in utero* may survive despite the fact that large doses of morphine are taken into the mother's circulation, and that injections of this drug in extra-uterine pregnancy to bring about death of the fœtus can not always be depended upon.
2. It shows that morphinism may be transmitted directly from mother to child *in utero*, should the fœtus survive gestation.
3. It is my belief that the desire for the drug is permanent.
4. It is interesting to note the large dose tolerated by a newly born infant—one twentieth of a grain.
5. The well-nourished condition of the infant, its intelligent appearance, and the fact that it continues to thrive, are points well worth thought, as they show that even morphine can not always retard or destroy that vital principle we call life.

The Scottish Medical and Surgical Journal.—The August number of this journal is a very excellent British Medical Association number. It contains an article of welcome and retrospect accompanied by excellent process portraits of the principal officers; an account of medical institutions in Edinburgh with views of the University Quadrangle, M'Ewan Hall, and the Royal Infirmary; a description of medical-student life in Edinburgh; articles on Edinburgh medical clubs, their songs, and song-writers; the Edinburgh Royal Infirmary Old Residents' Club, which is accompanied by a photograph of the residency table displaying the Anglo-Saxon tendency for name-cutting to perfection, where names of subsequent note jostle those of their contemporaries of lesser repute; the medical education of women in Edinburgh; the Edinburgh Medical Missionary Society; and some account of Scottish spas and their mineral waters. This number will be treasured by many old Edinburgh men all over the world as an excellent souvenir.

Cervico-facial Actinomycosis.—M. Lambert (*Nord médical*, July 15th) showed to the *Société centrale de médecine du Nord* a patient affected with the rare condition of cervico-facial actinomycosis. The disease had commenced eight months previously. The man had a dental abscess which was cured by incision. A second dental abscess supervened a short time afterward; a tooth was extracted, but the abscess continued to discharge a sanious pus, granular, and of indifferent consistence. The yellow granules of actinomycosis were characteristic on microscopical examination. The communication was rendered more interesting by a unique cervical fistula, absence of subcutaneous nodule, extent of point of origin, and the denudation of the skin over a large extent. The probe did not discover any denudation of bone. The man had been treated for eight days with iodine, and had shown cerebral troubles for two days. He was a workman in a distillery and denied any contact with cereals or animals as a source of contagion.

Nursery Rhymes for Doctors.—The *Dietetic and Hygienic Gazette* for August gives the following rhyme, which may be of service to some of our *confrères:*

From Centigrade to Fahrenheit,
'Tis easy to divine—
You first must use arithmetic
And multiply by nine.
The answer now divide by five,
And then you have in view
The very number that you seek
By adding thirty-two.

From Fahrenheit to Centigrade,
However, it is plain—
You first must take the thirty-two
And multiply again;
But this time only by the five,
And then you draw a line
Straight up and down, in order that
You may divide by nine.

A Diagnostic Sign of Typhoid Fever.—Quentin (*Archives générales de médecine*, May; *Medical Review of Reviews*, July 25th), following up Professor Achard's memorandum of October, 1897, by observations of his own, says that: 1. In certain febrile affections (typhoid fever, acute articular rheumatism, tuberculosis) the palmar and plantar regions take on a special yellowish coloration, and during convalescence those regions which exhibit this coloration desquamate abundantly. 2. In typhoid fever this phenomenon, being well defined and frequently observed, takes on a special significance and is of considerable diagnostic value. 3. The pathogeny is obscure (the author suggests that an attempt is made to eliminate the toxines of the disease, and that the latter interfere with the nutrition of the epidermis).

How to make Kumyss.—The *Dietetic and Hygienic Gazette* for August says:

The value of kumyss as a nutrient and stimulating beverage in cases of general debility, malnutrition, and wasting diseases is well established. The original form of this beverage, as made in Tartary by the fermentation of mare's milk, is, of course, seldom available, and is by no means necessary. A very good and useful kumyss may readily be prepared as follows:

Fill a quart champagne bottle to the neck with pure cow's milk; add two tablespoonfuls of white sugar, first dissolving it in a little water by aid of heat; add also a quarter of a two-cent cake of compressed yeast. Then securely fasten the cork in the bottle and shake the mixture well; place it in a room having a temperature of from 70° to 80° F. for six hours, and finally in the ice box for about twelve hours. It is then ready for use and may be taken in quantities varying with the requirements of the stomach and general condition of the patient. In preparing the kumyss it is well to make sure that the milk is pure, that the bottle is sound, and that the yeast is fresh. The bottle should be opened with great care, on account of the effervescent properties of the mixture, and the latter should be discarded and not drunk at all if there is any curdle or thickened masses resembling cheese, as these indicate that the fermentation has been prolonged beyond the proper time. It should be prepared as required for use. The virtue of kumyss resides in the fact that it nourishes, refreshes, and stimulates, with no subsequent reaction from its effects. Kumyss contains some alcohol, with fat, casein, lactic acid, and carbonic-acid gas. The cost is about fifteen cents per quart, including the bottle.

The Value of First-aid Dressings carried by the Soldier in War.—According to the *Buffalo Medical Journal* for August, Lieutenant-Colonel Smart, deputy surgeon general of the United States army, is reported to have said that when the medical history of this war is written it will show the most remarkable results ever achieved in the antiseptic treatment of wounds. Every regiment, except one under General Shafter, was provided with a small package marked "First aid to the wounded," which was carried in the hip pocket by all the men. This was extremely fortunate, because after the transports discharged their passengers they sailed away somewhere with the medicine chests on them. When a soldier was wounded the doctor reached for the "first aid" package, carried by the soldier himself, and, applying it to the wound, completed the bandaging then and there. This antiseptic treatment caused the wound to heal without the formation of pus and has shown wonderful results.

Gastro-intestinal Hæmorrhage in a Newly Born Child.—Dr. L. A. Parry (*Lancet*, July 16th) records a case in which an infant vomited seventy-two hours after birth some dark reddish-brown blood, and three hours later passed a motion of the same color, and two further similar motions at intervals of two hours each. There was no hæmatemesis, but four bloody motions were passed next day, and the child was becoming anæmic. The following day the same thing occurred, but to a less extent. After this no more blood was passed. There was no family history of hæmophilia, the mother was a primipara, and the confinement was normal, save that forceps were used when the head was quite low down in the pelvis, as there was some delay in the birth.

Dr. Parry remarks that the diagnosis of the cause of gastro-intestinal hæmorrhage in newly born infants is not, as a rule, difficult. The conditions which may give rise to it are as follows: (*a*) There may be hæmorrhage into the bowel caused by pressure at birth, just as there may be hæmorrhage into other viscera, such as the brain or lungs. It may even be of sufficient amount to cause intestinal obstruction. In his case this explanation was negatived by the fact that the child passed ordinary motions for the first two days of life. This could not have been the case if there were blood in the bowel at birth, for it would certainly have shown itself at the latest after one or two motions had been passed. (*b*) There may be acute fatty degeneration of the newly born. Buhl, in 1861, first described this rare disease, but it is very doubtful whether it is really a definite disease at all. The symptoms are as follows: The child is born in a state of asphyxia without obvious cause. There are cyanosis, blood extravasation under the skin or mucous membrane of the mouth or conjunctiva, jaundice, general œdema, hæmorrhage during the separation of the cord or from the stomach and bowels, and death occurs in two weeks. As all these symptoms except the gastro-intestinal hæmorrhage were absent the case quoted was not one of this disease. (*c*) There may be hæmophilia, but there was no family history of this, nor was there any other hæmorrhagic tendency in the child beyond that described—*e. g.*, the cord separated without any bleeding. (*d*) Vomiting and the passage *per rectum* of swallowed blood, either from the mother's nipple or from some lesion of the child's mouth or nose, may occur, but in this case there was nothing of the kind present. (*e*) There may be ulceration of the duodenum or stomach, as described by Dr. Goodhart and others. In that case hæmatemesis would have been a more pronounced symptom than it was in his case, where it only occurred once. These cases are always fatal. (*f*) Intussusception may occur, but then there would be no hæmorrhage from the stomach and a tumor would be present, and mucus as well as blood would have been found in the stools. (*g*) Congestion of pelvic veins due to a cessation of the circulation in the cord when it was tied would be another possible cause, but then the hæmorrhage would have come on directly after birth, and would have been accompanied by discharge of blood *per vaginam* from the same cause—*i. e.*, pelvic congestion. Lastly, there may be (*h*) hæmatemesis and melæna neonatorum, and this is the class in which he places this case. The symptoms are simply those which are implied in the name—the passage of blood by the rectum and the vomiting of it in newly born children. The pathology in this condition is obscure; the necropsy in these cases simply reveals a very much congested condition of the gastro-intestinal mucous membrane without any discoverable cause. Sometimes even this congestion is not seen and no abnormity whatever can be found.

Dr. Parry treated the case with frequent five-grain doses of calcium chloride, on the second day eight such doses being administered every hour during the day, and every two hours through the night; on the third day the same; and on the fourth day every two hours through the day. One hundred and sixty grains were taken in three days. The hæmorrhage began to lessen in twenty-four and ceased in forty-eight hours. Dr. Parry has tried calcium chloride in epistaxis, bleeding from a tooth socket, etc., but this is the first time he has seen it followed by benefit. Whether *post* or *propter* is uncertain.

Scientific Investigation under Difficulties.—According to the *Lancet* for July 16th, the *Christian World* of July 7th prints an amusing example of the pious confidence which the Pasha of Damascus—like probably the majority of his congeners—is prepared to put in Allah as a practical statistician and sanitarian. The French statistical department, anxious to obtain definite information on certain matters from the Turkish provinces, sent lists of questions, to which they requested replies, to the various provincial pashas. Certain of the questions were addressed to the Pasha of Damascus, and his replies ran, according to our contemporary, as follows:

Question: What is the death-rate per thousand in your principal city? Answer: In Damascus it is the will of Allah that all must die; some died old, some young.

Question: What is the annual number of births? Answer: We don't know; only God alone can say.

Question: Are the supplies of drinking water sufficient and of good quality? Answer: From the remotest period no one in Damascus has ever died of thirst.

Question: General remarks on the hygienic condition of your city? Answer: Since Allah sent us Mohammed his prophet to purge the world with fire and sword there has been a vast improvement. But there still remains much to do. Everywhere is opportunity to help and to reform. And now, my lamb of the West, cease your questioning, which can do no good either to you or to any one else. Man should not bother himself about matters which concern only God. Salem Aleikum!

The *Lancet* adds: It is clear that the doctrine held by the Christian that God helps those who help themselves finds no favor in the municipal government of Damascus.

Myotonia (Thomsen's Disease).—Dr. George W. Jacoby (*Journal of Nervous and Mental Disease*, July), in a paper on this subject read before the American Neurological Association, May 27th, says that if we analyze the well-known picture of the disease, we find it made up of the following components:

1. *The Ætiology.*—Here the most important factor is, beyond a doubt, heredity, either as a direct transfer from the ascendant, or only indirectly by inherited disposition, atavistically, as in Weichmann's case, or where collateral branches are affected, as in the cases of Knud Pontoppidan and Bernhardt; or the disease may occur as a family type, without direct heredity.

2. *The myotonic disorder of movement—i. e.*, the occurrence of tension, stiffness, and tonic spasm in the voluntary muscles at the beginning of intended movements.

3. *The myotonic reaction*, which is made up of normal mechanical, faradaic, and galvanic excitability of the motor nerves, and an increased mechanical, faradaic, and galvanic excitability of the muscles. Here with the galvanic current only closure contractions are obtainable, and these are as strong with the anode as with the cathode; the contractions are always slow, tonic, and prolonged.

In many muscles strong faradaic currents produce irregular undulating contractions and stabile galvanic currents, rhythmical contraction waves which follow one upon the other.

4. *Hypertrophy of the muscles.*

5. *Absence of all symptoms pointing to gross involvement of the nervous system.*

In regard to the nature of the disease, there are, he says, three theories regarding ~~it~~, the psychopathic, the neuropathic, and the myopathic, and each has found adherents.

Against the psychopathic theory stands the entire weight of clinical evidence, which need not again be reviewed.

The myopathic theory, on the other hand, has had a great deal in its favor, especially the proofs deduced from anatomical findings. These are:

1. The hypertrophy and rounding off of the muscular fibres.

2. The increase of sarcolemma nuclei.

3. The diffuseness, indistinctness, and even loss of the transverse striation, and,

4. The minute changes which he has described as consisting in a massing together of the sarcous elements, and a correspondingly coarse appearance in some parts of the muscle, while in others these elements are minute, scarcely perceptible, and widely separated from each other.

These anatomical findings are unfortunately all based upon the examination of pieces of muscle excised from the living body. The only autopsy recorded is the one described by Dejerine and Sottas, which, while furnishing satisfactory proof to the reporters themselves of the purely myopathic nature of the disease, must impress every one else as being useless for purposes of argument.

Certainly, many of the changes described in this report may be due to serous infiltration of the connective tissue, and to secondary changes in the muscular parenchyma thereby nutritionally produced. Furthermore, the cerebrum and cerebellum were not carefully examined, so that, even allowing that the muscular disintegration is not due to serous infiltration, its primary nature still remains unproved. This autopsy, therefore, being unavailable as proof in support of the myopathic nature of the disease, we are again confined to that proof which may be derived from pieces of muscle.

Of the neuropathic view, he says that admitting the fact that the muscular changes found appear to be of a secondary origin, the existence of a functional disorder which allows the muscles to overact in consequence of excitation can not be denied. Whether this functional disorder lies primarily in the muscular or central nervous system is a question which can not yet be answered.

We know that many of the gross disorders of the nervous system are of post-infectious nature; thus it must be to-day acknowledged that multiple sclerosis is in very many instances the result of an antecedent acute infection.

That severe infectious diseases, as typhoid and diphtheria, through the toxines produced by their microbes, deleteriously influence the very impressionable nervous system is undoubted; and it has even been shown by Babès that the microbes themselves may migrate into the spinal cord and into the nerve cells without causing any local lesion.

After the elimination of such toxines or microbes, the entire organism apparently again returns to its normal state, but who can say whether cells so acted upon are not functionally altered? Certainly it has long been known that the nerve cells of adults who have passed through many sicknesses are not entirely normal, and the changes found have been fully described by Babès; changes which in healthy small children are never found. On the other hand, the nerve cells of adults often show no such changes. This fact can only be explained by the assumption of an inherent weakness in the nerve cells of certain individuals, while those of others possess more power of resistance.

There can be no objection to the statement that such an inherent weakness may occur hereditarily in many members of a family; just as whole families show a hereditary weakness of brain cells and become neurasthenics. But this disposition in the majority of cases lies dormant until stirred up by some accidental cause. In the histories of muscular dystrophies the precedence of such an accidental cause in the shape of an attack of measles, scarlet, or typhoid fever is not unusual, and it is not improbable that in the affection under consideration such a productive cause has in many instances also been at work.

He therefore considers it permissible to look upon the disease as due to an embryonal developmental disorder of the nerve cells, consisting in the more or less diminished resistance of these cells to the influence of certain toxic processes, and that these intoxications then are in such predisposed individuals the direct producers of the disease.

A Graphic Study of Tremor.—A. A. Eshner (*Journal of Experimental Medicine, 2,* 1897, p. 301; *Journal of Nervous and Mental Disease,* July), in an extended series of observations, studies the following questions: (1) Whether or not a demonstrable tremor exists in healthy individuals; (2) whether or not any relation or gradation exists among various kinds of tremor; and (3) whether or not various forms of disease show, as to their tremor, distinguishing characteristics. The summary of the conclusions reached is as follows:

1. All muscular movements are made up of a series of elementary contractions and relaxations, which may be appreciable as tremors in conditions of both health and disease.
2. The differences between different tremors are of degree rather than of kind—*i. e.,* no form of tremor is distinctive of any one disease or group of diseases.
3. No definite relation exists between one form of tremor and any other.
4. The frequency of movement is in inverse ratio to the amplitude, and *vice versa.*
5. Habitual movements are performed with greater freedom from tremor than unusual movements.
6. There is no material difference between the movements of the two sides of the body, except as related to proposition 5.

The paper is well illustrated with tracings and the apparatus used well described.

The Augmentation of Weight in Young Children as a Precursor of Death.—M. G. Durante (*Indépendance médicale,* July 13th) has been able to gather a certain number of facts at the Maternity which tend to show that an augmentation of weight, more or less considerable, and which ought to be a good augury, often precedes death in children the subjects of multiple suppurations, tuberculosis, syphilis, athrepsia, etc. He also found it in five children presenting some jaundice, and in whom the autopsies showed more or less advanced hepatic lesions. This increase of weight is very variable; however, usually it begins in from three to six days before death, during which time the child increases suddenly to the extent of from an ounce and a half to nine ounces. The cause of this increase is difficult to determine, for the nourishment taken is not more abundant, and the evacuations continue to take place frequently both as to number and amount.

The Scientific Explanation of Arsenical Therapeutics.—Dr. Theodore William Schaeffer (*Charlotte Medical Journal,* June) says that arsenic increases the elimination of nitrogen by the simultaneous diminution in the absorption of oxygen and elimination of carbon dioxide, and causes in this way a fatty degeneration of the organs. It appears that under the influence of this poison fat is formed from the proteids. The nitrogen with a small proportion of carbon is dissociated from the proteid molecule, and the nitrogen-free residue is deposited as fat in the tissues (*Lehrbuch der physiologischen und pathologischen Chemie,* von G. Bunge, page 128).

So, what we have hitherto known of arsenic as a so-called alterative (a rather obsolete term) can now be more scientifically explained on chemical grounds.

Arsenic is, in fact, an oxygen carrier; it is an oxidizer and deoxidizer. Hence its beneficial effects, when taken internally in small doses, of exerting a tonic effect upon the nervous system, improving the quality of the blood, being an excellent hæmatic, of great value in ague and chronic malarial disorders, promoting digestion—and this explains why it can often be relied upon in the many forms of dyspepsia.

Perseverance Rewarded.—According to the *Medical Sentinel* for July, there has recently graduated in Warsaw a medical student who is seventy-five years old. He commenced his course in 1843, but was forced to suspend it for lack of funds, and became a teacher for twenty years before he was able to return and resume his medical studies. He had partially completed his course when he became involved in the political uprising in Poland in 1863, and was sent to Siberia, where he worked in the mines for thirty-two years. Having at last been pardoned, he has returned to Warsaw to graduate.

The Therapeutic Uses of Physiological Horse Serum.—Solares (*Revista de Anatomia, Patologia y Clinica,* April 1st; *Journal of the American Medical Association,* July 23d) has treated some eight hundred children since June, 1895, at the Children's Hospital at Barcelona by the administration of physiological horse serum, and has met with most gratifying success in cases of anæmia, chlorosis, chorea, incontinence of urine, scrofula, adenitis, neurasthenia, and during convalescence from acute diseases. He recommends it as a strengthening, stimulating tonic, effective and harmless. The occasional slight, transient, secondary effects observed were similar to those that follow injections of antitoxine, and are probably due to the same causes. The nutritive processes are powerfully promoted and the nervous system stimulated, but he ascribes its chief tonic properties to the globulins or spermins in serum which accelerate the intraorganic oxidations.

The Prophylactic Therapeusis of Incipient Insanity.—Dr. Crochley Clapham (*Quarterly Medical Journal for Yorkshire and Adjoining Counties,* July), after describing various forms of incipient insanity which, owing to the reluctance to commit such patients till they are confirmed cases to a lunatic asylum, are frequently left without treatment during that stage in which they might reasonably be expected to be amenable to it, says:

Speaking generally of incipient insanities, whenever it is possible safely to treat these cases without certification it is desirable to do so, and thus save the patient from the so-called “stigma of insanity.” It is with the idea of meeting the requirements of such cases that it is being endeavored to introduce an “incipient insanity clause” into the Lunacy Acts Amendment Bill at present being drawn for presentation to the houses of parliament.

This clause, if it passes, will allow of cases of incipient and unconfirmed insanity being taken charge of by private persons, without any need for notification to the commissioners or magistrates, for a limited period.

This law has been in operation for a long time in Scotland, and is said to work extremely well. By its provisions “a private patient, even when kept for profit, does not require to be placed under the jurisdiction of the board (lunacy), if it is certified by a registered medical practitioner that the patient is afflicted with a malady which is *not confirmed*, and that it is expedient to place him for a temporary residence, not exceeding six months, in the house in which he is kept.” This certificate is given to the person keeping the house, for his justification should any question or difficulty arise.

A Case of Suspended Animation in Philadelphia.—Through excessive grief over the death of his mother, Louis Holzwarth, a boy of nervous temperament, has lain in a state of unconsciousness for a period of about forty-eight hours in St. Mary's Hospital.

Water Treatment of Children's Diarrhœa.—Mongour (*Bulletin médical*, 20–24; *Journal of the American Medical Association*, July 23d) first purges and then has the child drink sterilized water, as much as ten and and a half to fourteen ounces a day, with no medication. Vomiting ceases at once, and recovery is complete by the second or third day. Except for those in a moribund condition, all his cases have been cured: thirteen hospital, twelve dispensary, and twenty-seven in his private practice. Larger has used for several years Vichy water, two to five litres a day, to counteract the acidity to which he ascribes the trouble. Water treatment prevents the tissues from drying up, and acts like a tonic in much the same way as artificial serum.

A Premature Obituary Notice.—A writer in the *Medical Brief* for August announces the fact that antitoxine is “dead at last,” and breaks out into the following epitaph:

“Here lies antitoxine (Aunty Toxin); ‘after life's fitful fever she sleeps well.’ Born in a stable, of doubtful origin, she came into the world to save the body of man, but, although nursed and reared in the lap of science, in spite of the vigilance and care of her foster parents, she early succumbed to a concatenation of circumstances.

“*Requiescat in pace.*”

This is a little too previous. There's lots of life in the old girl yet.

What is Fever?—Dr. J. M. Fort (*Texas Medical News*, July) recently read before the Texas State Medical Association a paper the purpose of which was to show that instead of the combustion or oxidation of materials entering, or such as are eliminated from, the animal economy being the cause of animal heat and fever, the true cause lies beyond and below this combustion or oxidation, in the antecedent atomic, molecular and cell vibration; which vibration not only gives rise to the combustion as a necessary sequence, but is, indeed, the root or prime factor of abnormal heat or fever in the animal economy. Further, it was intended to show that fever is not a destructive process, as generally considered, but an eliminative process, curative in character.

The Urethral Length as Diagnostic of Prostatic Enlargement.—Dr. E. L. Keyes (*American Journal of Medical Sciences*, August) sums up a paper read before the American Association of Genito-urinary Surgeons as follows:

1. The urinary distance varies in the adult healthy male from something over six to something under ten inches, but may be honestly averaged at eight inches.
2. The shorter lengths are found in short individuals having a small penis. A large organ naturally contains a long urethra, and this is most certainly the case if the individual be tall.
3. The age of the individual seems to cause a very moderate increase in the urethral length, irrespective of disease, or perhaps even of individual size.
4. In prostatic hypertrophy the urinary distance averages more than eight inches, and is longer in cases of peripheral general hypertrophy than where the enlargement is median, or in cases of bar.
5. In a doubtful case a consideration of the urinary distance may become an important element of diagnosis.

Urine Diagnosis of Typhoid Fever.—A. Robin (*Bulletin médical*, October 13, 1897; *Revue des sciences médicales*, July 15, 1898) considers that certain characters of the urine, without being pathognomonic, may yet be utilized as a means of early diagnosis of typhoid fever. Their absence, however, does not negative this diagnosis. These characters are: 1. A color of beef bouillon with greenish reflections. 2. Albumin in moderate quantity. 3. Disappearance of the urohæmatin. 4. Presence of indican. 5. Persistence or augmentation of uric acid. 6. Absence of uroerythin. 7. Notable diminution of the earthy phosphates. Alone, each of these changes is valueless; but when they are observed together they are more or less conclusive.

Births and Deaths in Relation to the Time of Day.—Roseri (*Arch. ital. de biologia*, xxviii, p. 362; *Revue des sciences médicales*, July 15th) states that the greatest number of births takes place in the early hours of the morning, and the greatest number of deaths in the early hours of the afternoon. His conclusions were drawn from 25,000 deaths occurring at Cremona from 1866 to 1880, and from 36,515 births at Rome occurring between 1894 and 1897. The author seeks an explanation of these facts in the variations of activity of the material exchanges during the day; carbonic acid, which is more abundant during the earlier hours of the day, being an excitant of uterine contraction. The sympathetic he considers would be ordinarily more active at night because it is not then controlled by the brain and spinal cord.

A New Form of Subacute Emphysematous Gangrene.—M. Chavigny, surgeon-major first class (*Presse médicale*, July 16th), describes a case of gaseous gangrene resembling one recorded (*Semaine médicale de Prague*, 1893, No. 1) by Chiari under the title Contribution à l'étude bactériologique de l'emphysème septique provoquée par le Bacterium coli, and from a consideration of these two cases he draws the following conclusions: 1. There is a gangrene, subacute and emphysematous in character, differing by its causation and symptoms from the emphysematous gangrene of Maisonneuve. 2. This gangrene may be produced in man by self-intoxication. 3. Its pathogenic germ is a microbe described for the first time by San-Felice, which resembles closely the *Bacterium coli*, but which is not identical therewith. 4. The lesion observed in man (emphysematous gangrene) has been reproduced experimentally in the dog.

The Abuse of Charity in Philadelphia.—Now, since the time has come when it is excessively hard to make a living by the practice of medicine, and since many causes have been ascribed for the conditions which lead to this state of things, especially the "hospital evil," there must necessarily arise many plans for its abatement. Out of the plans presented to the medical profession up to the present time, not one has proved practicable. Instances have been cited in Philadelphia to prove that people with means go to the free dispensary for treatment. What is the remedy? Surely there must be one. Dr. Ashhurst believes that the cause lies in the corruption of the conscience of the public, so that in many instances they think nothing of making false statements regarding their condition, and he has been appointed one of a committee to devise means to present the matter before the legislature to impose a heavy penalty on any one guilty of this offense. At the meeting of the Medico-legal Society held last week Dr. Samuel Wolfe commented at some length upon this subject, and stated that he would endeavor to get the coöperation of the County Medical Society in an active movement in the autumn before presenting the matter before the State legislature. But, again, legislatures are always very slow bodies.

Dr. Guitéras said to be Suffering from Overwork.—According to a recent dispatch it is learned that Dr. Guitéras, of Philadelphia, has been confined to bed for several days from excessive work incident to the campaign in Cuba. The dispatch was dated Siboney, July 16th, and at that time there had been reported two hundred and fifty cases of yellow fever with only five deaths. The low mortality is ascribed to the mildness of the epidemic and to a better understanding of the early symptoms of the disease.

An Eccentric Bequest to the University of Pennsylvania.—An eccentric tailor by the name of Edwin Kelly recently died, and it was found that he had provided in his will that a sufficient sum of money be set aside for the conversion of his body into a mummy which was to be presented to the museum of the University of Pennsylvania for the benefit of science. This provision of the will, it is hardly necessary to state, was not complied with.

Behring's Patented Diphtheria Antitoxine.—The *Medical Age* for August says editorially:

"If Professor Behring admits any merit in the work of his predecessors and contemporaries, his claim to be the exclusive inventor of diphtheria antitoxine is in contravention of all the ethics of a scientist's career. His claim is an offense against common morality. Had Simpson patented chloroform anæsthesia, or had Lister patented antiseptic surgery, the world would have had two selfish empirics, and lost two medical heroes. If Behring, by the righteous judgment of mankind, can be adjudged sole and undisputed inventor of antitoxine, he has a place in the Temple of Fame for achieving the most beneficent discovery of modern times. It remains to be seen whether the temptation to be rich will overcome his ambition to be great, and whether for a tinsel crown he will barter a diadem of everlasting renown."

The August number of the *Bulletin of Pharmacy*, treating of the matter from another point of view, says:

"Meantime, be it remembered to our shame as Americans, that in Germany the very claim for such a patent would be scouted and repelled. The laws of Germany and France withhold all patents on foods and medicines, save on processes of manufacture, and in this instance Behring could not possibly secure at home what he has been granted in the United States. In Germany he accepts the situation and makes the best of the existing competition; in America he would suppress all competition and remain undisputed master of the field! Is it not high time to bring some organized effort to bear on Congress for a change in the patent laws? Is it not a scandal and a shame that foreigners should enjoy in America monopolies and concessions which are denied them at home? Consider the oppressive extortion to which this has given rise. Remember phenacetine, sulphonal, antipyrine, salol—marketed here at prices outrageously excessive. Remember that not an ounce of these products may be legally purchased in Canada and imported into the United States *duty paid*. Is there no limit to American patience? How long shall we continue to tolerate the foreigner's extortion—how long will he fatten on the monopolies which American laws create for him?"

Vicarious Urination.—At the recent meeting of the Ontario Medical Association Dr. A. T. Rice, of Woodstock, read a paper (*Canadian Practitioner*, July) in which he related the case of a woman, aged thirty, daughter of a farmer, of a somewhat nervous temperament and rather weak intellect, who was attacked about three years ago with cystitis of two or three weeks' duration. The attack was somewhat severe, there being complete atony of the bladder, which rendered necessary the use of the catheter during that period.

This attack gradually subsided, though considerable tenderness remained, lasting even up to the time of the meeting. A year after this attack she was again laid up with what this time took the form of involuntary twitchings or spasms of the whole body, emanating from the dorsal region, over which portion of the spine there was a good deal of tenderness. These spasms were so severe as to confine her to bed for some weeks. Accompanying this attack there were a number of discolorations of the right leg and thigh extending almost entirely over the limb, but without tenderness. These, after a few weeks, gradually disappeared, and the patient regained her ordinary health.

About a year ago the atony of the bladder returned and the patient was again obliged to resort to the use of the catheter three times a day, about half an ounce being drawn each time. During this time her general health suffered severely, the bowels were extremely constipated, appetite poor, mucous patches in the mouth, and breath foul.

No amount of treatment seemed to have the slightest effect upon these abnormal conditions. The twitchings or spasms also returned and continued throughout. About the 1st of August the feet began to swell slightly, though not sufficiently to incommode her to any extent. At this time a peculiar complication set in. The secretion of the bladder gradually diminished, but was compensated for by an exudation of fluid from the anterior portions of the lower limbs between the knee and ankle. This fluid was voided regularly three times a day, the amount gradually increasing, the average being about thirty to forty ounces in a day. The fluid simply oozed from the skin, without any abrasion of the skin, or discoloration, or even the slightest œdema, being present. The patient would realize that the flow was about to begin, and would place her feet upon a stool and a dish beneath the heels. The author was present at one time when it began, and can therefore vouch for the correctness of the statement. The fluid was of an amber color similar to that of healthy urine; specific gravity, 1.010; without any albumin or sugar; had a strong smell of urine upon boiling, with a distinct ammoniacal smell after standing. Examination also showed the presence of uric acid.

After this symptom showed itself the patient's health rapidly improved and became fairly well established, so that she had little to complain of except the inconvenience caused by this peculiar phenomenon.

On September 21, 1897, the patient passed three quarts by measurement. On the 23d she passed seventy ounces at one sitting. This condition lasted until October 2d, when the patient "passed" one gallon in half an hour in the morning, followed by one pint at 11 A. M., when it suddenly ceased altogether and began to pass through the urethra, first in small quantities every few minutes, followed by five to six quarts the first night. After this the natural condition gradually became established, but the patient became again very ill, the spasms reappeared, accompanied by headache, swelling of feet, and great swelling of the face. This condition remained for about a week, when the symptoms gradually disappeared, and the patient regained her usual health.

During the two weeks when the flow was excessive from the shins, the bladder remained quite empty and the use of the catheter was stopped, as no urine could be obtained at any time.

"What," asks Dr. Rice, "was this? Was it vicarious urination? If so, how is it to be explained? Through what channel did it travel? What was the pathological condition? The fluid certainly stood all the tests for urine, resembled urine, and its elimination from the system through this peculiar channel permitted the patient to live. Dr. Mearns saw the patient in consultation with me, and I have explained the case to a number of gentlemen, but all are equally at sea with myself. I wrote a history of the case to Professor Guitéras, genito-urinary surgeon, of the New York Post-graduate School, who took a great interest in the case, but stated that he had never heard of such a case. The only case bearing any resemblance to this was one that occurred in the practice of Dr. Clement, of Woodstock. This occurred in an old lady, in whom each winter for six years the secretion of the bladder stopped and all of the urine exuded through the skin in the form of perspiration. The patient died after the sixth year."

The Ernest Hart Scholarship.—We learn from the *British Medical Journal* for July 16th that the council of the British Medical Association resolved at its last meeting to found as a memorial of the late Mr. Ernest Hart a scholarship to be called "The Ernest Hart Memorial Scholarship for Preventive Medicine." It was felt that no more fitting means could be found to commemorate at once Mr. Hart's great services to the British Medical Association and to the advancement of the study of preventive medicine. The scholarship, which will be of the annual value of £200, will be tenable for two years.

The Atlanta College of Physicians and Surgeons, as we briefly mentioned last week, has been formed by the consolidation of the Atlanta Medical College and the Southern Medical College. The faculty is as follows: A. W. Calhoun, M. D., LL. D., professor of diseases of the eye, ear, nose, and throat (president); J. S. Todd, M. D., professor of materia medica and therapeutics; W. P. Nicolson, M. D., professor of anatomy and clinical surgery; Virgil O. Hardon, M. D., professor of obstetrics and diseases of women and children; Louis H. Jones, M. D., professor of chemistry and medical jurisprudence; W. S. Elkin, M. D., professor of operative and clinical surgery; W. F. Westmoreland, M. D., professor of principles and practice of surgery; W. S. Kendrick, M. D., professor of principles and practice of medicine and clinical medicine (dean); F. W. McRae, M. D., professor of gastro-intestinal and rectal surgery; H. P. Cooper, M. D., professor of anatomy and clinical surgery; J. C. Johnson, M. D., professor of physiology and pathological anatomy; Dunbar Roy, M. D., clinical professor of diseases of the eye, ear, nose, and throat; and J. G. Earnest, M. D., clinical professor of gynæcology.

British Medical Association's Meeting.—The sixty-sixth annual meeting of the British Medical Association was held at Edinburgh on Tuesday, Wednesday, Thursday, and Friday, July 26, 27, 28, 29, 1898, under the presidency of Dr. T. G. Roddick, of Montreal—the president-elect being Sir Thomas Grainger Stewart, M. D., LL. D., F. R. S. E., professor of the practice of medicine and clinical medicine in the University of Edinburgh; physician in ordinary to her Majesty the Queen in Scotland.

Puerperal Sepsis Successfully Treated with Antistreptococcus Serum.—Dr. C. E. Walker (*St. Louis Medical Gazette,* August) records an interesting case of severe puerperal sepsis treated with antistreptococcus serum (Fisch). He did not neglect other treatment while using the serum; kept the bowels well open; gave strychnine sulphate, one sixtieth of a grain, every four hours; acetanilide, five grains, night and morning; controlled the vomiting by giving small pellets of ice; allowed milk and brandy, but no solid food. The patient was given a cold sponge bath once a day and an ice pack to the head. He was very careful to get the temperature at a time when the bath would not interfere with the thermometric readings. It will be noted, he says, that within twenty-four hours after the use of the serum the temperature would fall, and also that on April 4th, when he had not used the serum for thirty-six hours, the temperature rose rapidly from 100.4° to 105°, and again fell under the influence of the twelve-hourly injections to almost normal within forty-eight hours.

The surroundings in this case were the worst he had ever seen, and the patient's general condition was much against her. On April 24th the patient came to his office and told him she was able to commence her work again, that of a laundress.

THE NEW YORK MEDICAL JOURNAL, August 20, 1898.

Original Communications.

IN WHAT CONDITIONS OF THE NOSE, PHARYNX, AND LARYNX THE GALVANO-CAUTERY SHOULD AND SHOULD NOT BE EMPLOYED.*

By CLARENCE C. RICE, M. D.

A very wide difference of opinion is held by rhinologists in regard to the usefulness of the galvano-cautery in the surgical treatment of diseases of the nose and throat. Making allowance for the fact that all of us are creatures of habit and become accustomed to certain surgical methods to the exclusion of all others, still it is not easily understood why one nasal surgeon should assert that the galvano-cautery is the most useful instrument we have for the surgical treatment of nasal disease, and another equally prominent man should state that "he never employs the electric cautery, nor would he have it in his office." I have seen the galvano-cautery employed in a manner so destructive that I have felt like discouraging its use by all inexperienced men. It is not a sufficient reason, however, for discarding it because it happens to have been used in a very unscientific manner by unskillful persons. I think that a large part of the bad reputation which the galvano-cautery obtained at one time was due to the fashion, then in vogue, of destroying in a wholesale manner all turbinated tissues. It is very difficult to make beginners in the study of nasal diseases understand that in the majority of cases of nasal obstruction the turbinated structures are to be let alone. I have seen, more than once, the entire inferior turbinated body completely effaced with the galvano-cautery when the real lesion was deviation of the nasal sæptum. If the cautery was to be used in this way, I certainly should vote with its opponents. I have also seen bridges of tissue extending from the turbinated side to the sæptum due to adhesive inflammation, which were produced by the injudicious use of the cautery; and the middle pharynx covered by scar tissue, a result of overzealous work in the use of the same instrument. But we shall all admit that this in no way argues against the proper and skillful use of the cautery. The same argument may as effectively be employed against the application of acids to the nasal mucous membrane, and perhaps against all cutting instruments.

I will state in the beginning that I consider burning by the galvano-cautery a most useful procedure; and I know of no appliance, in certain conditions, which will adequately take its place. I use it probably several times every day, and I do not think with anything but good results. It seemed to me that it might be useful to this society to place before them, in as concise a manner as possible, the conditions in which the galvano-cautery was a valuable method of treatment, and also those in which it should not be employed.

First, let us compare the merits of the cautery with those of the several acids which nasal surgeons are in the habit of using. I have always maintained that the cautery could be employed with much greater precision than could any of the acids, and that its action can be better limited. It is a very important point to destroy as little of the nasal mucous covering as possible. There are only a few cases of anterior turbinated hypertrophy which need to be reduced. Such swellings can be diminished one half, which is usually sufficient, by a *galvano-cautery puncture*, using a very fine-pointed electrode (Fig. 1). The inflammatory reaction amounts to nothing, and but little of the mucous surface is destroyed. I can not see how this can be so nicely done by applying any one of the mineral acids to the mucous surface. Cicatrices in the nose are always to be avoided, and should be made as small as possible. This galvano-cautery puncture needs to be carefully done with an electrode at not more than a red heat. The point should be introduced cold, and the current turned on perhaps three times while the point is in the same place, until sufficient depth of puncture is obtained. The smaller the diameter of the puncture the better. This method is resorted to in anterior turbinated swellings only after all obstructions pertaining to the sæptum have been removed. The galvano-cautery should never be employed at so great a heat that opposing surfaces are scorched. There are several abnormities of the nasal sæptum which may be corrected with the electric cautery, but I should like to have it understood that I very much deprecate the production thereon of any large ulceration by its means. We are willing to admit that if the cautery is overemployed on cartilage or bone it devitalizes the nasal partition, produces a wound difficult to heal, and one which is apt to be dry and collect secretions for a long time. We can think of nothing worse than to cauterize over a large extent of sæptal surface in a case of well-established atrophic rhinitis, or even where this disease has only just commenced. We see very often, however, small spurs of bone and cartilage on the sæptum which are too small to indicate the use of the knife, the saw, or the trephine. Whenever we use these latter instruments bleeding is produced, and the patient is subjected to much more discomfort than where the cautery is sparingly employed. Small spurs, therefore, may be reduced by a single application to their most prominent point, making a wound not larger than an eighth of an inch in diameter. It is wiser to do too little rather

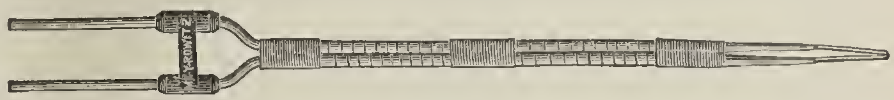

Fig. 1.

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* Read before the Society of the Alumni of the City (Charity) Hospital, May 11, 1898.

than too much, for the cautery may be applied a second time two weeks after the first application, if necessary. We can not see how there can be any effective argument against such a use of the cautery. Where the nasal partition is deviated as a whole, producing marked obstruction in one nostril, the cautery should not be employed. I have also found the cautery useful, two weeks after the saw or trephine has been employed, in removing small projections which have escaped the cutting instruments. These can be readily reduced with the cautery; I refer to projections of such shape and in such a position that they can not readily be snipped off with scissors. In some few cases, after operating with cutting instruments, there is a strong tendency to the formation of granulation tissue on the base of the ulceration, and burning seems to prevent such growth better than cutting. Again, in the troublesome cases of epistaxis, resulting from small ulcerations on the floor of the nose or on the nasal partition, I have often found the cautery to be most useful when it has been difficult to heal the mucous membrane by the application of astringents and alteratives; and in this condition, too, the cautery should be used very carefully and over a very limited surface.

In this same connection I may speak of the *cautery as a styptic*. We see cases of profuse nose-bleeding which can be controlled by the application of the cautery applied to the bleeding point. Once more, prominences on the nasal sæptum three quarters of the way back, difficult of access to the saw or trephine, can be nicely contracted with the galvano-cautery. Here, again, it should be employed only at a red heat on account of the danger of scorching the opposite turbinated side, the instrument again introduced cold and kept in one position until the tissue has been burned deeply enough. The so-called linear applications of the galvano-cautery I do not approve of, because of the too great destruction of mucous surface. Nothing could be more unscientific than to employ the electric wire between the middle turbinated bone and the sæptum, or over the middle turbinated bone as a whole, when it is desirable to destroy hypertrophic conditions in this region. The result is to produce a good deal of inflammation and perhaps adhesion, without materially reducing the size of the swellings.

The cautery electrode is not a useful instrument in the posterior nasal orifices, because it is difficult to apply. This region is vascular, and there is danger of producing annoying hæmorrhage. Posterior hypertrophies are nearly always secondary to anterior obstruction, and disappear when it is removed. In the few cases of persistent posterior turbinated hypertrophy I prefer the application of chromic acid rather than the endeavor to carry an electrode bent at right angles, through the mouth, up behind the soft palate.

I do not think of any conditions of the postnasal space—that is, the upper pharynx—where the galvano-cautery is of service, unless I state as one exception the use of the cautery loop or *écraseur* in removing fibrous and semifibrous growths attached to the vault of the pharynx. All conditions of adenoid enlargement are better removed by other methods, and congestive areas can be corrected by scarification or the use of strong astringents.

The galvano-cautery seems to me to be more useful in the middle pharynx than in any other location, and first let me speak of its application to the tonsils. I meet every year with a few cases of enlarged tonsils in children, which should be excised, where the parents object so strenuously to cutting that the galvano-cautery may be used as a bad substitute. Of far greater use is it, however, in the very large tonsils of adults. But few of these are seen, because they do not often exist. These are the cases in which, if in any, excessive hæmorrhage occurs after amygdalotomy, and this is especially true if the patient has suffered from frequent attacks of simple amygdalitis or quinsy. I have used the cautery loop but little, but I frequently puncture such tonsils very freely with the cautery wire for the purpose of detroying the blood-vessels before using the amygdalotome. I sometimes cut the tonsil almost entirely off with the cautery before applying the amygdalotome. Such a case I had two days ago. The cautery knife was introduced rather near the anterior pillar of the pharynx and pushed completely through the tonsil up and down. But little of the tissue remained to be excised; but even then there was a good deal more than the ordinary bleeding which we see in children, and I felt that had the entire tonsil been cut we might have had annoying hæmorrhage. I mention this as a safeguard which it is well to employ. I am convinced that the troublesome cases of hæmorrhage occur in just this class of patients—adults who have large, congested, fibrous tonsils which have frequently been inflamed. In another class we see patients where the tonsils are not large, but who suffer from repeated attacks of amygdalitis. These tonsils are not large enough to grasp with the amygdalotome and can be very advantageously destroyed with the cautery. A depression can be made into the tonsil all the way up and down in such a manner as to thoroughly contract it. This same method may be used also where patients have suffered from quinsy—I mean, of course, after the acute attack has subsided. I am confident that if the adhesions between the anterior pillar and the tonsil are separated, and if the tonsillar tissue is thoroughly destroyed, future attacks of amygdalitis may be avoided. There are some cases also where the anterior pillar is very redundant, and in these the galvano-cautery is perhaps the best instrument to diminish its size. It has never seemed to me to be quite the best method to employ, but a congested anterior pillar is quite likely to bleed profusely if excised. In cases of leptothrix, I know of no better instrument to destroy the follicles which contain these parasitic growths than the cautery point. The open-mouthed follicles can be closed by the adhesive inflammation which follows its use.

Still another class of cases there is, where the patient complains of *chronic* sore throat, and we find the cause of this to be "lateral pharyngitis." We discover ridges sometimes as large as the diameter of a lead pencil, tender and sensitive, commencing high up in the postnasal space and running along the middle pharynx behind the posterior pillars down to the base of the tongue. How can these be reduced better than by the galvano-cautery? Applications of nitrate of silver are insufficient, acids are uncertain, and curetting apt to leave large cicatrices. I like to employ three or four small punctures of the cautery in each ridge an eighth of an inch apart. These small wounds heal in a few days, and are very efficient in destroying such swellings.

The follicular enlargements seen in so-called follicular pharyngitis and the enlarged capillaries running over the posterior wall of the middle pharynx are also thoroughly effaced by the galvano-cautery puncture. I would say again that it is better to do too little here rather than too much. Not more than four or five punctures should be made at one operation, and then if, after two weeks, any follicular swelling or enlarged capillaries still remain, a second application of the cautery can be employed. Linear applications of the galvano-cautery up and down the posterior wall of the middle pharynx, a procedure of which I have seen the evil results, should be denounced.

Now we reach the base of the tongue and have to deal with the frequent condition—enlargement of the lingual tonsil. There is no question but that the pressure of this on the epiglottis produces secondary laryngeal catarrh, and such symptoms as irritable cough, spasm of the glottis, a degree of hoarseness in singers, and voice fatigue. Amygdalotomes have been devised for the excision of the lingual tonsil, but they are not satisfactory. They are difficult of application and hæmorrhage may be profuse. A *confrère* of ours in this city told me that he had met with very dangerous hæmorrhage after the application of the lingual amygdalotome. It is an unsafe location for the application of mineral acids, and the solutions of silver, copper, and zinc are not strong enough. Here the cautery should be applied in the following manner: After a four-per-cent. solution of cocaine has been applied to the base of the tongue, the cautery, bent down an inch and a half at right angles, should be placed on the most prominent portion of the lingual tonsil; but before the heat is turned on not only should the patient pull the tongue well forward, but the enlargement can still further be brought away from the epiglottis by traction with the electrode. The greatest care should be used not to scorch the epiglottis, as that cartilage heals very slowly. It will be necessary to use more than red heat, because the abundance of saliva cools the instrument quickly. Enlargement of the lingual tonsil usually presents itself in bilateral form, and three punctures can be made in each lobe. The caution against burning the epiglottis should not be forgotten, and it is well not to apply the cautery too far to the side, lest inflammation should extend into the pharyngeal wall and downward into the larynx. With these precautions observed, I think no objections can be urged against the use of the cautery in this location.

I dare say that most laryngologists would object to the use of the electric cautery in the larynx, and there certainly are very few conditions where it is possible to employ it, and never should it be used except by those skilled in laryngeal manipulation. The only cases in which I have used it have been in such laryngeal growths as interarytænoid thickenings composed of dense fibrous tissue. I have punctured these and thus reduced their size, where astringent applications had proved of no benefit, and where I did not care to use the curette. I have also touched the remnants of benign growths attached to the vocal bands after the main portion had been removed with a forceps. This procedure can only be accomplished by thoroughly cocainizing the larynx, and then the cautery should be applied at a very moderate heat, and the current should not be turned on until the point of the electrode can be seen in the laryngeal mirror exactly on the point to be burned.

In a hasty way I have indicated what seem to me to be the uses of the galvano-cautery in affections of the nose, upper, middle, and lower pharynx and larynx. I dare say I may have omitted some. I would repeat that the galvano-cautery should always be used with as little heat as possible; its application should be carefully localized; soft nasal swellings should be reduced by puncture rather than by burning over a large extent

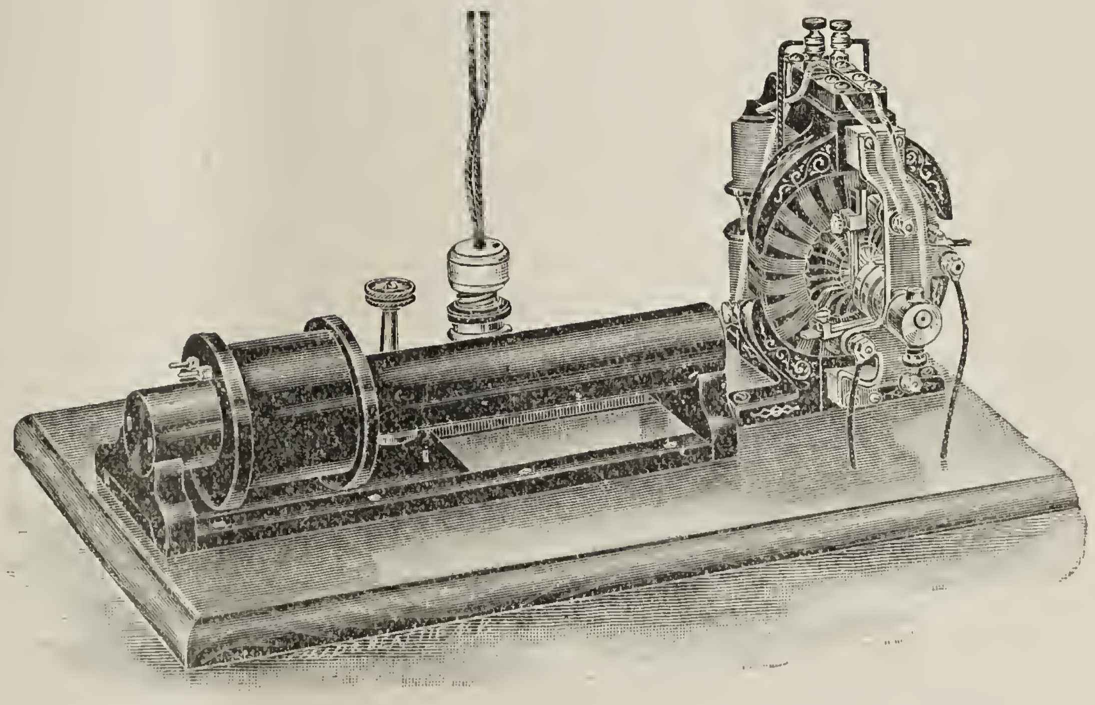
Fig. 2.

of surface; only very limited wounds should be made on the cartilaginous and bony nasal sæptum; enlargements of the middle turbinated bone anteriorly, and of the posterior ends of the turbinated bones, should not be treated with the galvano-cautery.

In closing, I beg to call your attention to the apparatus which I have in my office and which has been eminently satisfactory. The Edison direct-current cautery transformer (Fig. 2), attached to the street circuit, always gives a proper degree of heating power and ample current for propelling the motor and drill, as well as the light for transillumination. I need not say that the best cautery handle and electrodes are indispensable.

123 EAST NINETEENTH STREET.

THE POINTS OF DISTINCTION BETWEEN CEREBRAL SYPHILIS AND GENERAL PARALYSIS OF THE INSANE.

TWO LECTURES DELIVERED TO THE MEDICAL STAFF OF THE ILLINOIS EASTERN HOSPITAL FOR THE INSANE.

By HUGH T. PATRICK, M.D.,
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PROFESSOR OF NEUROLOGY IN THE CHICAGO POLYCLINIC;
ASSOCIATE PROFESSOR OF NERVOUS DISEASES,
NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, ETC.

LECTURE I.

GENTLEMEN: I must beg of you to prepare for a disappointment. When, some time since, you requested a lecture on the clinical diagnosis of brain syphilis from general paralysis, I fear you expected a much clearer distinction and more clean-cut antitheses than I shall be able to present to you.

But I, too, have had a disappointment in this matter. I rather confidently hoped to gather from the richer experience of others material to fill out many of the lacunæ of my own knowledge; to appropriate from the full stores of literature the missing terms of my own imperfect formulæ. Now, after a reasonably extensive search through medical writings on brain lues and general paresis, I must confess that I am surprised not only at the meagreness of my findings but at the lack of systematic consideration of this very important question of diagnosis. For it is a question that not only comes frequently to every neurologist and alienist, but not rarely obtrudes itself into the daily walk of the general practitioner. And yet I have been unable to find a single recent adequate contribution to the subject. It is to be hoped, for the credit of modern medicine, that I have overlooked a number of them.

The want of diagnostic criteria is emphasized on all hands, but most writers content themselves with a mere statement of difficulties; they speak of the occasional striking similarity of the two diseases, caution against their confusion, or enumerate some traits of resemblance and stop there. Others, who have courageously attacked the problem, have failed of its solution on account of preconceived theories or asymmetrical knowledge. For instance, the masterly work of Fournier on cerebral syphilis,* although it was an invaluable contribution to medicine and remains a monument to the erudition and vast practical experience of this *savant*, is a signal failure in the particular question now engaging our attention, for he undoubtedly included in his syphilitic pseudo-paresis (*pseudo-paralysie générale syphilitique*), that is, brain syphilis, cases of true general paralysis occurring in syphilitics; and therefore his exhaustive table of differentiating symptoms is almost valueless. The same uncertainty, to put it mildly, hovers about some of the cases of Rumpf † and of other authors.

It may be well, then, to define at once our premises and the limits of our discussion.

By syphilis of the brain I mean the lesions of this organ that are universally recognized histologically as belonging to the direct pathological changes induced by luetic infection—in plain terms, syphilitic arteritis, syphilitic meningitis, and gumma—including conditions immediately secondary to these lesions and which may be much more important than them. For instance, a syphilitic arteritis at the base of the brain may occlude a good-sized artery, causing an extensive area of softening; a gummatous meningitis of the convexity may so compromise the vessels, and hence the circulation, as to seriously impair the nutrition of the cortical cells. Such softening and such impaired nutrition of ganglion cells, although not differing in any respect from thrombotic malacia and metabolic depreciation otherwise induced, would, for our purpose, be classed under brain syphilis. Charcot and Gombault,‡ Bechterew,# and others have described a syphilitic multiple sclerosis, but I have not included this in my category because, aside from its extreme rarity, I believe it to be remotely secondary to other lesions and always a sequence of one of the three pathological conditions already mentioned.

By general paralysis of the insane we shall understand the organic insanity generally known to neurologists and alienists by this name (of which dementia paralytica, paretic dementia, and general paresis are synonyms), regardless of its ætiology. Whatever the relation may be between syphilis and general paralysis, whatever the future may have in store of knowledge that will allow of a nicer ætiological diagnosis and more refined pathological classification, we are for the present safe in assuming that there are no known distinctive traits indicating the dementia paralytica induced by syphilis as distinguished from that due to any other cause. At this day, no clinician is justified in making a diagnosis of syphilitic general paresis (that is, general paresis caused by lues) from the symptoms alone, and

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* *La Syphilis du cerveau*, Paris, 1879.

† *Die syphilitische Erkrankungen des Nervensystems.* Wiesbaden, 1887.

‡ *Arch. de phys.*, 1873, No. 2.

Neurolog. Centralb., 1896, No. 2.

no pathologist is able, from an examination of the tissues, to say that in this case the ætiology was specific infection, and in that traumatism, mental strain, or physical excess.[*] Even the three carefully studied cases of Raymond,[†] which he thinks prove that the lesions of paretic dementia may be histologically syphilitic—a true syphilitic meningo-encephalitis—in my opinion simply demonstrate that two of the patients were the subjects of specific lesions and the other a general paralytic.

As you might infer, we shall put aside syphilophobia in all its phases, as well as the various forms of mental disturbance caused by syphilitic systemic intoxication and generally appearing with the secondaries; for it were scarcely possible to confuse such disorders with dementia paralytica. In like manner, but not for the same reason, shall we neglect a consideration of the clinical differentiation of inherited syphilis from precocious general paralysis. Not only were it alone a sufficiently ample subject for an entire lecture, but it would unnecessarily complicate our present theme.

As to the more complex problems presented by the victims of brain syphilis who later become paretic dements, and by paretic dements who contract syphilis and develop specific brain lesions, I must confess that the subject seems to me to be as yet too undeveloped to allow of particular and categorical discussion.[‡] In any event, such cases are of extreme infrequency, and constitute *as yet* pathological curios rather than material for practical information.

My endeavor, then, shall be simply to formulate a set of guides that may enable us to discriminate with all practicable exactness cases of general paralysis of the insane from such cases of gross brain syphilis as might lead a careless or uninformed physician into error.

Allow me to remind you in advance that I am dealing with only two diseases, and at no time take into consideration the similarities of either of these to other affections, functional or organic. When I say that such and such a sign indicates syphilis, or that a certain symptom favors the diagnosis of general paralysis, the statement is to be understood as applying to these two diseases only, without reference to neurasthenia, melancholia, brain tumor, or other abnormal conditions.

Also let me pause to say that in my opinion the cases of cerebral syphilis that will survive a proper investigation and remain to closely simulate general paresis are not so very frequent. There is undoubtedly a tendency, especially among urban members of the profession, to make a diagnosis of syphilis too frequently, and I am quite certain that dementia paralytica is much oftener mistaken for syphilis than is the latter disease for the former. Given a patient known to have been infected, or to have led a licentious life, or who bears on his person old marks of syphilis, the average practitioner seems inclined to at once attribute to the presumably or certainly pre-existent specific disease any malady that may arise, from cirrhosis of the liver to neurasthenia.

Still, cases are apt to come to us at any time that will tax to the utmost our knowledge, our judgment, and our diagnostic instinct, and after all is said and done we may have to confess an utter inability to make a positive diagnosis. I have no desire to dwell upon the difficulties of this clinical differentiation. Suffice it to say that they have become apparent to every neurologist and alienist of experience, and that even a cursory perusal of the literature will reveal a plenty of beautiful examples of brilliant error and of instances in which the best of men had to decline to express a positive opinion. And this applies not alone to the prodromal period. It is a melancholy fact that even in the height of the disease, or in the terminal stage, it may be beyond the skill of the ablest diagnostician to distinguish between the two diseases. More than this, the evidence goes to show that, as a very rare exception, a case of brain syphilis may run its entire course to a fatal termination without being distinguishable from general paralysis. A fact that sheds additional light on the diagnostic difficulties, and in a measure explains them, is that even post mortem and after a microscopic examination it has been in a very few instances impossible to decide if the changes found were those of syphilis or of dementia paralytica. The clinical difficulties, errors, and uncertainties are quite explicable when we reflect that neither disease has a pathognomonic sign, that not a single symptom occurs in either affection that may not be found in the other, and that neither adheres to a fixed type. As there is no trait of the one disease that will distinguish it from the other, the inference is obvious, that in the following attempt to mark the more salient dissimilitudes of the two affections no statement of contrast is to be taken with absolute positiveness, and to every distinguishing aid is to be given only a relative value.

But, in spite of the variant pathology and erratic symptomatology of either affection, their confusing similarity and lack of constant features, and in spite of the record of numerous blunders by well-known men, I am quite persuaded that our task is far from hopeless. In reviewing the recorded cases of syphilis that have had the appearance of general paralysis, one is almost invariably struck by the presence of one or both of two imperfections: either the observation was made at a date when the knowledge of both general paresis and cerebral syphilis was far from being what it now is, or it was incompletely made; that is, the patient, body and mind, was not subjected to the close scrutiny that the case required. If the dictum of Voisin[*] is valid, that "for the accurate recognition of general paralysis it is necessary to know thoroughly all mental pathology, all affections of the spinal cord, and all syphilitic diseases"—that is, practically all mental and nervous disease—it would apply with double force to brain syphilis, which takes on more forms than any other organic disease, and for the very good reason that it is not an anatomical entity. Even the cerebral lues that simulates general paresis may exist as an arteritis, a meningitis, a syphiloma, or as all three, ever uncertain as to location, unreliable as to degree, versatile as to combination, and unlimited as to secondary complication. Let me enjoin upon you, then, *always* to examine with minutest care and exhaustive thoroughness, even when you expect to find nothing in particular. It is the only safe plan.

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[*] V. Fournier. *Semaine méd.*, 1894, p. 490; *Wien. klin. Rundschau*, 1895, p. 167.

[†] *Arch. de neurol.*, January and February, 1894.

[‡] Charrier and Klippel. *Rev. de méd.*, 1894.—Muratow. *Neurol. Centralb.*, 1897, p. 194.

[*] *Traité de la paralysie générale*, etc., Paris, 1879.

What follows must be more or less desultory, because not only does the threefold pathology as well as the hit-and-miss location of syphilitic lesions make the symptomatology of specific brain disease peculiarly erratic, but dementia paralytica is also a disease in which the location and character of tissue change are somewhat variable and the symptom-complex a correspondingly unstable mixture of physical and mental abnormities. No perfectly systematic treatment of the subject, therefore, seemed possible, and I have been unable to avoid more or less repetition, but this investigation rather naturally falls into three parts: 1. The history and general course of the diseases. 2. The somatic signs. 3. The psychic symptoms.

HISTORY AND COURSE.—In exploring the past of a doubtful case infinite care must be given to unearth the slightest variations from the normal, and this as regards two distinct groups of symptoms—the somatic and the psychic. In proportion as the former predominate we may suspect syphilis; a preponderance of the latter would indicate general paralysis. In either case it is to be remembered that general inquiry will not suffice. Leading questions must be pointedly put to patient and intimates, for disturbances of vital importance to the diagnostician may have been almost unnoticed, considered to be of no significance, or carelessly forgotten. Indeed, as you have doubtless observed, it seems marvelous what changes, mental and physical, sometimes escape the observation of the patient's associates or the members of his own family.

As bearing upon the mental side, interrogation should cover any possible change in disposition or temperament, be it in the way of irritability or apathy, of sanguine exaltation, or hypochondriacal depression. Deviation from the patient's customary moral standards is to be separately inquired after and also any change in sexual habits, as these vagaries are apt to be concealed or minimized in the accounts of friends. If his occupation is one requiring mental activity, his behavior in this should be subjected to minute scrutiny. Change in business policy, neglect of details, diminished grasp of combinations, illogical schemes, undue optimism or the reverse, restless activeness without effectiveness—these possibilities are to be always present in the mind of the inquirer, and also the axiom that a mental state or life habits entirely normal to some individuals may be decidedly abnormal for others. The power and habit of attention and the memory seem to need separate investigation. Whatever the occupation, the daily habits are important matter for inquiry, including dress, drink, eating, sleeping, and playing. Periods of excitement, hebetude, or stupor should never escape the questioner's knowledge.

Among the somatic signs to be asked about in a categorical way are headache, pains, and paræsthesiæ of all kinds, paralyses (partial or complete, transitory or permanent, limited or extensive), and everything that comes under the head of a fit, from local muscular twitching to generalized convulsions, and from slight vertigo to an apoplectoid attack. Cranial-nerve palsies (especially diplopia and ptosis) and transitory aphasia are to be excluded or definitely determined. Manual skill, the gait, physical endurance, the state of nutrition, sexual capacity, and bladder power are proper subjects for direct questioning. It goes without saying that in all things venereal no detail is insignificant.

History of Syphilis.—The mere fact of previous specific infection is of no real value. Whether syphilis causes one per cent. or ninety-nine of all cases of dementia paralytica, at least its presence does not at all tend to prevent this disease. If infection makes brain syphilis possible, it never makes general paralysis impossible or even improbable. Indeed, it is not known what proportion of syphilitics have sooner or later cerebral lesions nor what proportion become general paretics, and, although the former probably exceeds the latter, the ratio is so indefinite as to be of no practical importance. Likewise, absence of syphilitic history is to be given no weight. Such anamnestic details are notoriously unreliable. Radcliffe Croker got no history of chancre in twenty per cent. of his cases of tertiary skin lesions, and Hirschl (quoted by Illberg *), in the syphilitic wards of the Vienna Hospital, could get a history of syphilis in only sixty-three and a half per cent. of the cases, not including the mental ones. How much more uncertain, then, must be the statements of a patient in whom dementia and possibly other psychic disturbances are more or less prominent!

The lapse of time, however, between the primary sore and the appearance of brain symptoms is of some importance. In this respect there is an easily discernible difference between the two diseases. Brain syphilis in the vast majority of cases *does not come on at a remote period after infection.* Mickle † says more cases occur in the first year than in any other, and that the number per annum diminishes thereafter. Of seventy cases, with autopsy, personal and from the literature, tabulated by Naunyn in his excellent work,[*] forty-eight per cent. occurred within the first three years, 84.3 per cent. within ten years, and Gilbert and Lion [†] report sixteen of forty-seven cases as appearing three to six months after the chancre. Hjelmman [‡] found one fourth of his cases of cerebral syphilis to occur in the first year and half of them in the first three years. Mauriac's statistics [#] are fifty-three per cent. of a hundred and sixty-four cases in the first year after infection. Braus found forty-four per cent. of brain syphilis within the first year, and Goldflam seventy-two per cent. (thirteen of eighteen cases) of cord syphilis in the first two years.[||] Rumpf [△] says that twenty-three per cent. of syphilitic cerebro-spinal meningitis occurs in the first year. As a matter of course, there are striking exceptions to the rule indicated by these citations. For instance, Kowalevsky *is said* to have seen over forty cases of brain syphilis that dated thirty years or more after infection, Raymond one fifty-four years, and Fournier one fifty-five years after chancre,[◊] but a very considerable element of doubt attaches to most of these extreme cases. The very early occurrence of brain syphilis after infection is now a well-recognized fact. I might instance the paper of Gilles de la Tourette and Hudelo,[‡] who record the appearance of syphilitic invasion of the nervous system four weeks after the initial lesion.

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* *Samml. klin. Vorträge*, 1896, No. 168.

† *Brain*, 1895, p. 99.

The length of time that a syphilitic has to wait for general paralysis, supposing this disease to supervene, has not been so extensively studied and is not so well known, but it is distinctly more extended than is usual for cerebral lues. Of three hundred and four cases analyzed by Gudden,[‡] in which the lapse of time from infection to entrance into hospital was known, only 3.3 per cent. were within five years and 28.3 per cent. under eleven years—that is, in over seventy-two per cent. of the cases ten years or more had elapsed between the chancre and the recognition of insanity. The average of all was about fifteen years. Illberg [‡] puts the period between infection and the appearance of paretic dementia at ten to fourteen years. From the foregoing statements, which are fairly representative of the best authors and which agree pretty well with my own experience thus far, we may conclude that if our patient has contracted syphilis recently, say within five years, the chances are greatly in favor of his malady being luetic, while if ten years or more are known to have elapsed since infection, probability points strongly to general paresis. In my opinion, however, this probability is seriously weakened if the patient has been the victim of syphilitic outbreaks at intervals during the long period, especially if these manifestations have pertained to the nervous system. Similarly, the presence of active syphilis in other parts of the body would, in the absence of positive evidence to the contrary, justify the conclusion that existing brain disease was part of the same affection. Indeed, in a number of recorded cases of cerebral syphilis mistaken for general paralysis it was only the unexpected appearance of syphilitic nodes or other palpably specific lesions that led to correction of the diagnosis. To this, as to all other statements, exceptions must be made. The possibility of a paretic dement contracting syphilis has already been mentioned, and a general paralytic with luetic lesions must be still more frequent. The following is an instance:

A man of thirty-seven years, with an uncertain history of syphilitic infection but with definite evidence of specific skin lesions going back at least ten years, was sent to me about a year ago. He presented all the principal symptoms of dementia paralytica and was also suffering from syphilis of the larynx, so diagnosticated by a most competent laryngologist. On active treatment with mercury and potassium iodide the laryngeal trouble rapidly disappeared, but the general paralysis pursued the usual course.

(*To be continued*)

RADICAL CURE OF FEMORAL HERNIA,

WITH PERSONAL EXPERIENCE OF THE INGUINAL METHOD

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(*Concluded from page 226*)

THREE of the patients were operated on by me in the New York Infirmary, and I was fortunate in having the assistance of Dr. Gertrude B. Kelly, the visiting surgeon; the fourth was operated on by Dr. Kelly with my assistance. In reviewing the histories of these cases, it will be seen that after the first case the incision for ligating the external iliac artery was abandoned, as it seemed to weaken the abdominal wall unnecessarily by dividing the fibres of the internal oblique muscle. In two of the cases the bladder was found adherent to the neck of the sac and was separated only after a careful dissection, without injury to the bladder. Pouchet (36) mentions a similar case, but the bladder was opened, then sutured with silk. A month after she was discharged she returned with a vesical calculus; on its surface was a piece of silk. Other cases are mentioned by B. Farquhar Curtis (10) in his exhaustive article on injuries to the bladder during operations for hernia. In isolating and withdrawing the sac from the canal great care was taken not to strip off its covering of fascia and vessels; these were allowed to remain to provide nourishment and prevent atrophy of the sac. It was loosely rolled, in order not to interfere with its circulation, and for the same reason no ligature was placed around its neck. No ill effects resulted from the closure of the wounds without drainage, except in Case III; here the trouble was due to too tight suturing of fatty tissue; just as soon as the sutures were removed and the fatty walls separated there was no further trouble. I always regretted removing the lower deep suture, as it was unnecessary, and had the wound been septic it would have infected the deeper tissues. Great care was taken in closing the wound: the floor of the inguinal canal was sutured, the canal itself was reconstructed by Bassini's method, in order to avoid weakening of the canal and formation of an inguinal hernia at some future time. Too much stress can not be laid on this point. The ease with which the sac and its contents could be inspected and treated,* and the simple manner by which the internal opening and upper part of the femoral canal could be reached and treated, impressed me greatly.

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[*] *Zur Prog. u. Therap. der syph. Erkrank. des Nervensystems.* Leipsic, 1888.

[†] *Arch. gén. de méd.*, 1889, vol. ii.

[‡] *Neurol. Centralb.*, 1894, p. 342.

[#] *Annal. de dermatol.*, 1875, vol. vi; 1876, vol. vii.

[||] Quoted by Mickle. *Brain*, 1895, p. 353.

[△] *Syphilitische Erkrankungen des Nervensystems*, 1887.

[◊] Quoted by Jaschtschenko. *Centralb. f. Nerven. u. Psych.*, May and June, 1897.

[‡] *Annales de dermat. et de syph.*, June, 1892.

[‡] *Archiv für Psych.*, xxvi, p. 430.

[‡] *Samml. klin. Vorträge*, 1896, No. 168.

The results in the four cases mentioned uphold, as far as any cases can that have been operated a year or two, the views of Socin (44) and others. As yet this method of operating has not received a large amount of attention.

Annandale (1), in 1876, was the first to mention this method, speaking of the originality in his operation as being the situation and direction of the incision, it being one which gives free access to the neck of the sac close to the general peritonæum. His first case was one of inguinal and femoral hernia on same side; he tried to cure the femoral variety by suturing the sac of the inguinal in the femoral canal; the femoral relapsed. The disadvantages of doing this have already been mentioned, and Annandale himself speaks strongly against it.

Tuffier (50) carries out the ideas of Ruggi (39) and Parlevecchio (33), but in a simplified manner. He opens the floor of the inguinal canal, ligates sac, and sutures the crural ring by uniting the aponeurosis of the pectineus muscle to Poupart's ligament in the middle of the superior part of the crural ring.

Cushing (11), in one case, being unable to separate the sac by the usual incision, reached the neck of the sac through an incision in the inguinal region without difficulty, folded the sac on itself, and fixed it within the abdomen, closing the femoral canal with purse-string suture, inclosing pectineal fascia and Poupart's ligament, with closure of the saphenous opening *à la* Macewen.

Edebohls (17), in an able review of the inguinal method for radical cure of femoral hernia, gives his personal experience with four cases, a relapse taking place in one case after six months. This patient was unmanageable, removed the dressings, and infected the wound, with consequent suppuration.

His conclusions are: The classical operation from below Poupart's ligament should be the operation of choice for femoral hernia, the inguinal operation being performed upon special indications—the special indications being (1) the coexistence of complete or incomplete inguinal hernia, with femoral hernia of same side; (2) in women, the coexistence with femoral hernia of a retrodisplacement of the uterus, which can be corrected by shortening the round ligaments. The histories of the four cases given constitute my experience with the inguinal method of treating femoral hernia.

I do not wish to be understood as advocating the radical cure of this variety of hernia by treatment of the sac alone; to it I would add some method, preferably Bassini's, only the sutures, three in number, being placed on the abdominal side of the internal opening of the femoral canal, and the rolled sac sutured to the closed opening. If the sac is large, the neck can be exposed above Poupart's ligament, opened, and contents returned if the intestine is not adherent, the omentum being ligated and divided. The internal ring and stump of sac are now treated as just mentioned, the sac and omentum being removed through an incision made below the ligament, or allowed to remain and gradually contract.

General Conclusions.—I. That it is not wise to attempt to obtain a radical cure of femoral hernia by treatment of the sac alone.

II. That the methods which have in view the closure or obliteration of the internal femoral ring and canal by relaxing Poupart's ligament are open to the serious objection of relaxing the tissues about the external abdominal ring, and thus possibly aiding in the formation of an inguinal hernia.

III. That those methods which have in view the restoration of the femoral canal to its normal relations are near approaches to the ideal method, but fail in that they act upon the wrong end of the canal and do not absolutely obliterate the depression at the internal ring.

IV. That the use of foreign bodies, osteoplastic flaps, and sections of neighboring fascia and muscles to plug the femoral canal renders the operation much more serious, and is open to the same objection as given above, while the results show no advantages over simpler methods.

Conclusions on the Inguinal Method.—I. That in all cases of suspected or small femoral hernia the ring, sac, and contents should be examined and treated from above Poupart's ligament, as it adds to the safety, ease, and celerity with which the case can be handled.

II. That by so doing only are the indications for permanent and complete radical cure met—viz., the high treatment of the sac, and closure of the canal at its highest point, the internal ring.

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* Keen (22), Cushing (11), and Lockwood's (27) cases.

III. That in case an inguinal hernia is present on the same side, or a retrodisplacement of the uterus, amenable to relief by shortening the round ligaments, exists, the treatment is greatly simplified by performing two operations through one incision.

NOTE.—Since this paper was read I have had an additional experience with three cases, in two of which the intestine was strangulated.

CASE I.—H. S., aged thirty-four years; single. Mother died of strangulated hernia. About six months before the operation the patient accidentally discovered a swelling of about the size of a walnut in the right groin. Remembering the cause of her mother's death, she sought surgical aid. She was operated on April 12, 1898, in the New York Infirmary, by Dr. Kelly, with my assistance. The usual incision above Poupart's ligament was made, the inguinal canal opened, and the neck of the sac exposed, and, as it was impossible to separate the sac, it was opened, a small quantity of omentum reduced, and then was cut off within the canal and the abdominal end closed. Two sutures were then passed through Poupart's ligament and the pectineal fascia and periosteum and tightened. The sac was then rolled and sutured to the closed ring, the wound being closed as usual. It was noticed that the obturator artery arose from the deep epigastric artery, passing in front of and to the inner side of the femoral ring. The convalescence was uneventful; the dressings were removed on the ninth day, and the wound was completely healed. The patient was kept in bed for three weeks, and was discharged on the twenty-sixth day.

CASE II.—W. O., aged forty years; iron worker. On the 17th of April, 1898, I was called by my friend Dr. S. P. Leveridge to see this case. Three years ago the patient first noticed a swelling in the right groin, which was easily reduced and never caused any pain or inconvenience. The day before I saw him he was seized with severe pain in the vicinity of the swelling, which quickly became colicky, spreading over the abdomen, and accompanied with obstinate constipation, retention of urine, and frequent vomiting. When I examined the patient there was tenderness on pressure over the lower part of the abdomen, with constant vomiting of a dark fluid with a fæcal odor and a very weak pulse. I advised an operation, which was accepted by the patient, and he was at once removed to Gouverneur Hospital.

The neck of the sac was exposed by the usual incision, opened, and the loop of the small intestine entering the femoral ring easily discovered by its congested appearance. Considerable turbid serum escaped when the neck of the sac was opened. As it was impossible to reduce the prolapsed intestine with ordinary traction from above, a vertical incision over the tumor was made below Poupart's ligament. A considerable quantity of properitoneal fat covered the sac, which, when opened, contained a dark fluid, clotted blood, and four inches of intestine. The sac was washed out with hydrogen peroxide, the contents of the intestine were returned, and the intestine itself was pushed through the femoral ring with gentle manipulation without difficulty, gauze sponges having been placed about the opening within the abdomen. The intestine was deeply congested, but under the influence of warm towels the circulation was soon reestablished. The properitoneal fat and sac were cut off below Poupart's ligament. The stump of the sac was drawn within the abdomen, closed, rolled, and sutured against the internal femoral ring. The upper wound was completely closed, the lower wound partly closed and packed with iodoform gauze. The stomach was washed out before the patient left the operating table. The patient's convalescence was without interest; the wounds healed rapidly and he was discharged from the hospital three weeks after the operation. Immediately after he returned home a small deep fistula formed in the upper cicatrix and discharged a few drops of pus for about three weeks, when it closed. This I think was due to imperfectly sterilized chromicized catgut.

CASE III.—M. L., aged forty-three, widow, laundress. Admitted to the New York Infirmary, June 20, 1898. Three days before she had been suddenly seized with severe colicky pain in the abdomen, which was soon followed by persistent vomiting. On her admission a tumor of the size of a large walnut was found in the right groin, and the patient was vomiting a yellowish-colored fluid with a strong fæcal odor. With the assistance of Dr. Kelly and Dr. Wakefield, I exposed and opened the neck of the sac above Poupart's ligament. An opening into the sac was also made below the ligament; it contained an inch and a half of gangrenous intestine, the mesentery not having entered the ring. The sac and intestine were washed with hydrogen peroxide and the intestine was returned by very gentle manipulation, the peritonæum having been protected with sponges placed within the abdomen. With all the care taken there was a slight perforation of the intestine. Three inches of the intestine were resected and a Murphy button was inserted. The internal femoral ring was closed with three sutures and the rolled sac was sutured against it. The upper wound was closed as usual; one half of the lower wound was closed and the remainder packed with iodoform gauze. The patient's convalescence for the first few days was uneventful, her nourishment consisting of broth and white of egg. On the fifth day the dressings were changed; the upper wound was found to be completely closed and the lower wound was repacked. After a week had passed, the patient began to complain of pain in the upper wound, which on examination looked red at the lower portion. Two days afterward the external wound was opened throughout its entire extent, as a considerable quantity of pus was escaping; two sutures were also removed from the deeper tissues for the same reason, and the wound was cleansed with hydrogen peroxide and packed with iodoform gauze. After this nothing of interest occurred in the history of the case, except that the button was passed twenty-eight days after the operation. I think the cause of the trouble in this case, as in the second one, was imperfectly sterilized chromicized catgut.

The experience gained from these cases forcibly emphasizes the first conclusion under the inguinal method —viz., that in all cases of suspected or small femoral hernia, the ring, the sac, and the contents should be examined and treated from above Poupart's ligament, as it adds to the safety, ease, and celerity with which the case can be handled. It also emphasizes the necessity of using absolutely sterile chromicized catgut.

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MEDICAL EXAMINATION FOR LIFE INSURANCE IN THE FIELD.

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(*Concluded from page 238.*)

We may now proceed to ask the questions on the report of examination blank. These have been selected and arranged in a way best calculated to draw from the applicant answers which will betray the existence of any latent physical derangement, according to the experiences of a large number of medical officers, and slightly modified by the judgments of the medical departments of the different companies. Their bearings and objects are self-evident to a physician, but not always to a layman, and applicants will frequently complain of what they are pleased to term the "uselessness" of many of them, and endeavor to show their disapproval by giving slighting, incomplete, or lackadaisical answers. They should be followed up sharply, however, and full, definite responses insisted upon. This is especially desirable in reference to the habitual use of intoxicating beverages, the past ailments from which the applicant has suffered, and the family history. A picture of the proposed insured, as accurate and comprehensive as can be transmitted on paper, is what the medical departments want, and the answers to these questions are what they depend upon to give it to them.

The man who "drinks moderately," or "drinks when he feels like it," must be requested to state explicitly how often he "feels like it" and what he feels like drinking. The information desired is as to how much *alcohol* the patient absorbs and if he indulges with any degree of regularity or excess. A good deal of tact may be required to get at the truth in this matter, as nearly every one resents the suspicion of overindulgence. If he is a so-called moderate drinker, he may have been habituated to it for years, and as no apparent harm has resulted he will deride the probability of future injury. While intrinsically honest in his intentions toward the company, because of his conviction that he is a good risk, he will sometimes deceive the examiner as to the actual extent of his indulgence unless explicit information is insisted upon. It is desirable not to offend these "touchy" people, as ill-nature excited by an examiner is very likely to be reflected upon his company, and an agent can not always remove the bad odor due to an unpleasant experience with the doctor.

When the applicant is questioned as to the deviations from health which he has sustained during his past life three sources of error obtain: a lack of comprehension on his part as to what the technical terms may mean, failure to acknowledge conditions mentioned by the examiner through his belief that they have been entirely recovered from and are therefore of no importance, and intentional suppression of the facts.

As to the first-mentioned, individuals are occasionally met with who will deny ever having had "otitis," but admit "running from the ears"; who have no "hernia," yet they wear a truss for a "rupture"; never are troubled with "vertigo," yet occasionally have "dizzy spells," etc. Questions must be couched in such a form that the applicant will understand what he is being asked.

As to the second, mention of slight recurrent indispositions, which in the estimation of the laity "do not amount to much," is very likely to be omitted unless some emphasis is laid upon them by the interrogator. As grave constitutional disorders sometimes manifest their early development or insidious progress only by these slight deviations from health, the applicant's opinion as to their innocuousness may not be accepted. It must be ascertained with certainty whether or not they have existed. As examples may be mentioned slight attacks of colic, which may be caused by chronic lead poisoning, from occupation particularly, and which the victim ascribes to "wind"; which may also be due to an imperfectly trussed hernia, where the bowel can slip into the canal and be pinched either in the ring or between the truss pad and the pubis; recurrent headaches, also from saturnine intoxication, but sometimes from chronic nephritis and developing cerebral lesions; the slight chronic dyspepsia, frequently recurring "colds," and slight difficulties in respiration sometimes accompanying nephritis and incipient phthisis. Chronic intermittent skin affections of mild degree on hidden parts of the body, or old "leg ulcers," may escape the applicant's memory, but are among the expressions of syphilis, diabetes, the uric-acid diathesis, and calcareous capillary areas; anal fistulæ may indicate dead bone from traumatic, tuberculous, or syphilitic osteitis or rectal pathology; "neuralgia around the heart," angina pectoris, frequently means fatty heart, calcareous coronaries, or valvular disease; frequent micturition, betraying an irritable bladder, may be due to chronic cystitis from deep spinal lesions, diabetes, uric-acid diathesis, calculous deposits, tuberculous processes in this organ or the prostate, or nephritis.

Another not so very infrequent cause of cystitis is gonorrhœa. Individuals sometimes feel delicate about acknowledging this affection, and I have heard examiners say that they considered it useless to ask the question because they could never rely upon the truth of a negative answer, and an affirmative response was unknown. My experience has been, however, that if the inquiry is put in a properly confidential manner the majority of people will answer truthfully. Be that as it may, the subject should always be investigated. It has been stated that gonorrhœa causes more deaths than syphilis, much graver as the latter disease is ordinarily esteemed. I know from my own professional experience that it does kill, and every physician of experience knows that not infrequently sequelæ are induced which sometimes do and always may eventuate fatally, especially in women. The laity does not adequately estimate the gravity of this disease, and it is not extremely uncommon to hear a man say that he would "as soon have the clap as a cold." The extent to which this belief in its trivial character may be carried was impressed upon me by the case of a young man who once came before me for examination. When I asked him if he had ever had gonorrhœa he answered without hesitation that he was suffering from it then, and surely enough he had an attack in full bloom. I was astonished at his ready admittance of the fact, considering the purpose for which he came to me, and asked him how he expected to be favorably considered for life insurance under such circumstances. He answered that he "didn't suppose that was anything."

Chronic rheumatism, even though mild in its manifestations, is capable of deforming the cardiac valves by lighting up endocarditis, also of inflaming serous membranes, and explicit information as to its existence, intensity, and character is essential. It may also mean syphilitic or gonorrhœal toxicity, calcareous tissue degeneration, or uric-acid deposits.

If an attack of any of the acute infectious diseases has been sustained within one year, the possibility of sequelæ in the form of nephritis or deep septic inflammations and pus collections must be borne in mind. A tuberculous tendency is also sometimes developed by these affections.

Last, but not least, because of their intimate causative relation with our inveterate enemy the tubercle bacillus, I will mention inflamed lymphatic glands (scrofula) which have apparently returned to a condition of health. Ask the applicant if he has "ever had any lumps in his neck." The tuberculous tendency may have been eradicated, but if the germs have ever been present, evidences of their existence in other parts of the victim's system should be carefully looked for. As I have said before, consumption, because of its great prevalence and frequently insidious development, is the worst foe of life-insurance companies, and I make no apology for the repetition. The importance of the matter justifies the emphasis.

Those who intentionally suppress facts required by the examiner form, according to my experience, a very small class of applicants, but we do encounter them. The attempt to secure the insurance in these cases is usually instigated by a knowledge that permanent and incurable impairment exists, and this will generally transpire during the course of the examination if the scrutiny is close. At the present time the rules of insurance companies in reference to beneficiaries are stringent enough to prevent the acquisition of speculative policies by non-relatives, and we have to watch much less closely for intentional deception than formerly, the attempts being confined to interested relatives. Among instances that have occurred in my personal experience, I will mention a case of old hemiplegia which had recovered so well that its traces were apparent to ordinary observation only in the heavy facial expression, the thickened speech, and the tongue deviation upon protrusion, and only slightly so then; an old woman of alcoholic tendencies afflicted with cirrhosis of the liver in whom the only evidence present at the time of examination was a slightly enlarged abdomen, percussion of which betrayed the presence of effusion; and a painter who suffered from chronic lead poisoning and had been attended by a physician for an attack of saturnine colic two weeks previously, as I subsequently discovered. The unhealthy appearance of his skin, and his occupation, induced me to look for the blue line on his gums, which I found, and finally succeeded by the exercise of considerable diplomacy in getting the truth out of him.

All of these cases had been under treatment by a physician for their ailments, knew what was the matter with them, and yet cold-bloodedly gave me a history of excellent physical health during their past lives. The occurrence of these cases, rare though they are, teaches the necessity of being thorough, careful, and closely observant in *every* case that comes before us. We can never tell which one will try to fool us.

The substitution during medical examination of another person for an applicant known by prospective beneficiaries to be unsound is, I believe, so rare nowadays, at least in this country, that it hardly deserves mention.

To secure an accurate family history, especially as regards consumption, is extremely desirable, and, so far as grandparents are concerned, nearly as impossible as desirable. In America, families disintegrate rapidly, and children will be living at one end of the continent when the parents die at the other. Communication between them has often been scanty for years. Details of death transmitted through the medium of letters by lay relatives or friends are very apt to be imperfect and erroneous, and become still more so when presented for the examiner's consideration as the ignorant version of the non-medical applicant. Such terms as "didn't take care of himself," "exposure," "decline," "died from wounds received in the war," "heart failure," "nervous prostration," "overwork," "broken heart," "neglect of a bad cold," "childbirth," "old age" when the deceased was about fifty, confront us frequently, and the more remote the ancestor the greater the mystery. It is somewhat surprising and disconcerting to note what meagre information as to cause of ancestral decease will satisfy the average layman. Then, again, up to fifteen years ago the terms "consumption" and "decline," and since then "heart failure," were so unscientifically, erroneously, and unwarrantably applied by physicians and believed in by laymen when the cause of death was obscure, that one is sorely puzzled at times in deciding what to say.

We have phthisis, nephritis, chronic pleuritis, hepatic cirrhosis, heart diseases, the various organic nervous diseases, and suppurative abdominal affections in both males and females, inextricably and unrecognizably presented to us by a meaningless lay expression of what the applicant thinks his ancestor died of. To restore order to this chaos is indeed an Herculean task. If the applicant saw the deceased frequently during the last illness we shall in most cases be able to get a pretty good idea of the truth by asking as to the symptoms present, but in other cases, and especially as concerns grandparents, we shall be helplessly reduced to writing "Don't know," and to sustaining the reproachful protest of the chief medical examiner as best we may.

Lastly, we shall proceed to the physical examination, and this will best be left for the last, because by that time, if he has been well handled, the applicant will have emerged from any nervous excitement that may have been precipitated by the ordeal, and because it is during this procedure that we may gather together the ends of the threads, in the way of suspicions and objective indications of disease which have transpired during the inspection and interrogation. Here we must verify or disprove the conclusions which have previously been suggested to us.

The pulse is conveniently disposed of first, and about the only positive information of much value that we can acquire from it alone is whether or not the radials are calcareous. If the arcus senilis has been observed during inspection it will usually be found that they are, and that this condition prevails more or less extensively throughout the circulatory system, betraying an irreparable constitutional degeneration. Organizations so weakened succumb much more readily to acute disease processes, and are very apt to be sufferers from cardiac and renal abnormities and apoplexy. Another characteristic of great reliability and fairly constant is exhibited in Corrigan's pulse accompanying aortic regurgitation. It is not of much value here, however, as aortic insufficiency, when present, will be discovered during auscultation of the heart. The so-called pulsus paradoxus obtains only in extremely rare cases, and indicates usually adhesions due to an old pericarditis so situated as to interfere with the exit of blood from the heart. It may also be due to any thoracic growth so situated, and it is in suggesting this that its greatest importance as a factor in life-insurance examinations consists.

A rapid pulse is found in incipient phthisis, anæmia, leucocythæmia, Graves's disease, and under nervous excitement. We must endeavor to eliminate this last cause by the means previously indicated; but if rapidity persists, and we can find no lesion to account for it, the pulse must be observed again subsequently, until it is determined that the abnormity is due to a temporary and not an organic factor. Chronic nephritis will sometimes give a hard, small, persistently rapid and wiry beat, so characteristic as to have been denominated the "kidney pulse." Diabetes sometimes produces a very slow pulse, as do also some deep cerebral lesions.

By far the most important character of the pulse in this connection is persistent irregularity. It should be most carefully traced to its source, as it is sometimes about the only well-marked indication of sclerosed coronaries and fatty heart that will come to the knowledge of the examiner. In fatty heart the sounds in addition are usually weak, thereby differing from arterial sclerosis, where they are markedly and persistently accentuated.

While counting the pulse the relative frequency of respiration may also be noted, as the ratio between the two is a point always required in the report, the significance of which is self-evident.

The next region which offers itself for investigation is the thoracic. I shall not enter into details as to the significance of positive abnormal phenomena in either the heart or lungs. Every examiner should be competent to recognize and place them before he ever sees an applicant. If this is not so he will be but a sorry aid to his company, and a treatise of this scope could not repair his deficiency.

The heart probably causes insurance examiners more trouble than any other organ in the body, because of the sometimes unreliable character of its sounds as indicating valvular lesions. The murmurs which we ordinarily expect to find associated with these may be caused by other conditions, among which may be mentioned vegetations and fibrinous deposits, endocardial or pericardial, left by old inflammations, which may have entirely disappeared, calcareous deposits in the valves themselves or in the walls of the coronaries, a depraved condition of the blood, and by muscular tension in the cardiac walls produced by nervous excitement. Functional murmurs—*i. e.*, those whose causation possesses no sinister significance—are nearly always ephemeral, but ephemeral murmurs are not always due to benign conditions. The murmurs of slight mitral regurgitation, of chronic endocarditis, or of calcareous degeneration are not always persistent, and these conditions are pregnant with grave possibilities. The only guides we have to enable us to determine positively the malignant character of cardiac abnormities, aside from persistence, are the concomitant symptoms produced by compensatory changes or defective functionation. If these have been induced, the primary lesion is ordinarily extensive enough to leave no doubt in one's mind as to the murmur itself, but in the early stages and slight degrees of valvular trouble they have not been induced, and so will not help us any. Prominent among them are difficult respiration on slight exertion, the so-called "cardiac asthma," frequent headaches with dizziness, swelling of the ankles during the latter part of the day, which disappears again after a night in bed, frequent attacks of faintness, sometimes reaching absolute syncope, and, most important of all, compensatory hypertrophy of the organ, causing displacement of the apex beat outward and downward. This last will sometimes be closely simulated by the effect of nervous excitement, but in that case it will always be accompanied by rapid heart action, which will subside and the apex go back into its proper place as the applicant gets quiet again. Other causes of displaced apex are the hypertrophy of chronic nephritis and calcareous arterial areas, chronic pleuritis with effusion, and intrathoracic tumors and adhesions. The recognition of a valve that is leaking slightly or commencing to leak is just as important from the company's standpoint as a regurgitation in full blast, and the difficulties encountered in this connection have led me to conclude that it is better always to be on the safe side and consider a murmur which I can not demonstrate as benign to be of malignant origin. If one must err, it is infinitely better to err safely.

Evidences of thoracic aneurysm are bulging and pulsation of the chest walls in the region of the second or third intercostal spaces on one or the other side of the sternum, persistent œdema of the upper extremity on the same side as the tumor, dilatation of the pupil upon the same side as the aneurysm, hoarseness, and sometimes, but not at all constantly, a systolic blow over its position. A bulging of the eyeballs, due to venous engorgement caused by interference with the return of blood to the heart through pressure upon the vena cava, has also been observed, and this would be noticed during inspection of the applicant. Dullness on percussion is a sign of considerable value, as in some cases the aneurysm does not incline anteriorly, and no bulging of the chest wall or pulsation will be apparent.

The lungs in all cases demand the closest scrutiny. I have seen cases of fatal pulmonary tuberculosis that exhibited none of the outward signs of consumption except slight, infrequent cough, not sufficiently prominent to attract attention, and rise of temperature in the evening, which would be likely to escape notice, as examinations are not frequently made in the evening. The patients were well nourished, as healthy looking as the average until the afternoon fever appeared, and two of these victims, who were women, were attending to their household duties during the days in the evenings of which they died, both from recurrent hæmorrhage. Percussion, however, betrayed dullness over the affected areas, and auscultation gave a few fine bronchial râles in the same situations. Cases of incipient phthisis, or in which the constitutional resistance is great enough to nearly but not quite overcome the bacillus for a long period, will be likely to escape us, through the appearance of health which they may maintain, if the breeding place and stronghold of this pest is not carefully explored.

Any applicant suffering from a bronchitis, accompanied or not by dullness, or of however apparently recent an origin, should invariably be postponed until his entire recovery is unassailably demonstrated. The temptation to ignore a slight bronchitis or cough remaining after an attack of *la grippe* or a " cold " is great because of the strong and well-founded conviction that recovery will supervene. In ninety-nine cases out of a hundred it will; but many fatal cases of phthisis develop after *la grippe* is nearly recovered from, and many other cases commence with what is denominated a " common cold," and we can never be sure that the patient under investigation may not prove to be the hundredth. It is well, therefore, to be again on the safe side and let time demonstrate whether or not we can conscientiously recommend the risk.

In the matter of dullness on percussion, some phthisical cases recover, and if there has been destruction of pulmonary tissues the cicatricial area will occasionally give it, although inflammation is extinct and no deposits are present. A tuberculous process in the lung of sufficient extent to cause tissue disintegration will be pretty apt to leave pleuritic adhesions, and we may have a chronic dry cough accompanying the dullness. This was well illustrated in a case which I once had under observation for three years, at the beginning of which period the patient consulted me for well-marked incipient phthisis. Tubercle bacilli were constantly present in her sputa for a year subsequently, so that no error in diagnosis is admissible, but the only abnormities now present are those I have mentioned. My own personal feeling about these cases is that they should be rejected, but as the point will admit of discussion I will confine myself to saying that the condition should always be reported to the chief medical examiner and let the responsibility of decision rest upon him. Never ignore it through a belief that healing of the ulcer relieves the victim from the danger of recurrence; not even a perfectly healthy individual is exempt from the menace of tuberculosis, and he who has been afflicted is much less so.

Dullness is also present with unabsorbed pneumonic deposits, in which case mucous râles will be present in the affected neighborhood, with intrathoracic tumors, and in chronic pleuritis with effusion. In the latter the dullness will extend from the inferior portions of the lung area upward, as in pneumonic deposits, and will be accompanied, as the latter are not, by bulging of the intercostal spaces and diminished, if not absent, respiratory movements on the affected side. The dullness of tuberculosis begins at the apex and extends downward.

Idiopathic emphysema will betray itself by the characteristic " barrel-shape " of the chest and the bronchitis which nearly always accompanies it, and ordinarily not much difficulty will be encountered in finding the cause in cases of the vicarious variety.

The pulmonary region is one of vital interest from a life-insurance standpoint, and deviations from the normal, however slight, are to be carefully traced to their sources.

After finishing the thorax the abdomen may be palpated and percussed to ascertain whether or not ascites is present. This is usually the first and sometimes the only early symptom of fatal liver disease, the existence of which may not even have attracted the applicant's attention. In women this measure will sometimes reveal an ovarian tumor or a fibroid uterus, in the latter case frequently very much to the victim's astonishment and dismay.

The physical examination may be concluded by examining the ankles for œdema, testing the patellar reflexes, and requesting the applicant to pass some urine into a bottle which should have been personally cleansed by the examiner. Some men are hysterically unable to micturate in the presence of another, and when our applicant is of this class we may give him the bottle and leave him alone. On returning, observe if the bottle of urine is warm, and if so, the specimen may be considered authentic, even though we did not *see* him pass it.

As to the urinary analysis, it is stated upon each report of examination just what information is desired to be obtained therefrom, and I will only state in passing that the most reliable and convenient tests for sugar are Fehling's or Trommer's reactions, and for albumin, boiling and adding two or three drops of dilute acetic acid, when a precipitate will persist if it is present, or the superposition of a layer of the cold urine upon some concentrated nitric acid in a test tube and noting whether a white cloud forms at the junction of the two liquids. For the albumin test by boiling the urine must be clear before manipulating. If it is not, it must be filtered until it is.

It will be observed that I have omitted any discussion as to the bearing upon the ultimate disposal of the risk, of information elicited during examination. I have done so designedly and because decision upon the applicant is the function of the chief examiner, not of the field worker, and it is to the latter that I am addressing myself. Chief examiners differ in their estimation of the effects of various peculiarities in family history and occurrences in the past life of an individual upon his longevity, and it is not uncommon for this reason to see an applicant accepted by one company, and immediately afterward rejected by another. The function of the field examiner is to secure the information desired by the chief in as full and reliable a manner as possible, and to leave the rest to him.

THE NONMALIGNANT NEOPLASM
OR
SO-CALLED POLYPUS OF THE RECTUM AND ANUS:
ITS ORIGIN, FORMATION, ÆTIOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT.

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(*Concluded from page 234.*)

Villioma.—The villioma, as a variety of the rectal neoplasm, is a rare disease, and only occurs in the adult; it is similar to the villous growths of the bladder and of other mucous surfaces; it generally has a broad base, and sometimes a short, thick pedicle, has a soft and spongy feel, and is of a dark-red color; its growth is slow and it often attains a large size; it is composed of many projecting villi; the villous prolongations or processes, which are long and fine, often exceed four or five lines in length. In its minute structure the tumor closely resembles the adenomatous polypus of the rectum. Its principal peculiarity consists in its very remarkable disposition or tendency to bleed, which in the largest number of instances takes place within the rectum, without the tumor being protruded by a more or less constant internal dripping or *stillicidium.* Besides the sanguineous discharge from the rectum, there is sometimes a serous or seromucous discharge from the same, which is also very debilitating and troublesome. The latter exudation, as a rule, suddenly follows the cessation of the former, for they are not known to coexist, but seem to replace each other.

The writer has seen but five marked cases of the villous variety of the rectal neoplasm during a private practice of fifty-seven years; they were all between the ages of thirty-five and sixty-nine; one was a female and four were males. The worst case of rectal villioma that the writer ever saw was that of Mr. J. M. W., a well-known planter of Miligan's Bend, Madison Parish, Louisiana. The tumor was large, and removed by ligature at Louisville, Kentucky, in August, 1844. The following authors have also reported cases of the villous tumor of the rectum: Sir Richard Quain, Allingham, Bryant, Cripps, Van Buren, Syme, and Cook.

Teratoma.—The teratoma is presented as the fourth variety of the rectal neoplasm, and is one of the most remarkable and perhaps one among the most infrequent of all the varieties of these rectal growths. It is a congenital tumor, and is composed of the malformations or aberrations of some of the elementary organisms. Such tumors are neither rare nor uncommon, when they occur in connection with the genitalia, but when they occur in the rectum they must, of course, be considered rare indeed, but by no means as impossible, as the two remarkable cases quoted by Mr. Ball in his valuable treatise well show, as follows: "A girl, says Mr. Port, aged sixteen, had suffered for three months from painful straining and difficulty in obtaining an evacuation. A polypoid tumor of large size came partly out at the anus when the patient wanted to pass a motion, and a lock of long hair repeatedly made its appearance, and could only with difficulty be replaced. It was found that the tumor was attached to the rectal wall by two pedicles about three inches above the anal orifice. The tumor subsequently became completely extruded, when the pedicles were ligatured and the growth removed. It measured two inches and a half by two inches, and the bulk of it was found to be made up of fibrous tissue with many fat cells, and imbedded in it were two masses of bone, one hard and the other spongy. The coverings of the tumor showed all the characteristics of ordinary skin—that is, epidermis, papillæ, hair follicles, and sebaceous glands. The microscopical examination proved also the existence of numerous bundles of muscular fibres below the cutis. A canine tooth was observed growing from the tumor near the pedicles." A somewhat similar case is described by Danzel, as follows: "A woman, aged twenty-five years, complained of hairs protruding from the anus, which she pulled out when they became too long. They were found to spring from a polypoid growth about the size of a small apple, which was situated in the front of the rectum, about two inches and a half from the anal margin. The tumor was removed, and, besides the lock of hair, a tooth was found on the outside, and microscopical examination demonstrated a bony capsule containing brain substance in the interior."

The late M. Mollière records a case of this kind in which the tumor was about the size of an almond, and the surface of which was covered with normal skin.

Lipoma.—The lipoma is the fifth variety of the rectal neoplasm, and is an adipose tumor formed and composed wholly or partly of unorganized fatty substances. The tumor consists of imperfect fat cells united by cellular tissue. This pedicellated or pedunculated fatty growth has its origin generally in the superior portion of the rectum, but sometimes even in the sigmoid flexure of the colon; by a gradual prolongation of its pedicle, often of surprising length, the tumor ultimately reaches the anus. The pedicle of such a tumor, when from a certain height, it is said, may contain an elongated process of peritonæum, and be a source of real danger, which must not be forgotten in its removal. From the numerous cases of this adipose growth of the rectum which have been reported it can not be considered rare. The following are among some of the distinguished authors who have reported highly interesting cases of rectal lipomata: Bernard, Bosc, Broca, Castilain, Esmarch, Robert, Sangalle, Virchow, and Voss (*vide* Bibliography for all authors named by the writer).

The writer has only seen one case of rectal lipoma in all his practice, and that one occurred in a stout, healthy negro man, a field hand, thirty-seven years old, named Jake and owned by Mr. S. C., of Bourbon County, Kentucky. The tumor was as large as a hen's egg, and Jake was asked how long he had cultivated it, and he said he had nursed it about sixteen years. The pedicle, which was long, was at once ligated, and the tumor was excised. On section the tumor was found to be composed of numerous defective fat cells, partly filled with a semifluid, fatty matter. This occurred at Paris, Kentucky, in May, 1841.

Cystoma.—The cystoma is presented as the sixth variety of the rectal neoplasm, and, as it has never been well defined or described pathologically, very little, therefore, has been or can be said of it. That cystic or encysted tumors containing a liquid or semiliquid material have been met with just within the anal orifice is doubtless true; might not such tumors, therefore, claim with propriety the appellation *cystomata?* The rectal cystoma seems to be a rare affection, as the writer, so far as his reading extends, has never seen a satisfactorily reported one.

Enchondroma.—The enchondroma is the seventh variety of the rectal neoplasm. It arises from or consists of cartilage, or at least resembles such in texture, having the firm, tough, and elastic feel of gristle. The chondromatous tumor of the rectum must be rare, as but few cases have been reported, among them one case by the late Professor Van Buren, and one by M. Dolbeau, which both deserve attention.

The writer is of opinion that the cylindrical neoplasm of the rectum, which has the form and appearance of a large dewworm or earthworm, is entitled to be classified as an enchondroma, as it has nearly all the characteristics attributable to cartilage—at least such was the fact in the several cases which came under his own observation, as has already been mentioned. It has the firm and elastic feel peculiar to cartilage; it is poorly supplied with blood-vessels; when incised, a little sanguineo-serous fluid oozes from the cut surface, and as the knife passes through it one is reminded of cutting gristle. It therefore seems to be a cartilaginous growth.

Angeioma.—The angeioma is the eighth variety of the rectal neoplasm, and is one of the most rare and the most remarkable growths of that organ. It is an erectile or vascular tumor, composed entirely of dilated venous capillaries, bound together by submucous tissue and forming a nævoid mass or concretion, and in the opinion of the writer is nothing more nor less than the venous nævus, or *macula maternæ*, transferred, as it were, to the rectum, where its blemish is hid from exterior view. It must be admitted that rectal angeiomata are but seldom met with. Two highly interesting cases of this rare affection of the rectum have, however, been reported, one by Mr. Barker and one by Mr. Marsh.

Differential Diagnosis.—The tumors and other affections of the rectum and anus which most resemble and are most liable to be confounded with the recto-anal neoplasms or polypi are hæmorrhoidal tumors, procidentia recti, circumanal excrescences or vegetations, whether venereal or not, and dysentery. The adenomatous variety of the rectal neoplasm is distinguished from the hæmorrhoidal tumor by its long pedicle and pyriform shape; its smooth surface; its soft, delicate, and elastic feel; its pale red color, resembling in this respect mucous membrane; its incapability of sudden erection or collapse; its freedom generally from periodical paroxysms of irritation, inflammation, sensibility, and pain; and by its slow development. From prolapsus recti it may be distinguished, if noticed, by the fæces always passing out of the anus by the side of the polypus; whereas, in prolapsus, the opening through which the fæces are discharged will be observed to be in the centre of the prolapse. Bleeding from the anus in children is almost always a sign of a concealed adenoma, which has not yet appeared externally, but when it is protruded it is of a bright-red color, and looks like a ripe cherry deprived of its thin epidermis; and in consequence of its appearance it is often confounded with prolapsus recti. Adenomata are by no means uncommon in children.

In all ambiguous cases of rectal neoplasm, in which no tumor protrudes or can be extruded, the finger, speculum, and anæsthesia, as most important adjuvants, must not be omitted in making a diagnosis.

The writer will here remark regarding the malignant or cancerous neoplasms of the rectum and anus that there are no growths of these parts that are more insidious at their commencement; hence, at an early stage of their existence some of them are liable to be confounded with the nonmalignant neoplasms. Many instances of this mistake could be given, but in their more advanced stage this error of diagnosis is not so liable to be made, inasmuch as their true nature then is not so difficult to recognize. But, for obvious reasons, it is not only important that the malignant should not be confounded with the nonmalignant, but that their true nature should, if possible, be recognized at an early period of their development. It is said that when a nonmalignant rectal neoplasm is removed as such, and the disease recurs or repullulates, it is an evidence of its malignancy, or at least of its semimalignancy, if such could be. The writer can not, however, consider this important subject here, but will merely now present a case in point upon the subject of the repullulation after the removal of a nonmalignant rectal neoplasm, and the result, as follows: Miss C. R., of A., Pennsylvania, aged sixteen years, was brought by her parents to the writer at Louisville, Kentucky, in June, 1852, suffering from a papilloma the size of a pullet's egg, and attached by a short, narrow pedicle to the mucous membrane of the canal, about an inch above the anal margin; there was an almost constant sanguineo-mucous discharge, and each evacuation of the bowels was attended with smarting pain and difficulty in replacing the tumor and keeping it replaced. The girl's general health was good otherwise. The following history of the case was given by the mother to the writer: My daughter, said she, two years ago had just such a tumor as you have just seen in every respect, and in the same situation. The tumor was then removed with the knife by Dr. G., and a fearful bleeding took place immediately, which, however, was finally arrested, and all seemed well for about three months, when it began to sprout again, and was allowed to attain the size you now see it. Dr. G. has seen it of late several times, and says it is cancerous and should be cut out, but we had a fear of another bleeding, and have been postponing the operation from time to time, and, hearing of you, we determined to see you and take your advice. The writer did not believe, from the careful examination he had made, that the tumor was malignant, although it had recurred, neither was its prototype, and that it should be removed, not by the knife, but by the ligature, which would cause no hæmorrhage and scarcely any pain, as the tumor lacked sensibility. The tumor was removed by ligature, and no recurrence ever subsequently took place, as the patient, then a girl, and now a woman and mother, is still living, forty-six years after the last operation.

The writer, however, can not enter any further into the subject of the malignant neoplasms of the rectum and anus, for they alone would form the subject of a most highly interesting and important study and dissertation.

Treatment.—All pedicellated or pedunculated tumors of the rectum should always be removed by the ligature; the pedicle being ligated, the tumor, if large, should then be excised. The smaller tumors immediately above and at the anal margin should be removed by the scissors or the knife. When fibromata of the rectum coexist with anal fissure, as they often do, they should be removed immediately at or after the dilatation of the sphincters, under ether, for the cure of the fissure, thus curing both affections at the same time. It is proper here to say that the pedicle in some of the pedicellated tumors of the rectum is slender, delicate, or friable; hence care must be observed in the manipulation of ligating it, lest it be broken, and hæmorrhage or other trouble should follow. This is more especially true, however, of such growths in children. The writer on one occasion, in attempting to ligate a rectal adenoma in a boy three years old, in tightening the ligature severed the pedicle and a considerable hæmorrhage occurred, but the best results followed.

Spontaneous Cure.—The neoplasms of the rectum are sometimes detached by the efforts at stool, and a spontaneous cure is the result. The tumor, being protruded, may be separated from its adhesion by the action of the sphincter muscles, or it may become detached by rupture of its pedicle during the passage of indurated fæces. A case of this kind came under the observation of the writer in New Orleans, Louisiana, in January, 1850. Mrs. J. W. P., aged forty years, consulted him for what she thought was a pile tumor, and from which she had suffered much inconvenience for four or five years. The writer, upon examination, found the tumor to be a neoplasm of the adenomatous variety and as large as a pullet's egg, and proposed its removal at once. She consented, but deferred the operation two weeks on account of some family arrangement. About ten days after this the writer one day was sent for in haste to see Mrs. P., who, when he saw her, to his surprise, told him that she just had an evacuation from her bowels, and in her efforts the tumor passed into the chamber with the fæces, and that a slight bleeding was taking place, which was the cause of the writer being sent for. The bleeding was soon arrested, and the lady remained free from the affection afterward.

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REPORT OF A FEW CLINICAL CASES OF INFANTILE DIARRHŒA TREATED BY EUDOXINE.

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Some few months ago I came across a new preparation of bismuth known as eudoxine, which contains 52.9 per cent. of iodine and 14.5 per cent. of bismuth. It is a reddish-brown powder, odorless and tasteless, employed chiefly as a gastric and intestinal antiseptic. Being desirous of getting some new antiseptic drug for the treatment of infantile as well as adult diarrhœal cases, I was determined to give it a thorough trial. My object in reporting the following cases is to bring to the notice of those of us who are less familiar in the therapeutical effects of eudoxine.

Case I.—A child, eight months of age, was brought to me suffering from diarrhœa of seven days' duration; the character of the stools was of very strong odor, shreds of mucus, and streaked with blood. Vomiting, abdomen distended, feverish and restless, and the skin hot. Small doses of calomel were given at the start, and after three days the little patient was brought to me about the same as before. I gave small doses of eudoxine every three hours. I gave two thirds of a grain. After forty-six hours the distressing symptoms were relieved and the stools returned more to their normal color and consistence, but there was still a strong odor to them. The child had vomited only once since her last visit to me. I ordered the mother to continue the same strength of eudoxine, but one every four hours instead of three hours, and in three days the child was entirely cured, and she once more began to nurse and acted as well as ever.

The second case was that of a child three years of age, emaciated, suffering from malnutrition and malassimilation. Intestinal disturbances, such as thin, yellowish-colored liquid running from the bowels, containing undigested food and the odor very offensive. Vomiting, excessive thirst, no appetite, feverish and fretful, pulse feeble, high temperature showing the degree of septic conditions in the alimentary tract; tongue dry and coated. My first aim being to clear the intestinal canal, I ordered small doses of calomel until ten grains were given, followed by some saline, and ordered to stop feeding the child. Next day I saw the case; she had improved somewhat only in the vomiting and in the color of the stools. I prescribed small doses of eudoxine, two grains every three hours. To my great surprise, after twelve grains were given I saw symptoms of improvement; the offensive odor of the stools had entirely disappeared, and the number of the discharges were considerably less, with more natural color to them. I believe such quick effects could have hardly been accomplished from bismuth alone.

The most active ingredient entering into the composition of eudoxine is iodine, the disinfecting and astringent as well as alterative properties of which on the mucous membrane are well known to all of us. Not wishing to take too much valuable time and space, I will not mention the details of my further experiments. Altogether, I have used up to the present writing eudoxine in fifteen cases of diarrhœa, cases mostly in children, and the antiseptic effects of it in such cases have been marvelous. Preference should be given to eudoxine rather than bismuth subnitrate or carbonate, because we all know how poisonous bismuth is in large doses on the gastro-intestinal mucous membrane, and very frequently we are afraid to give full doses of bismuth to children for this reason only. Although we have other intestinal antiseptics, such as salol and salicylates, etc., there is reason for caution in administering any of these drugs on account of their toxic effects. I found eudoxine very harmless and giving no cause for any alarm. I have given as much as a grain every hour to a child a year old without any alarming results.

My impression is, from inquiring among my colleagues about eudoxine, that sometimes too small a dose is administered in certain cases, and therefore the result is disappointing to them, and they are apt to get easily discouraged, as we quite frequently do with any new drug before we are thoroughly convinced that we have given it a thorough, scientific, and unhesitating trial. The proper and effective dose will be understood and appreciated only after careful study of each individual idiosyncrasy and the disease.

52 East Thirty-first Street.

Therapeutical Notes.

Applications for Pruritus Ani.—The *Gazette de gynécologie* for July 1st gives these formulæ, the first of which it credits to Penzoldt, and the second to Vaucaire:

1. ℞	Sodium hyposulphite	30	parts;
	Carbolic acid	5	"
	Glycerin	20	"
	Distilled water	450	"

M. To be applied frequently on compresses.

2. ℞	Cocaine	2¼	grains;
	Extract of rhatany	15	"
	Extract of hamamelis	7½	"
	Vaseline, Lanolin, each	150	"

M. Apply the ointment night and morning, avoiding constipation.

Applications of Hydrochloric Acid in the Treatment of Sciatica.—Gennataz (*Union pharmaceutique,* February, 1898; *Progrès médical,* July 16th) advises painting the painful tract with from two to four coats of the pure official acid. Some tingling results, but it is quite bearable, and then vesicles filled with bloody serosity appear. The part is dressed with absorbent cotton. The painting is repeated daily or every other day, care being taken to avoid applying the acid to the vesicles already produced. Usually from three to five applications are enough, but he has known the treatment to fail in a rebellious case.

Black Oxide of Copper in the Treatment of Tapeworm.—Von Hager (cited in the *Deutsche Medizinal-Zeitung* for July 18th) mentions the following prescriptions as having been highly recommended by Filatow:

1. For adults:

℞	Black oxide of copper	90	grains;
	Prepared chalk	30	"
	Powdered white bole	180	"
	Glycerin	150	"

M. Divide into one hundred and twenty pills. For the first week, two pills are to be taken four times a day; for the second week, three pills four times a day. When from fifty to sixty have been taken, the bowels are to be moved with castor oil.

2. For children:

℞	Black oxide of copper	75	grains;
	Prepared chalk, Magnesium carbonate, Gum tragacanth, each	150	"
	Glycerin	75	"
	White sugar	600	"

M. Divide into fifty troches. Half a troche to be given four times a day to a child under seven years old; two or three troches daily to one from eight to twelve years old.

The Treatment of Whooping-cough.—Guaita (cited in the *Indépendance médicale* for July 20th) gives the following formula:

℞	Phenocoll hydrochloride, Antipyrine, each	7½	grains;
	Potassium bromide	6	"
	Syrup of bitter-orange peel, Orange-flower water, each	375	"

M. The whole to be taken, in four doses, in the course of a day. This is kept up for three days; then the dose of the active ingredients is varied according to the effect produced.

The Treatment of Chronic Hypertrophic Rhinitis.—Maraval (*Clinica moderna,* July 20th) recommends saline irrigation of the nostrils to cleanse them, repeated several times daily. The congested condition of the mucosa is to be met with injections of a one- to three-per-cent. solution of nitrate of silver, a five- to twenty-five-per-cent. solution of trichloracetic acid, or a one-in-thirty solution of chloride of zinc.

Immediate relief is sought by taking from time to time a pinch of the following snuff:

℞	Hydrochloride of cocaine	2¼	grains;
	Camphor, Alum, of each	1½	grain;
	Menthol	¾	"
	Sugar	1½	"

Antipyrine in Fatty Diabetes.—Lemoine (*Nord médical,* May 15th; *Revue du praticien,* July 15th) recommends antipyrine as the essential drug in the early stage of fatty diabetes of Lancereaux. The maximum dose of forty-five grains in a day should not be exceeded, and ordinarily the daily amount taken should not pass twenty-two and a half to thirty grains in cachets, each containing:

℞	Antipyrine	12 to 15	grains;
	Bicarbonate of sodium	7½ to 12	"

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RHYTHM IN EPILEPSY.

CONSIDERABLE study has been devoted in the past few years to ascertaining whether or not there exists a rhythm in the seizures among epileptics. Féré, from a study of some 1,900 attacks of epilepsy, inferred that no paroxysms occurred at the hour of 11 A. M. Witmer, of Philadelphia, who made records of 3,000 attacks, found that this was not the case and that the hour of greatest frequency was 6 P. M. and that of the second greatest 4 A. M. Clark, among the epileptics at Craig Colony, found in a record of 9,545 seizures that the greatest number occurred at 4 A. M. and the smallest number at 7 P. M.

Although an attack or paroxysm of epilepsy may occur at almost any time during the twenty-four hours, without regard to any previous period, yet it is a well-known fact that epileptic seizures have a tendency to recur at stated periods which are not always regular. The hour of the day in which the greatest number of epileptic attacks occur still remains in the domain of conjecture. The time of the attack probably rests more upon the environment of the epileptic than upon the peculiar kind of epilepsy from which he is suffering at the time. Underlying all such phenomena is a broad principle of organic life, the general tendency of forces to act in rhythm. Nowhere is this more noticeable than in the functions of the nervous system.

In regard to the greater frequency of attacks at night, we can see how the general vitality of an individual is lower during the hours passed in sleep, whether he is an epileptic or not. Obviously, this period of the twenty-four hours would be a time especially given to the occurrence of epileptic seizures. Again, attacks occurring at night commonly come on without warning, whereas the patient frequently experiences an aura if the attacks occur during the day. We frequently find a peculiar dreamy state just before an attack at night. Epileptics who generally have a special-sense aura are quite prone to some modification of that aura before night attacks. Quite often night terrors precede them and are remembered in the morning as disagreeable mental states not at all connected with the paroxysm which followed. Rarely we find night terrors alternating with *petit-mal* and *grand-mal* seizures. This illustrates very well the close association existing between the mental states comprised under the disorders of consciousness seen in night terrors, common hallucinatory disturbances due to digestive difficulties, and true epileptic states.

The degree of instability of the epileptic's cerebral cortex must be very high indeed when the simple act of awakening in the morning is sufficient to precipitate such an attack as is seen in rare cases of matutinal epilepsy. Occasionally cases of this kind are observed. It has been explained upon a basis of disordered dynamics in blood pressure.

We think considerable attention might be given in such a solution to the possible reflex causes dependent upon the altered states of the viscera. It is impossible for us as yet to form any definite idea as to whether the reactionary stimulus that calls the nerve cell into activity is destructive to the cell's perfect autonomy. Further studies in the physiology of nervous matter will give us great aid in such investigations.

THE UNITED STATES MARINE-HOSPITAL SERVICE AND YELLOW FEVER.

THE issue of the monograph on Yellow Fever: Its Nature, Diagnosis, Treatment, and Prophylaxis, and Quarantine Regulations relating thereto, by officers of the United States Marine-Hospital Service, is a timely and commendable publication. Its preparation under the supervision of the surgeon general and with the approval of the secretary of the treasury will give it weight and authority which should commend it to the careful consideration of all physicians practising in districts where yellow fever is ever prevalent, whether epidemically or sporadically. It is divided into sections dealing respectively with the diagnosis, treatment, hygienic measures to be adopted by persons living within an area of yellow-fever infection, and the prevention of the spread of the disease. In addition, there are sections on detention camps and train inspection service, a synopsis of interstate quarantine regulations, maritime quarantine, post-epidemic infection, and finally on the present status of the bacteriology of yellow fever. This summary of its contents will indicate the scope and breadth of grasp of the work; while the names of the writers—namely, Surgeon R. D. Murray, Acting Assistant Surgeon John Guitéras, Passed Assistant Surgeon H. D. Geddings, Surgeon H. R. Carter, Passed Assistant Surgeon Eugene Wasdin, Sanitary Inspector W. F. Brunner, Passed Assistant Surgeon A. H. Glennan, Assistant Surgeon Seaton Norman, Passed Assistant Surgeon J. H. White, Passed Assistant Surgeon George B. Young, Surgeon Preston H. Bailhache, and Passed Assistant Surgeon E. K. Sprague—will sufficiently guarantee the carefulness and accuracy that such a work should display.

In every section there is much that is commendable, and if space permitted we should like to make copious cullings from the many pregnant and sententious statements with which the monograph abounds. The following, by Surgeon Murray, puts the case of the importance of early diagnosis "in a nutshell": "A man is not a scoundrel because he suspects a case, nor a fiend because he finds a first case. But a doctor is culpable if he slurs over a case and hopes against his judgment in order to save his precious record with a vacillating public. I can not quite agree with Dr. Guitéras that we can inure our people to prompt announcements of suspicion and actual cases, but I know the people will fully trust us if our words and conduct are apparently in behalf of their final interest. It is easy to call every illness 'yellow' a month after other towns have quarantined, but it is not easy to decide on an individual case when no warning has been given and no source of infection is read about every morning."

Attention is urgently called to the much-neglected point that "mild cases" are disease spreaders. That is so in diphtheria, scarlet fever, and all infectious diseases, and it by no means follows that a case of infectious disease contracted from one of a very mild type will itself be mild. The severity of the disease is largely conditioned by the peculiar susceptibility of the individual who contracts it. It is a question of a favorable, unfavorable, or indifferent human culture medium. The consideration of this point always recalls to us a very pregnant sentence of the late Dr. King Chambers, of London, in his *Clinical Lectures*. Speaking there of "typh-fever," a name coined by him to cover both typhus and typhoid, which were in those days only beginning to be definitely distinguished, he says: "For the act of poisoning to occur, two things are necessary; first, a poison, and secondly, *a person apt to be poisoned*." We are too apt to lose sight of the second of these indispensables.

Dr. Guitéras's article on the diagnosis of the disease is full of valuable material. He lays great stress on the facial appearance, the albuminuria, and the correlation between pulse and temperature. As regards the value of the microscope, he says: "An erroneous belief has prevailed throughout the South, especially among physicians who were not practical microscopists, that the microscope should be an important aid in the diagnosis of yellow fever. It appears that poorly prepared abstracts from the work of Sanarelli have led many to believe that a characteristic feature; the bacillus of Sanarelli itself was found on examination of the blood. Now the truth is that even with the assistance of post-mortem examinations, Sanarelli was able to discover his bacillus in fifty-six per cent. only of the cases of yellow fever. He would be a poor clinician indeed who could only diagnose about one half of the cases. The truth is, however, that during life the microscope could not establish a positive diagnosis. As far as our present methods go, it would be impossible to distinguish between a drop of yellow-fever blood and blood from a healthy man."

From a negative point of view, however, he points out that the microscope may be of great service, for the discovery of the *Plasmodium malariæ* in an early doubtful case would establish a diagnosis of malarial poisoning and would presumably, unless an acknowledged epidemic of yellow fever existed in the vicinity, exclude the early case from being one of that disease. The comparatively easy diagnosis between these diseases would complete the distinction, and so possibly prevent many a nervous scare. Dr. Guitéras especially combats the fear that the movements of the expert may serve to disseminate the disease. The precautions taken as regards person, baggage, clothing, etc., he considers amply sufficient to dismiss any such fear. In the section on treatment great stress is rightly laid upon the importance of the doctor keeping up courage, hope, and life-purpose in the patient—the influence of suggestion, in fact, in preventing that fatal mental depression which renders him so much less able to resist the actual disease influence. We are somewhat skeptical as to the assertion that one attack always insures the afflicted one that he is hereafter immune. We have reliable information of more than one case to the contrary. A British army medical officer, who was born and had lived most of his life in a West Indian colony, and who had had yellow fever, contracted it a second time on returning to the island after a year's absence in England. We have heard of the case of a man born in this State, who resided twenty years in Rio Janeiro, and who contracted yellow fever three times. Of course, it is always open to oppose to such cases a charge of mistaken diagnosis; but when such diagnosis is made by those who are competent from frequent observation of the disease by practice in places where it is always more or less endemic, much of that objection loses its force. On the other hand, the admission of this fact does not necessarily destroy the general truth of the proposition. For are not many instances on record where patients have contracted small-pox and scarlet fever more than once?

We ourselves know of one person who had undoubted small-pox three times, and of another who contracted scarlet fever four times; yet it is universally admitted that, as a rule, one attack of each of these diseases does produce a future immunity, at any rate for a certain, if a variable, period of time. It is the uncompromising universality of Surgeon Murray's assertion to which we feel bound to take exception. Immunity is a varying condition, and while so much talk is being made about a "regiment of immunes," we may wisely pause and ask, "What is an immune?" The assertion that every man who has had yellow fever is immune thereto is greatly open to question—what proportion of such men may prove to be so will probably have some light shed on it should the "regiment of immunes" ever have a fair chance of exposing itself to test conditions.

It is impossible to do justice in a short article to the thoroughness with which the work of codifying all that is known, and suggesting lines for future observation, has been accomplished in this little work. It is eminently practical and reflects credit on all concerned in its production, and will, we feel sure, be welcomed by all who are so situated as to be liable at any moment to be brought in contact with this dread disease.

MINOR PARAGRAPHS.

ACTUAL THERAPEUTIC RESULTS OF THE X RAYS.

Weiss (*Gazette hebdomadaire de médecine et de chirurgie,* July 31st) states that Kümmel presented in 1898 to the twenty-seventh Congress of German Surgery some lupus patients who had been completely cured by the X rays. The danger of too intense action of the rays was avoided by holding the lamp removed about sixteen inches. At the first trace of burning of the skin, which is indicated by a brownish coloration, the treatment must be at once stopped. Schiff has systematically employed the rays in two or three cases of lupus and attributes their action (1) to a general inflammatory reaction; (2) to a specific reaction of lupus tissue to X rays, which is manifested in that nodules previously invisible become visible under the influence of the rays; (3) to the detachment and fall of lupus nodules; (4) to the diminution in volume of infiltrated glands in the lymphatic area of the focus of lupus; (5) to the transformation of indolent tumors into open wounds, actively granulating. Gochl employed the X rays in five different cases: In trigeminal neuralgia he is said to have obtained a transitory but decided amelioration; in a cancer of the breast the pains disappeared; a nævus pigmentosus was cured, as were also cases of facial lupus and of indolent ulcer. He explains the action of the X rays on lupus by the fact that they determine a non-infectious inflammation, which extends into the subcutaneous cellular tissue and destroys the tubercle bacilli. Albers and Schönberg obtained equally favorable results in two cases of facial lupus. From all these observations it would appear that the X rays have a real value in cases of lupus of the face and in nævus pigmentosus pilosus, and that their employment is worthy of extended trial.

CONSEQUENCE AND CONCURRENCE OF MORBID CONDITIONS.

Speaking of the coexistence of ovarian and throat inflammation, the *Medical Council* for August says that the coexistence of ovarian and throat inflammations often gives rise to the mistaken belief that the throat trouble is caused reflexly by that in the ovaries, instead of which it will generally be found that both depend upon some constitutional disorder, such as rheumatism, for example, for which suitable treatment must precede the indicated local treatment, if success is to be expected. This is true of many complaints, especially throat affections. The consequence of throat affections upon other local conditions is most frequently seen in passive congestive pharyngitis. When this condition is associated, as it so often is, with hæmorrhoids, habitual constipation, or any form of passive congestion of the alimentary canal in any part, a dose of blue pill, followed by a brisk saline cathartic, and subsequent measures for restoring regularity to the functions of the bowels, will often work marvels where all local medication has proved fruitless. When one considers that the throat and the rectum are in direct continuity, one has not far to seek for the explanation of this much-overlooked fact. In nearly all congestive throat affections it is a safe practice to begin, as the old physicians would have said, by clearing the primæ viæ.

UNILATERAL-MOVEMENT VERTIGO.

Adler (*Deutsche Zeitschrift für Nervenheilkunde,* xi, 5, 6; *Centralblatt für innere Medicin,* July 30th) applies the term "*einseitiger Drehschwindel*" to a condition first described by Guye in 1879 as noticed in subjects of morbid or mechanical irritation of the internal ear. Adler has observed it in nine cases. All the patients were exceedingly deaf in one ear. When they attempted to stand with their eyes closed, things seemed to them to be moving toward the deaf side, and they themselves either inclined the head or were in danger of falling in the same direction. One of them had an attack of vertigo when the sound *ah* or *oh* was shouted into his deaf ear, and fell against the shouter.

THYME, IN THE SHAPE OF "PERTUSSIN," AS A REMEDY.

Professor Ernst Fischer, of Strassburg (*Deutsche medicinische Wochenschrift,* 1898, No. 27; *Wiener medizinische Blätter,* July 21st), reports favorably on the use of "pertussin," a saccharated extract of thyme prepared by a Berlin apothecary. As its name implies, it is intended chiefly as a remedy for whooping-cough, but the author of the article regards it as advantageous in chronic laryngeal and bronchial catarrh and in pulmonary emphysema.

THE PERCEPTION OF SOUND BY NERVES OF GENERAL SENSATION.

At a recent meeting of the Paris Society of Biology (*Presse médicale,* July 27th) M. Egger remarked that, besides the cranio-tympanic transmission of sound, there was another operating through all parts of the skeleton, as could be demonstrated by applying a vibrating tuning fork to any portion of it. This form of perception, he says, may be maintained when the aerial and cranio-tympanic forms no longer exist, as he has observed in a patient affected with syphilitic disease of the labyrinth. It is feebly developed in normal individuals, but becomes much more intense in the deaf. Experiments on tabetics and subjects of myelosyringosis have led him to suppose that the nerves of general sensation may conduct sonorous impressions even without the aid of osseous transmission.

THE RED CROSS WORK.

The *Medical Century* for August 1st commends the work of the Red Cross Society in Cuba, and remarks that its services have been declined for the first time by the army authorities of Great Britain, who have decided not to allow its representatives to accompany the army in the Nile expedition. The *Century* admits that the reasons assigned for the refusal are of some weight. The chief of these are that the society can not increase the limited rolling stock for the railway lines laid down in the desert, and that it can not supply the military escort necessary for its protection.

FURTHER OBSERVATIONS ON CIMICIFUGA AS A REMEDY FOR TINNITUS AURIUM.

At the last French Congress of Otology, Robin and Mendel mentioned the use of *Cimicifuga racemosa* as a remedy for tinnitus aurium. Mendel now reports (*Journal des praticiens*, July 16th) further observations with the drug, which he has used in the form of the fluid extract in daily amounts of from fifteen to thirty drops. In a fair proportion of the cases it stops the annoying subjective noises, but in some it fails. When it is effective it is very rapid in its action, putting an end to the tinnitus, for the time being at least, in two or three days.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 13, 1898:

DISEASES.	Week ending Aug. 6.		Week ending Aug. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	29	15	34	13
Scarlet fever	71	6	58	3
Cerebro-spinal meningitis	0	11	0	0
Measles	102	11	76	4
Diphtheria	118	12	101	15
Croup	2	2	5	7
Tuberculosis	100	145	148	120

The Woman's Medical Journal.—We have received from the office of this journal a correction of the paragraph which appeared under the foregoing heading in our issue for August 6th. We understand that the *Woman's Medical Journal* was not included in the assets of the Recorder Publishing Company, and that it was not appraised at five hundred dollars as stated. We are further assured that the circulation exceeds ten times the number given. The *Journal* was purchased by the Hockedorn Printing Company, and not by Miss M. L. Hockedorn. We gladly make this correction.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending August 13, 1898:

Small-pox—United States.

Butler Co., Ala.	Jan. 1–Aug. 6	300 cases.	
Forest Home, Butler Co., Ala.	(during June)		1 death.
Gordonville, Ala.	Aug. 6		5 deaths.
Haynesville, Ala.	Aug. 6		2 “
Lowndes Co., Ala.	Aug. 6	25 “	2 “
Morganville, Ala.			1 death.
Seneca Township, Mich.	(present, but number of cases not reported.)		
New Mexico	(prevalent to a great extent, notably along line of Santa Fé Railroad.)		
Cleveland, Tenn.	(during July)	12 cases.	
Memphis, Tenn., and suburbs		3 “	

Small-pox—Foreign.

Antwerp, Belgium	July 16–23		1 death.
Ghent, Belgium	July 16–23		1 “
Ghent, Belgium	July 23–30		1 “
Valencia, Colombia	July 23	1,000 cases.	
Bombay, India	July 5–12		1 “
Calcutta, India	June 25–July 2		3 deaths.
Madras, India	June 25–July 1		1 death.
Madras, India	July 2–8		1 “
Osaka and Hiogo, Japan	June 25–July 2	1 case.	
Osaka and Hiogo, Japan	July 2–8	4 cases.	
Moscow, Russia	June 25–July 2	6 “	3 deaths.
Moscow, Russia	July 2–8	15 “	3 “
Odessa, Russia	July 9–16	4 “	
St. Petersburg, Russia	July 9–16	2 “	2 “
Christiania, Sweden	July 16–23	2 “	
Montevideo, Uruguay	June 19–26	1 case.	

Yellow Fever.

Rio Claro, Brazil	April 26		17 deaths.
Rio de Janeiro, Brazil	June 24–July 1	33 cases,	21 “
Taboticabal, Brazil	April	106 “	42 “
Tahir, Brazil	May	3 “	1 death.
Carthagena, Colombia	July 8–15		2 deaths.
Tampico, Mexico	July 25–31		9 “

Cholera—Foreign.

Bombay, India	July 5–12		3 deaths.
Calcutta, India	June 25–July 2		9 “
Osaka and Hiogo, Japan	July 2–9	1 case.	

Plague.

Bombay, India	July 5–12		53 deaths.
Calcutta, India	June 25–July 2		20 “

Proposed Enlargement of Blockley Hospital, Philadelphia.—At a recent meeting of the board of charities a recommendation was made to the councils appropriating the sum of $60,000 for the purpose of repairing and otherwise enlarging the hospital. The overcrowded condition of this institution has often been referred to in these columns.

Memorandum of Recommendation of Surgeon General, April 15, 1898, to the Adjutant General.—Each regiment to take two ambulances, four extra litters, a field hospital for ten men, medical and surgical chests, field supplies for three months.

Infantry regiments to have a steward or acting steward and ten privates of hospital corps.

Cavalry regiments to have two stewards or acting stewards and fifteen hospital corps men.

A light battery to have one ambulance, a field hospital for five men (one hospital tent), an acting steward, and five privates of the hospital corps.

On April 20, 1898, the surgeon general sent instructions to Major B. F. Pope, chief surgeon, Tampa, Florida, directing him to inspect the medical department of each regiment upon its arrival, and to report to him the deficiencies in medical supplies.

The following is a consolidated list of the more important articles sent to Tampa and Santiago:

First aid packets	No.	39,000
Alcohol	qt. botts.	3,502
Bicarbonate of-soda tablets	No.	237,200
Calomel and soda tablets	No.	40,000
Camphor and opium pills	No.	188,800
Castor oil	qt. botts.	1,422
Chloroform	$\frac{1}{5}$-lb. botts.	3,470
Compound cathartic pills	No.	259,200
Ether	$\frac{1}{5}$-lb. tins.	3,290
Fowler's solution	oz. botts.	1,180
Morphine tablets	No.	17,300
Quinine pills	No.	4,678,000
Strychnine tablets	No.	50,000
Subnitrate of bismuth	lb. botts.	657
Antiseptic tablets	No.	150,000
Carbolic acid	2-lb. botts.	6,000
Iron, sulphate, commercial	20-lb. boxes.	500
Lime, chloride	lb. botts.	4,456
Sulphur, in roll	lbs.	4,000
Formol gas generators, with supplies for same.	No.	2
Beef extract	$\frac{1}{5}$-lb. tins.	5,790
Brandy	qt. botts.	977
Condensed milk	tins.	3,546
Soap, Castile	lbs.	974
Soups (Franco-American), 24 cans in case	cases.	981
Sugar, white	lbs.	2,868
Tea	lbs.	495
Whisky	qt. botts.	1,621
Stationery, a large supply to cover needs.		
Bandages, gauze, sterilized, 144 in box	gross.	839
Cotton, absorbent	lbs.	1,240
Gauze, sublimated	pkgs.	33,000
Gauze, iodoform	pkgs.	3,650
Ligatures, catgut, sterilized	pkgs.	18,600
Ligatures, silk, sterilized	pkgs.	18,600
Oakum	lbs.	1,260
Sponges, compressed cotton	boxes.	2,850
Thermometers, clinical	No.	211
Blankets, gray	No.	5,440
Chairs, arm, folding	No.	235
Chairs, small, folding	No.	2,350
Cots, folding	No.	4,250
Mattresses	No.	2,500
Mosquito bars	No.	3,570
Pillows, feather	No.	850
Pillows, hair or cotton	No.	4,250
Pillow cases, cotton	No.	7,700
Sheets, cotton	No.	10,000
Shirts, cotton	No.	4,750
Tables, mess, folding	No.	235
Tables, bedside, folding	No.	2,350
Litters	No.	630
Litter slings	No.	975
Table and kitchen furniture for field hospitals.	No.	3,000
Test tubes	No.	1,540
Medical sets, chests Nos. 1 and 2, of each	No.	29
Surgical sets, chests Nos. 1 and 2, sterilizer chest and filter, of each	No.	21

Note.—The regular regiments had each a medical and surgical chest, litters, and other field supplies before the above articles were issued.

The Responsibility for Typhoid in Military Camps.—The War Department has issued a circular in which it calls the attention of medical officers to the fact that the extensive prevalence of typhoid fever in camps of instruction indicates that the sanitary recommendations made in Circular No. 1, dated Washington, April 25, 1898, have not been carried out, and says that if medical officers have failed to make the proper recommendations as indicated, the responsibility rests with them. If the recommendations have been made and not acted upon by those having authority in the various camps, the responsibility is not with the medical department, but these recommendations should be repeated and commanding officers urged to move their camps at frequent intervals and to maintain a strict sanitary police. Circular No. 1, in view of the liability of our armies in Cuba to exposure to malarial fevers, typhoid, diarrhœa, and dysentery, recommends, where possible, high and well-drained ground not previously occupied for camps; sinks to be frequently covered with quicklime; the frequent replacing of sinks; the punishment of men defæcating elsewhere than in sinks; the prompt burial of kitchen and other refuse; the drinking of only boiled or filtered water and coffee or tea; prompt attention to every case of fever, and the consideration of albuminuria as suspicious of yellow fever; the disinfection of all fever patients' stools; attention to sanitary policing so as to avoid contamination of the water supply and to lessen the danger of infection by garbage-fed flies; the avoidance of marches, if practicable, between 10 A. M. and 5. P. M.; the taking of hot coffee before night or early morning duty; the avoidance of eating or drinking when heated or fatigued; non-use of green or over-ripe fruit, and fermenting or inadequately cooked food; occasional prophylactic use of quinine, but only under exceptional circumstances; and the use of light woolen underclothing and its drying when damp.

The Pennsylvania State Medical Board Report.—The results of the examination recently held in Philadelphia for those desiring to practise medicine in this State have recently been made public. As usual, graduates of the University of Pennsylvania obtained the highest general average and showed the least percentage of failures.

The results are as follows:

	No. examined.	No. rejected.	Per ct. of rejections.	General average
University of Pennsylvania	93	1	1.0	83.63
Medico-chirurgical College of Philadelphia	76	8	10.5	78.84
Woman's Medical College of Philadelphia	26	1	3.9	76.68
College of Physicians and Surgeons, Baltimore	2	1	50.0	76.71
Jefferson Medical College	20	5	25.0	74.73
Western Pennsylvania	21	8	38.1	72.39
Miscellaneous	53	17	32.1	75.61
Total	316	47	14.9	78.77

This year the Medico-chirurgical College made a splendid showing in obtaining for its alumni a large percentage of hospital positions, especially on the resident staff of Blockley Hospital.

A Hospital Train to Convey Sick Soldiers from the Field.—Dr. William Batt and Dr. Carl Freese, of Philadelphia, suggest that a hospital train be provided with a sufficient corps of doctors and trained nurses to look after the condition of the troops while in transit from Camp Thomas, Camp Alger, and Camp Fernandina to this city. It is proposed that the train have a generous supply of cots, bedding, and such equipments as would be required under the circumstances. Should the sick and wounded soldiers be brought to Philadelphia the different hospitals, including the University, the Episcopal, the Pensylvania, St. Agnes, and German hospitals, have each tendered their beds free of charge.

Dr. Batt and Dr. Freese have been to Washington to see Surgeon-General Sternberg and the Secretary of War, both of whom are said to favor the plan.

The question will be brought up in council on Tuesday, and, should the plan be approved, the necessary arrangements will be quickly made and the troops transported.

The Mortality Statistics of Philadelphia.—During the past week there have been reported to the board of health a total of 443 deaths. This shows a decrease of 41 over last week and a decrease of 37 over the same period of last year. One hundred and sixty-four deaths occurred in children under the age of five years.

Among other causes the following may be mentioned:

Cholera infantum, 57; phthisis, 52; heart disease, 20; nephritis, 18; cancer, 14; dysentery, 4; marasmus, 24; paralysis, 8; suicide, 2; sunstroke, 9.

Infectious Diseases.

DISEASES.	Week ending Aug. 13		Week ending Aug. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Diphtheria	49	2	29	10
Scarlet fever	25	13	17	1
Typhoid fever	60	0	59	19
Total	134	15	105	30

Dr. Pepper's Successor.—Notwithstanding that the death of Dr. William Pepper occurred only very recently, certain rumors have become public in which it is thought likely that the chair formerly occupied by this distinguished teacher will be filled either by a present teacher in that institution or by one who was formerly connected with it. To say that either of them will be chosen is as yet a matter of speculation, for, as Provost Harrison is reported to have said, "the trustees will not meet until October, and it is impossible to say with any accuracy who will be chosen as Dr. Pepper's successor."

The two names that have been kept uppermost are Dr. James Tyson, professor of clinical medicine in the University of Pennsylvania, and Dr. William Osler, of the Johns Hopkins University.

It will be remembered that Dr. Osler formerly occupied the chair of clinical medicine at the University of Pennsylvania, and went from Philadelphia to the Johns Hopkins University, so that he would be among old friends here. Dr. Tyson has been connected with the University almost continuously since his graduation, having been first lecturer on microscopy (1868), chemistry (1870), and later lecturer on pathological anatomy. He succeeded Dr. Osler to the chair of clinical medicine upon the resignation of the latter in 1889, and is therefore considered the logical candidate for the position made vacant by the death of Dr. Pepper.

The American Microscopical Society.—The twenty-first annual meeting will be held in Syracuse, N. Y., on August 30th, 31st, and September 1st, under the presidency of Dr. Veranus A. Moore. Besides the president's address, the following papers are included in the programme: Experiments in Feeding some Insects with Cultures of Comma, or Cholera, Bacilli, by Dr. R. L. Maddox; A Method for preparing Enucleated Blood in Bulk for Class Demonstrations, by Dr. E. T. Oertel; Laboratory Apparatus for Histology, by Professor S. H. Gage; Special Structure Features in the Air Sacs of Birds, by Mary J. Ross, A. B.; Histology of the Toad Tadpole's Tail, by B. F. Kingsbury, Ph. D.; The Use of Picro-carmine and Alum-carmine, by B. D. Myers, Ph. D.; A Rapid Staining and Washing Apparatus, by C. M. Mix, A. B.; Questions in Regard to the Diphtheria Bacillus, by Dr. M. A. Veeder; Means and Methods of giving Instruction in Bacteriology, by Raymond C. Reed, Ph. B.; The Resistance of Certain Species of Bacteria in the Milk Ducts of Cows, by A. W. Ward, B. S.; The Teaching of Correct and Definite Methods in the Use of the Substage Condenser, by Dr. A. Clifford Mercer; A Report of the Student's Work in the Micrometry of the Blood Corpuscles of Individuals of Different Nationality, by Professor Moses C. White; Photomicrography with Opaque Objects, by Mr. William H. Walmsley; The Electric Projection Microscope in Histology, with a New Departure in Objectives, by Professor Moses C. White; The Comparative Value of Different Methods of Plankton Measurements, by Professor Henry B. Ward; Recent Discoveries in Blood Pathology, by Dr. George B. Broad; Diphtheria Bacilli Testing for a City Board of Health, by Dr. William H. May; Red Blood-corpuscles of Necturus, by Dr. I. Harris Levy; and The Suspension of Photomicrographic Apparatus to Avoid Vibration, by Dr. A. Clifford Mercer.

Change of Address.—Dr. George V. Rockwell, to No. 405 Jefferson Avenue, Brooklyn, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2 to August 17, 1898:*

ALMY, LEONARD B., Major and Chief Surgeon, United States Volunteers, is relieved from duty with the Second Army Corps, and will proceed to Montauk Point, Long Island, N. Y.

ARTHUR, WILLIAM H., Major and Chief Surgeon, United States Volunteers, is assigned to the command of the United States hospital ship *Missouri.*

DE WITT, CALVIN, Major and Surgeon, will proceed to Washington for consultation on official business.

FOWLER, ERNEST W., Acting Assistant Surgeon, will proceed to Chickamauga Park, Georgia, and report for duty at that place.

GARDNER, WILLIAM H., Lieutenant Colonel and Deputy Surgeon General, is granted leave of absence for four months.

HEISS, O. C., Acting Assistant Surgeon, will proceed to Chickamauga Park, Georgia, and report for duty at that place.

HEIZMANN, CHARLES L., Major and Surgeon, will report to the commanding general at Montauk Point, Long Island, N. Y., for temporary duty at that place.

HEYL, ASHTON B., Captain and Assistant Surgeon. The leave of absence granted him is extended one month.

HOWARD, DEAN C., First Lieutenant and Assistant Surgeon, will proceed from New York to Santiago de Cuba.

HUGHES, WILLIAM J., Acting Assistant Surgeon, will proceed to Fort Monroe, Virginia, to await transportation to Ponce, Porto Rico.

LA MOTTE, HENRY, Major and Surgeon, United States Volunteer Cavalry, will proceed to Montauk Point, Long Island, N. Y.

SHAW, HENRY A., Captain and Assistant Surgeon, is relieved from duty at Key West Barracks, Florida, and will report to the commanding officer, United States General Hospital, Key West, for duty.

Winter, Francis A., Captain and Assistant Surgeon, is relieved from temporary duty at the United States General Hospital, Fort Monroe, Virginia.

Woodhull, Alfred A., Lieutenant Colonel and Deputy Surgeon General, will proceed to Fort Monroe, Virginia, and assume charge of the new pavilion hospital now being established in that vicinity.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending August 11, 1898:*

Purviance, George, Surgeon. To rejoin station at Baltimore, Md. August 2, 1898.

Godfrey, John, Surgeon. To rejoin station at Detroit, Mich. August 2, 1898.

Carter, H. R., Surgeon. To report at bureau for special temporary duty. July 29, 1898. To proceed to Galveston, Texas, for special temporary duty. July 30, 1898. To proceed to New Orleans, La., preparatory to assignment to duty at Santiago, Cuba. August 3, 1898. To proceed to Santiago, Cuba, for special duty. August 6, 1898.

Wheeler, W. A., Surgeon. Upon the return of Surgeon D. A. Carmichael, to rejoin station at Cincinnati, Ohio. August 2, 1898.

Carmichael, D. A., Surgeon. To rejoin station at Cleveland, Ohio. August 2, 1898. Upon being relieved from duty at Cleveland, Ohio, to proceed to Honolulu, Hawaii, for special duty. August 11, 1898.

Wasdin, Eugene, Passed Assistant Surgeon. To proceed to Santiago, Cuba, for special duty. August 6, 1898.

White, J. H., Passed Assistant Surgeon. Granted leave of absence for one month from August 1, 1898, on account of sickness. July 30, 1898.

Magruder, G. M., Passed Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 8, 1898.

Kinyoun, J. J., Passed Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 8, 1898.

Guitéras, G. M., Passed Assistant Surgeon. To assume command of Boca Chica Detention Camp, Key West, Fla., in addition to other duties. August 6, 1898.

Brown, B. W., Passed Assistant Surgeon. To proceed to Cape Fear Quarantine Station, Southport, N. C., and assume command of service. August 2, 1898.

Thomas, A. R., Assistant Surgeon. To proceed to Fort Monroe, Va., and report for duty on United States transport *Obdam.* August 2, 1898.

Wickes, H. W., Assistant Surgeon. Granted leave of absence for fifteen days from August 4, 1898. July 30, 1898.

Tabb, S. R., Assistant Surgeon. To proceed to Louisville, Ky., and report for temporary duty and assignment to quarters. July 30, 1898. To rejoin station at Savannah, Ga. August 6, 1898. To proceed to Montauk Point, Long Island, N. Y., for special temporary duty. August 11, 1898.

Hastings, Hill, Assistant Surgeon. Relieved from duty as representative of the service at the Trans-Mississippi Exposition, Omaha, Neb., and directed to report at Washington, D. C., for instructions. August 2, 1898. To proceed to Montauk Point, N. Y., for special temporary duty. August 8, 1898.

Lavinder, C. H., Assistant Surgeon. To proceed to Newport News, Va., and report for duty on United States transport *Manitoba.* August 2, 1898.

Grubbs, S. B., Assistant Surgeon. To proceed to Brooklyn, N. Y., and report for duty on United States transport *Chester.* August 2, 1898.

Foster, M. H., Assistant Surgeon. To proceed to Egmont Key Detention Camp, Port Tampa, Fla., for special temporary duty. August 1, 1898.

Lumsden, L. L., Assistant Surgeon. To proceed to Reedy Island Quarantine, Port Penn, Del., for duty and assignment to quarters. August 4, 1898.

Anderson, J. F., Assistant Surgeon. To proceed to Egmont Key Detention Camp, Port Tampa, Fla., for special temporary duty. August 9, 1898.

White, Mark J., Assistant Surgeon. To report at Immigration Depot, New York, N. Y., for temporary duty. August 2, 1898. To proceed to Montauk Point, N. Y., for special temporary duty. August 11, 1898.

Fricks, L. D., Assistant Surgeon. To report at Detroit, Mich., for duty and assignment to quarters. August 3, 1898.

Heiser, V. G., Assistant Surgeon. To report at Boston, Mass., for duty and assignment to quarters. August 4, 1898.

McAdam, W. R., Assistant Surgeon. To report at Louisville, Ky., for duty and assignment to quarters. August 6, 1898.

Gwyn, M. K., Assistant Surgeon. To report at New York, N. Y., for duty and assignment to quarters. August 6, 1898.

Hobdy, W. C., Assistant Surgeon. To proceed to Cape Charles Quarantine, Fort Monroe, Va., for duty and assignment to quarters. August 9, 1898.

Promotions.

Passed Assistant Surgeons to be Surgeons: Peckham, Cyrus T., August 10, 1898. Glennan, Arthur H., August 10, 1898. Wasdin, Eugene, August 10, 1898. Brooks, Stephen D., August 10, 1898. White, Joseph H., August 10, 1898.

Appointments.

To be Assistant Surgeons: White, Mark Johnston, July 29, 1898. Fricks, Lunsford Dickson, July 29, 1898. Heiser, Victor George, August 3, 1898. McAdam, William Ralph, August 3, 1898. Gwyn, Matthew Kemp, August 3, 1898. Hobdy, William Cott, August 3, 1898.

Births, Marriages, and Deaths.

Died.

Brickell.—In Asheville, North Carolina, on Monday, August 8th, Dr. Frank Hamer Brickell, in the forty-second year of his age.

Elsner.—In New York, on Monday, August 8th, Dr. Carl E. Elsner.

Kemble.—In Saugerties, N. Y., on Wednesday, August 10th, Dr. Warren Kemble.

Pickett.—In Elizabeth, N. J., on Tuesday, August 9th, Dr. John H. Pickett, in the seventieth year of his age.

SWEARINGEN.—In Austin, Texas, on Sunday, August 7th, Dr. Richard M. Swearingen, in the sixtieth year of his age.

Letters to the Editor.

THE CONTRACT SURGEONS AND THE ARMY MEDICAL DEPARTMENT.

NEW YORK, *August 11, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the issue of the *Medical Record* of July 30th, under the heading of "The Seneca Case," it is stated that the military authorities believed they were relieved from all blame when they stated that the surgeons in charge were not regular army surgeons, but only "contract doctors"—civilians—hired by the month to take charge of the soldiers, and it asks "why were these doctors hired by the month to take care of the soldiers if they were incompetent?" In the issue of the *Medical Record* of August 6th there is printed a letter of Surgeon-General Sternberg in which he gives the total number of medical officers allowed by law as a hundred and ninety-two and enumerates the places where they are assigned. He states that "the deficiency in regular officers has made it necessary to employ nearly three hundred contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, etc." Why does the surgeon general of the army retain any contract surgeons intrusted with the care of the sick and wounded heroes who are not doing good service? No "pull" should retain incompetents in office to look after the sick and wounded soldiers. The surgeon general is responsible for their appointment, and when he says that most of the three hundred are doing good work the inference is that many are not. Why are the contract surgeons who are not doing good service retained when the surgeon general has the power to summarily remove them?

I would like to know in what respect is the "contract surgeon" inferior in ability to the volunteer surgeon, and why, if he is so, does not the surgeon general exact the same professional ability from him as he does of the volunteer surgeon, since he has the same responsibility and care of the wounded soldier as either the regular or volunteer surgeon.

Contract surgeons are being employed to assist the medical department of the army and to do the duties of regularly commissioned medical officers, and the employment of a sufficient number to care for and attend the sick and wounded troops assists in removing the odium which in the minds of the people of the United States seems at present to rest upon the medical department on account of the reported neglect of and inattention to the sick and wounded soldiers. The "contract surgeons"—civilians—seem to be assigned to the most perilous medical work of the army, and the only surgeons of the army who were killed in action in Cuba were "contract surgeons," while others were taken sick with fevers. Only about fifty per cent. of the regular medical corps are available for duty with the troops, and the surgeon general does not state how many of those available for duty with troops are with them. He says that eleven are on duty at medical supply depots and as chief surgeons of military departments, and six are at the surgeon general's office and army medical museum.

Let "contract surgeons" take these easy berths and put the "experienced medical officers" on duty where their experience is needed.

I believe the "contract surgeon" of the present war is much better paid than was the contract surgeon of the civil war, as the latter received only about $113.83 a month for service with troops in the field, and greenbacks were at a discount, while food was higher at that period.

The navy has no contract surgeons and did not have them in the civil war. The surgeon general of the navy took care to obtain a sufficient number of acting assistant surgeons and these had the rank of regular assistant surgeons. If Dr. Sternberg has not requested Congress to give him a sufficient number of acting assistant surgeons of the army to attend to the sick and wounded soldiers and to give them the rank of the assistant surgeons whose places they take and whose duties they perform, he has only himself to blame.

The contract surgeons of the civil war who performed the duties of regularly enrolled commissioned medical officers have never been accorded a military status by the war department, but, on the contrary, have met with hostility in their efforts to obtain it from sources that ought to have aided them. They again respond to the call of their country and come to the rescue of the medical department from pure patriotism. FAIR PLAY.

WHAT WAS THE CAUSE OF DEATH?

508 FILLMORE AVENUE, BUFFALO, N. Y., *August 7, 1898.*

To the Editor of the New York Medical Journal:

SIR: The following case is, I think, of sufficiently peculiar a character to warrant its publication. The patient, a four-year-old girl, born in this country of German parents, both of whom were healthy, had enjoyed excellent health from birth. At the public school the pupils were vaccinated, and this child was among the number. Two days after the vaccination her arm became erythematous from elbow to shoulder, a roseolous rash appearing here and there. The axillary glands became greatly enlarged; the child had repeated chills, fever, and sweats, and suffered considerably. Her sleep was interrupted at night, and several times she emitted a nocturnal cry. She passed successfully through the papular and vesicular stages, and on the eighth day (which was the first of the pustular stage) the pock disappeared. The reddened arm, however, was treated by the mother during the entire time with lard and flour. On the ninth day the child complained of headache, general malaise, and inability to defæcate or urinate. The appetite, which for the past few days had been poor, disappeared entirely. Domestic medicine could not move her bowels or empty the bladder. The scar left by the pock began to redden again, papulæ appeared, and later a vesicle and pustule. During four days the child did not have a movement of the bowels, and only once or twice did a few drops of urine escape. The child's face began to grow yellow and to swell slightly. The parents now feared for her life, but as yet deferred calling a physician. Seventeen days after the vaccination the child began to feel much better; she ate a little, but had had no movement of the bowels for about ten days or so, according to the parents' story. Next day the child had a slight cold, and the following day, at six o'clock in the morning, she had a convulsion, which lasted but a minute or so. This, however, frightened the parents so much that they called me to attend the little sufferer.

When I arrived, about eight, I was informed by the parents that the child was quite well, had eaten some candy, and was playing in the bed. On entering the room I saw a rosy-faced little maid, with playful eyes, but dilated pupils, and as healthy-looking a babe as I have ever seen. Hardly fifteen seconds passed from my entrance, when the child suddenly stiffened, without an outcry or any premonition, and was dead! All restoratives were in vain. I labored hard and earnestly, but the child was gone beyond all earthly aid.

After death I examined the child thoroughly. The pock on the left arm was in the pustular stage, and the axillary glands enlarged. Beyond that nothing extraordinary could be noticed. On percussion the bowels and bladder were found to be full, the abdomen distended, and the feet swollen.

An autopsy was positively refused.

The question now arises, What was the cause of death? Several conditions suggest themselves, as septicæmia, self-intoxication by stercoræmia, and uræmia.

That vaccination is very often followed or accompanied by entirely unlooked-for and unusual complications is a well-known fact. We have read time and again of tetanus following vaccination, no doubt often in consequence of uncleanliness on the part of the person vaccinated, but sometimes also on that of the vaccinator. Axillary adenitis, erysipelas, dermatitis, ulcerations, septicæmia, suppuration of surrounding connective tissue, acute and chronic skin diseases, purpura hæmorrhagica, and many other entirely unlooked-for complications have followed time and again the simple inoculation with vaccinia. Scientifically, each of these cases was due to the accompaniment of extraneous infection, the contamination being brought about by lack of proper clean dressing, or by a contaminated virus.

The hurry with which vaccination is performed, when many children are to be vaccinated in a schoolhouse, is usually accompanied, though under no circumstances should it be permitted to occur, by a certain inattention to details. The children in the majority of cases do not wear such clean clothing as the vaccinating surgeon would desire. However, no special precautions are usually taken; the skin may or may not be (usually the latter) thoroughly scrubbed, a few scarifications are rapidly made, the child is told to keep the arm uncovered for a few minutes, and then the sleeve is pulled over the newly made scratch. Friction of the dirty clothing necessarily accompanies every movement of the arm. The result is secondary infection.

I believe this to be just what happened in this case. Septicæmia was the outcome of this hurried and unprotected scarification and death claimed an innocent victim.

The disturbance of the system and the customary lack of tone of the bowels, together with the suppression of urine, each added its quota. I would strongly urge that vaccination, whether it be performed in a dispensary or a schoolroom, in the doctor's office or in a private dwelling, should be attended by the strictest precautions as regards cleanliness. The arm should be throughly scrubbed with alcohol or ether, the virus be kept in closed capillary tubes, the instruments made aseptic, and the scarification covered by some protective dressing, as, for instance, the Cowan shield and a gauze bandage. Then, and only then, can we expect good results. If we follow the somewhat antiquated methods which I have so often witnessed, we shall for some time still hear of death following vaccination, to the great prejudice of a beneficent practice.

Francis E. Fronczac, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 11, 1898.

(Continued from page 102.)

The President, Dr. Walter B. Johnson, in the Chair.

In What Condition of the Nose, Pharynx, and Larynx the Galvano-cautery should and should not be Employed.—With exhibition of new electrical apparatus. Dr. Clarence C. Rice read a paper with this title. (See page 253.)

Dr. Theodore W. Corwin said that he had used the electrical treatment for the nose and throat with a great deal of satisfaction ever since he had learned its use from Dr. Rice. He could not add anything to what had been said, but it had replaced in his use, whenever acceptable, most of the other cauteries, chemical and others, and had given lasting satisfaction. He was not able to avail himself of a current which would enable him to use an apparatus like the one presented to the society, but, in spite of what had been said about using the storage battery, he had had a good deal of satisfaction. Nowadays he did not take the trouble to charge the instrument, but the people who generated electric light in Newark had been very generous and charged the instrument as it needed, and it gave very satisfactory action.

Dr. Rupp said that Dr. Rice's paper deserved praise because of its brevity and precision. The speaker wished to supplement Dr. Rice's remarks on the cauterization of the posterior portions of the turbinates. He had seen a number of cases that had been operated on by men who knew how to handle the galvano-cautery, in which the results had turned out to be contrary to what had been looked for. The hearing, which it had been hoped would improve after the posterior ends of the turbinates had been cauterized away, had become much worse, besides a greater amount of nasal discomfort resulting.

Dr. A. T. Muzzy said there was one point that Dr. Rice did not speak of, and that was its use in young children, where the matter of fright was so apt to interfere with the handling of delicate and skilled instruments like the galvano-cautery. In his own case he should avoid the use of this instrument in children, for he had noticed that they became restless under its use. He asked whether the treatment was given under ether or without it. In speaking of the point of chronic rhinitis, he would only mention one very interesting case of the bad results of the unwatched use of the galvano-cautery, and that was that of a gentleman in Boston who had been treated by one of the best specialists there, and on his vacation at Thanksgiving time had come to his home near the city, and had come to the speaker with a very badly inflamed lacrymal duct and sac. At first, not being given any history in the case, the speaker had striven to treat the local condition, but at a subsequent visit, a recurrence of nasal inflammation arising, he had looked and found that there had been a complete closure from the adhesion of the turbinate to the wall below and to the sæptum. He had sent the case to Dr. Knight, who, in separating the parts, had immediately relieved a good deal of the stenosis of the duct, and, after a proper treatment there, both the nose and tear duct had gone to a favorable issue. In this case it had seemed to both of them, with a careful statement of the history, that evidently it had been the overaction of the current which had closed the lower end of the opening of the duct.

The PRESIDENT said he would like to inquire of Dr. Rice whether he had had any experience in the treatment of hay fever by the striping of the nasal sæptum with the galvano-cautery.

Dr. RICE said, in regard to Dr. Rupp's cases of application of the galvano-cautery to the posterior ends of the turbinates, it required skillful manipulation not to scorch the soft palate. Hæmorrhage in the front of the nose rarely amounted to anything, but it was annoying in so simple an operation to have to plug the posterior space, and chromic acid was more easily applied than the cautery. As to the disastrous effect of the galvano-cautery on the hearing, it was a difficult thing to prove. He had seen the entire nose so cauterized that there was hardly any mucous membrane left, which could hardly help but affect the hearing unfavorably. In regard to the use of the cautery with children, Dr. Muzzy's point was a very good one. It was just as easy to do a larger operation as to apply the galvano-cautery. It was just as easy to cut the tonsils as to burn them. But there were some few cases where cutting was strictly forbidden by the parents and where one could get contraction of the tonsils by the cautery puncture. He never gave an anæsthetic for that. He had seen closure of the lacrymal duct from adhesions between the turbinated side and the sæptum by using the cautery on the middle turbinated, where it should not be used. One could not get contraction here, but did get severe inflammatory reaction, because of the close approximation of the parts, and adhesions might easily follow. He spoke of the case of a perfectly healthy man who had had inflammation of the antrum due to adhesion caused in this way. The question of the president in regard to the cure of hay fever might open up a large discussion. The benefit of the cautery in cases of hay fever was in direct proportion to the amount of pathological condition that existed. If there were deviation of the sæptum, large middle turbinated bones, or polypi in the nose, the removal of these obstructions would relieve the patient and cure the hay fever. There were some cases where the destruction of sensitive areas in the nose by the galvano-cautery did produce very beneficial results.

Dr. MUZZY said he would like to ask one question, as to the degree of heat, especially in hay fever—whether the speaker used the white heat.

Dr. RICE said he thought it was always best to use very little heat with the cautery. All you wanted to do was to destroy a particular point. White heat produced a good deal of inflammation by scorching the surrounding surfaces. He was in the habit of using the cautery at red heat, placing the electrode on the point that he wished to cauterize, letting it burn for an instant, shutting off the current, burning for an instant the second time, and perhaps the third time, until he had accomplished all he desired. Don't use a white heat.

(*To be concluded.*)

Book Notices.

BOOKS, ETC., RECEIVED.

Tropical Diseases. A Manual of the Diseases of Warm Climates. By Patrick Manson, M. D., LL. D. (Aberd.), Fellow of the Royal College of Physicians, London, etc. With Eighty-eight Illustrations and Two Colored Plates. New York: William Wood and Company, 1898. Pp. xvi–607.

Nasal Obstruction: The Diagnosis of the Various Conditions Causing it, and their Treatment. By W. J. Walsham, M. B., C. M. Aberd., F. R. C. S. Eng., Senior Assistant Surgeon, Lecturer on Surgery, and Surgeon in Charge of the Orthopædic Department, St. Bartholomew's Hospital, etc. New York: William Wood and Company, 1898. Pp. viii–256.

Lectures on the Theory and Practice of Vaccination. By Robert Cory, M. A., M. D. Cantab., F. R. C. P. Lond., Physician in Charge of the Vaccination Department of St. Thomas's Hospital, etc. New York: William Wood and Company, 1898. Pp. 122.

Handbook for the Hospital Corps of the United States Army and State Military Forces. By Charles Smart, Deputy Surgeon General, United States Army. New York: William Wood and Company, 1898. Pp. vii–350.

Manual of Physical Diagnosis. For the Use of Students and Physicians. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Physician to the University Hospital, etc. Third Edition, revised and enlarged. With Colored and Other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xii–9 to 278. [Price, $1.50.]

Lectures on Tumors. By John B. Hamilton, M. D., LL. D., Professor of Surgery, Rush Medical College and Chicago Polyclinic, etc. Third Edition. Twenty-one Illustrations. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. x–9 to 143. [Price, $1.25.]

The Gospel according to Darwin. By Woods Hutchinson, A. M., M. D. Chicago: The Open Court Publishing Company, 1898. Pp. vii–241.

The Office Treatment of Hæmorrhoids, Fistula, etc., without Operation, together with Remarks on the Relation of Diseases of the Rectum to other Diseases in Both Sexes, but especially in Women, and the Abuse of the Operation of Colostomy. By Charles B. Kelsey, A. M., M. D., Late Professor of Surgery at the New York Postgraduate Medical School and Hospital, etc. New York: E. R. Pelton, 1898. Pp. 9 to 68.

Fatty Ills and their Masquerades. By Ephraim Cutter, LL. D., M. D. Harvard, 1856, and University of Pennsylvania, 1857, and John Ashburton Cutter, B. Sc., M. D., Albany Medical College, 1886, Corroborator. New York: The Authors, 1898. Pp. xiv–194.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. med. Martin Chotzen, Spezialarzt für Hautkrankheiten in Breslau. Heft IX. Pp. 109 to 119. Heft X. Pp.

121 to 134. Hamburg und Leipzig: Leopold Voss, 1898.

Ueber Malaria- und andere Blutparasiten nebst Anhang. Eine wirksame Methode der Chromatin- und Blutfärbung. Von Dr. Hans Ziemann, Marinestabsarzt. Mit 165 farbigen Abbildungen und Photogrammen auf 5 Tafeln und 10 Fieberkurven. Jena: Gustav Fischer, 1898. Pp. v–192.

Monthly Bulletin of the Bureau of the American Republics. International Union of American Republics. July, 1898.

The State Board of Health and a Quarter Century of Public-health Work in Michigan.

The Influence of Antitoxine in the Treatment of Laryngeal Diphtheria with and without Intubation. By Edwin Rosenthal, M. D. [Reprinted from the *Maryland Medical Journal.*]

Upon the Existence of a Minute Micro-organism Associated with Cases of Progressive Portal Cirrhosis. By J. G. Adami, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Miscellany.

The Neuron Theory.—Under the heading Questions in the Neuron Theory, the *Columbus Medical Journal,* in a leading article, has the following summing up of the existing confusion: 1. Cajal first recognized in the cerebral cortex, prepared by the methods of Golgi and others, an infinite number of little appendices (spines of Cajal, gemmules of Berkley, etc.) around the protoplasmic prolongations. I propose, on account of their common and characteristic form, to call these pyriform appendices. 2. These appendices are never wanting in white mice and adult guinea-pigs. They form a thick investment upon the protoplasmic prolongations of the cortical cells. 3. These appendices are constantly wanting upon the body of the cell and its axis cylinder. 4. In my experiments I have observed that these pear-shaped appendices vary in number and length upon the same neuron. Indeed, under excitation (electrization) and anæsthesia (etherization) they diminish and even disappear completely upon a certain number of protoplasmic prolongations. 5. At the same time the protoplasmic prolongations are covered with numerous varicosities. 6. The appendices may disappear without varicosities appearing upon the dendrites. 7. Contact is produced between the prolongations of the cerebral neurons by these appendices. Impulses coming from the nervous extremities of a neuron are transmitted to the appendices, garnishing the neighboring dendritic terminations, and by them to the cell body. 8. The considerable variations in aspect and number of the pyriform appendices upon the same neuron cause me to conclude that this terminal apparatus may reenter the dendrite completely, even without the latter showing any visible alteration. This definite or momentary disappearance of the pyriform appendices suffices to cause the breaking of the contact between the dendrites of one neuron and the terminal apparatus of a neighboring neuron. If the researches of the future demonstrate to us that the pear-shaped appendices, according to circumstances, can reenter and escape from the dendrites, we shall have to make them true pseudopodia, whose existence was foreseen by the ingenious theories of Mathias Duval, Lepine, and Robert Ruckhardt (Stefanowsky, *Comptes rendus de biologie,* November, 1897).

Robert Ruckhardt, Mathias Duval, and Lepine suggested that the neuron had amœboid movement. Cajal disputed the possibility. Weidersheim saw the nerve cells move in the œsophageal ganglion of an entomostracan.

Dercum, in a very interesting paper in the *American Journal of Medical Sciences* in August, 1896, applied the theory and the fact to the explanation of the phenomena of anæsthesia in hysteria, hypnotism, etc. Up to this point all seemed to be plain sailing.

The neuron is mobile. Each neuron is an individual unit. There is no anatomical connection. Contact may be made or broken by Berkley's gemmules. Last year a new Daniel came to judgment. Apathy appeared on the scene to cause confusion to reign anew. Montgomery, in the *Journal of Nervous and Mental Diseases,* January, 1898, presented an abstract of Apathy's views. According to Apathy, there are nerve cells and ganglion cells. The nerve cell produces that which conducts; the ganglion cell furnishes the force which is conducted. Connections between cells are anatomical. Two cells send a process into the same nerve. The processes of several cells unite to form one, or one cell is opposed to another. The process of one cell is joined with the cell process of another, or a number of such intercellular bridges are present. Two cells are united by their collateral or terminal branches, or lastly, and this is the principal means of the conducting connection, the processes (axis cylinders) of two cells pass once by continued ramifications into an anastomosing network. Apathy has submitted his preparations to some of the leading histologists of Europe, who say that they sustain his conclusions. All this goes to show how unsafe it is to erect an edifice upon any foundation which has not been fully tested. The results of Apathy's work, if accepted, will overturn all more recent theories and cause a return to some of the older notions in neurology.

Treatment of Deep Urethral Strictures by Internal Urethrotomy.—Dr. Gwilym Davis (*University Medical Magazine,* August), in a paper on this subject, says that the prevailing sentiment of the profession is against the employment of internal urethrotomy for deep strictures of the urethra—that is, for those involving the bulbous and membranous portions—and he cites authorities in support of this statement. He compares internal with external urethrotomy and expresses his belief that the comparative value of the two methods is slightly in favor of the internal method for effecting a cure.

"The ultimate ground," he says, " on which a decision must be reached is the relative dangers of the two procedures. There are two—hæmorrhage and sepsis, with or without urinary infiltration. As regards the former, I have heard of no deaths caused by it in internal urethrotomy, nor have I had any trouble from that source, but I have heard of a death from hæmorrhage after external urethrotomy, and have felt it necessary not only to most carefully ligate all possible bleeding points, but also to pack the wound snugly and retain the packing in place for several days. The question of urinary fever and sepsis is the real buttress on which the opposition to internal urethrotomy rests. The fear of this is largely a heritage from former practice rather than from recent results. It is practically eliminated by modern antiseptic methods. I am hardly prepared as yet to admit that urinary fever is due solely to an infectious element. Chills sometimes follow too closely on urethral manipulations to exclude other agencies. It is more likely to be due, at least to some extent, to nervous disturbance in addition to sepsis. Urinary infiltration is to be avoided by leaving a catheter in the bladder for three days, at which time the wound will have been so closed by plastic material as to prevent the urine gaining access to the tissue spaces. Sepsis is prevented by rendering the urine antiseptic, by administering antiseptics, by the mouth as well as using them locally, and by observing a careful technique."

He then cites the cases of three patients with strictures at the membranous or bulbous urethra, in none of whom was an instrument capable of being passed until after about an hour's trial on the operating table, when success was obtained with a filiform bougie. Internal urethrotomy was performed and two of the cases had chills following the operation, but they were not severe, and the highest temperature noted was 101.4° F. In all three the temperature had become normal by the third to the fifth day. The retained catheter was removed on the third day, and they were out of bed by the fifth to seventh, and dismissed for treatment as outpatients by the ninth day. The extremely rapid and favorable course pursued by these three cases, compared with what would have followed had external urethrotomy been done, will be appreciated by any one who has done the latter operation. The author's method of procedure is as follows: The urine is rendered antiseptic by giving five grains of salol and five grains of boric acid, three or four times daily, beginning several days before the operation, if possible. An anæsthetic having been given, the penis is washed with weak bichloride solution (1 to 2,000) and the urethra injected with boric solution followed by iodoform and glycerin, ten per cent. A filiform bougie is then introduced, and over it a Gouley tunneled staff. This being withdrawn, a Maisonneuve or Teevan urethrotome is inserted and the stricture cut on the roof of the urethra. He uses a Teevan which cuts to about a No. 26 French. On its withdrawal Nos. 26, 28, and 30 sounds are passed. A new English catheter, about No. 26, is introduced and the bladder and urethra are syringed out with a boric acid or very weak bichloride solution, and the catheter tied in. Sometimes a couple of drachms of iodoform and glycerin are injected, part of which flows away. After the operation the boric acid and salol are continued three times daily, or, as I have done, three grains of methylene blue are given in capsules three times daily. This makes the urine distinctly blue. The catheter is allowed to remain in the urethra until the third day, and sounds passed on alternate days thereafter. The patient is allowed to get up on the fifth to the seventh day, and is usually ready to leave the hospital to attend at the dispensary on the ninth. He could even be discharged earlier, if necessary, but it is better to keep them until every liability to trouble has been passed.

A Case of Black Tongue.—According to the *Dublin Journal of Medical Science* for August, Felix Semon (*The Journal of Laryngology, Rhinology, and Otology,* March, 1897) reports the case of a man of forty years affected with a large patch of enormously elongated, hairlike, inky black papillæ in the region of the papillæ circumvallatæ. Under the local use of a five-per-cent. ethereal solution of salicylic acid, mixed with a five-per-cent. collodion solution, and followed by an application of peroxide of hydrogen by means of a plug of cotton wool applied to the affected region several times a day, so much improvement resulted that only the traces of the affection were still visible.

The Suggestion Treatment of Seasickness. — Dr. Goble (*North Carolina Medical Journal,* August 5th), citing Gorodichze's ideas on seasickness, says that, according to Darwin, seasickness is due to vertigo which the mobility of objects determines. The great naturalist has been wrongfully objected to because the blind are not exempt. The knowledge of the mobility of surrounding objects can exist without the visual sense; the other senses, hearing, touch, and the muscular sense, can convey to us the knowledge with no less precision.

Undeniably seasickness always begins with a sensation of vertigo, pallor, frontal headache, disturbed respiration, and cold chills preceding the nausea and vomiting. Nevertheless these same symptoms are produced on land. The moving train, the jolting gait of the camel or of the dromedary causes similar symptoms in many people.

M. de Varigny (*Fourteen Years in the Sandwich Isles,* Paris, 1874) relates having experienced the most violent seasickness during the earthquake which took place in those islands on April 2, 1868.

The vertigo, which is the first symptom, appears to follow the sensation of the loss of equilibrium. Observe the sailor: he moves his body with the ship, as a horseman with his mount, in order not to receive any violent rebound. The body of the sailor bends, adapting itself to the most extreme movements of the ship. When one side of the ship rises he bends the limb of the same side and extends the other; if the stern or the prow sinks down, he bends the body forward or backward. Unconsciously all these movements come to be instinctive with him, solely by habit and education. Thus one acquires "sea legs" only at the end of a long time or after many voyages.

The individual susceptibility is very variable. Some never become accustomed to the sea. Others, on the contrary, rapidly acquire immunity. In a general way people are more often sick on a screw steamer than on a wheel steamer. The pitching is more difficult to bear than the rolling of a ship. Women are more often subject to seasickness than men, and children less than men. The heat, the lack of air, the emanations from the kitchen of the ship or from the engine, etc., are only occasional causes.

Four cases are then quoted, two men and two women, who were all very susceptible to seasickness, but who after some sittings for hypnotic suggestion prior to a voyage became free from it, and were able to travel without sickness ensuing.

The Congenitally Blind as Outlook Men at Sea.—The *Dublin Journal of Medical Science* for August quotes the *Lyon médical* for July 17th as stating that the frightful catastrophe of the sinking of the steamship *Bourgogne* recalls a lecture delivered some years ago by Dr. Dufour, of Lausanne. This celebrated oculist, interested in the means of securing a livelihood for the unfortunate blind, passed in review all the callings which might make use of the extraordinary power of hearing with which these persons are endowed. Among others, he declared that all swift vessels should have on board two men born blind to serve as outlook men in foggy weather. Dr. Dufour asserts, as a result of experiments made on the Lake of Geneva, that the acuteness of hearing in these persons is such that they can easily recognize at a great distance the noise of a moving vessel, and *a fortiori* the acoustic signals which it may make with the object of furnishing exact information as to its position and course. The suggestion is a valuable and a practical one.

The Treatment of Cerebellar Abscess.—Dr. H. A. Duemling (*Fort Wayne Medical Journal-Magazine,* July) concludes a thoughtful paper on the subject of cerebellar abscess as follows:

In conclusion I affirm: 1. Surgical interference in a case of cerebellar abscess is justifiable. 2. The abscess should be opened and drained as soon as its presence is suspicioned without waiting for local symptoms. 3. Relief by aspiration of ventricular hydrops is a palliative measure of value.

The Closure of Healed Perforations of the Membrana Tympani.—Dr. C. Biehl (*Journal of Laryngology, Rhinology, and Otology,* August) reported to the Austrian Otological Society twelve cases of treatment of healed perforations of the membrana tympani with applications of trichloracetic acid, of which seven were successful. The number of applications varied from four to thirteen, at intervals of from four to eight days. The strength of the solution used varied from ten to fifty per cent. A little roll of wool on the end of a probe was used to apply it. Neither size nor situation of perforation is any contraindication. Pinhole perforations are often most troublesome. Where the perforation is in a cicatrix, or where the edges are calcified, it is of course unfavorable. Pain is slight. Suppuration occurred once, and hæmorrhage once, possibly from the caustic touching the mucous membrane of the tympanum.

Fatal Sepsis from a Nasal Furuncle.—Lenzman (*Journal of Laryngology, Rhinology, and Otology,* August) reports to the Union of West German Throat and Ear Surgeons a case of general sepsis following a furuncle at the entrance of the nostril in a strong woman thirty-six years of age. In spite of free incisions the disease spread to the forehead, and proved fatal on the fifth day. Staphylococci were found in the exuded fluid. There was no pus.

Kronenberg, of Solingen, quoted a similar case, in which thrombosis of the ophthalmic veins and of the left cavernous sinus was found post mortem.

Iodoform in the Treatment of Phthisis.—According to the *University Medical Magazine* for August, Russell (*Birmingham Medical Review,* June, 1898) compares the results obtained from the use of iodoform in one hundred and twenty-three cases of phthisis with those obtained by the ordinary tonic plan of treatment in forty-eight cases. All received cod-liver oil. The patients were under observation from four to thirty weeks. Eighty-eight patients took a maximum daily dose of from twenty-four to thirty grains *per diem,* and only five failed to reach a maximum of fifteen grains *per diem.* A comparison of the respective weights of the patients at the end of a period of from six to twelve weeks showed 8.9 per cent. more gains and 11.1 per cent. fewer losses among the iodoform cases than among those not so treated—a decidedly better result. Out of eighteen patients who had attended for over ten weeks, 55.5 per cent. gained in weight, and only 27.8 per cent. lost; while all the patients, with two exceptions, who attended for more than twenty weeks—eight in number altogether—had gained in weight at the end of their period of attendance. In conclusion the author says that he believes that the foregoing investigation represents fairly what can be said in favor of iodoform. He is aware that it does not amount to very much, but, considering the conditions, he is of the opinion that in a certain number of cases better results can be obtained by its means than by the ordinary tonic and symptomatic line of treatment.

The Use of Calcium Chloride in Restraining Hæmorrhages.—In our issue for August 13th we cited Dr. Parry's remarks in the *Lancet* for July 16th on the effect of calcium chloride in restraining gastro-intestinal hæmorrhage in a child. In the *Columbus Medical Journal* for August 2d Dr. H. A. Hare has the following remarks on the use of calcium chloride for controlling hæmorrhages. He says: "The third subject to which I wish to attract your attention is the use of calcium chloride in the treatment of small oozing hæmorrhages. Dr. Wright, of Netley, England, as is well known, pointed out some years ago that the use of calcium chloride distinctly increases the coagulability of the blood; but he also pointed out a fact which must not be forgotten—namely, that after calcium chloride is given in full dose for a number of days a reverse effect is produced and that delay in coagulation occurs under its influence. The use of the drug, therefore, should not be persisted in for too long a time. During the past winter I have had occasion to use calcium chloride in two patients. In one of these, a case of spleno-medullary leucæmia, the patient almost bled to death after a necessary minor operation, and, while other means of controlling his hæmorrhage were resorted to besides calcium chloride, I feel inclined to believe that the arrest of this hæmorrhage was, at least in part, due to this substance. The other patient was suffering from repeated hæmorrhages complicating typhoid fever. Here, also, other antihæmorrhagic methods were employed, though in any event the early hæmorrhages seem to have been controlled by this method; the man ultimately died, however, from a very profuse hæmorrhage, and the post-mortem examination revealed the fact that the ulceration in the intestine was so malignant that nothing could have prevented erosion of a number of larger vessels. Internal hæmorrhages are so difficult to treat that calcium chloride should be borne in mind as having rational uses under the circumstances that I have named."

A Lady Professor of Gynæcology in Holland.—We learn from the *British Medical Journal* for August 6th that Fräulein Dr. Katharina van Tusshenbroek has been appointed professor of gynæcology in the University of Utrecht.

Treatment of Aneurysm of the Aortic Arch.—Dr. B. Merrill Ricketts (*Journal of the American Medical Association,* August 13th) sums up a paper on this subject with the following conclusions: 1. The remedy lies within the domain of surgery. 2. There are but two such methods at the present time to be considered: (*a*) Obstruction of the right subclavian and common carotid arteries; (*b*) Introduction of wire or needles into the sac, with or without galvanism. 3. Either one or both of the operations should be applied in all cases after a thorough saturation with the iodides. 4. Ligation is attended by less danger, less mortality, greater and more permanent and universal benefit. 5. Ligation of the subclavian and common carotid arteries is less dangerous than ligation of the innominate. In point of fact, the latter should not be done. 6. The iodides should always precede and follow any surgical interference. 7. Extreme atheroma might contraindicate ligation. 8. Extreme atheroma might possibly indicate the introduction of needles, or wire, with or without galvanism. 9. Atheroma to some degree is present in the majority of arch aneurysms. 10. It is impossible to technically classify arch aneurysms. 11. The results of ligation in the case herein contained have been far more beneficial than was ever anticipated.

Isolated Vesicles of Herpes Zoster.—MM. Jeanselme and Leredde (*Gazette hebdomadaire de médecine et de chirurgie,* July 28th) point out that notwithstanding the common opinion as to the strict delimitation of the vesicles of zoster over a determined nerve territory (whether of a peripheral nerve, a spinal ganglion, etc.) in their examinations they find in a large number of subjects vesicles disseminated over the entire tegumentary surface. These vesicles resemble those proper to zona, and if their evolution is studied, it is found that they belong properly to the zoster and are not pustules of self-inoculation. All attempts to reproduce such vesicles by inoculation have proved negative. The authors consider that this fact coincides with the hypothesis of a zoster fever upheld by M. Landouzy. Two of their patients had fever with adenopathies and albuminuria.

Glycosuria in Primary Cancer of the Pancreas.—Dr. François Guillon (*Gazette médicale de Nantes,* July 23d) says: 1. Glycosuria is a symptom of cancer of the pancreas. 2. It only shows itself in the early period and disappears toward the end. 3. The glycosuria ceases with the development of the cancer. 4. More difficult of explanation is its disappearance in the later stage. No theory is satisfactory.

Constipation Extraordinary.—According to the *Journal de médecine de Paris* for July 24th, the *Lyon médical* reports the case of a child, aged nine years, who was thirty days without passing a motion. Curettage of the intestine was practised with the result that twenty-three pounds and a half of fæcal matter were extracted. The *Journal* asks, "Is not this a little too much?" We should say "Certainly—for the child."

Antipyrine for Afterpains.—Fieux (*Bulletin médical,* 1897, No. 71; *Archives de médecine des enfants, August,* 1898), as a result of a series of experiments on the milk of ten recently confined women to whom he administered antipyrine, concludes that its use is perfectly allowable in nursing women in a reasonable dose, and is particularly useful to combat afterpains, for which purpose he considers its efficacy indisputable.

A Breeding Time for Women.—According to the *Northwestern Lancet* for August 1st, Eskimo women do not breed during the winter months, and their menstruation ceases at that time. The natives of Queensland are also said to have a special breeding season, though menstruation with them continues throughout the year.

Intestinal Asepsis.—M. Dardelin (*Gazette hebdomadaire de médecine et de chirurgie,* July 31st), in a thesis before the Faculty of Paris, asserts that the utility of the intestinal microbes in the work of digestion being doubtful, while the troubles they cause in the organism are demonstrated, the search for methods of intestinal asepsis is legitimate. The means of effecting this end may be distinguished in the following order: 1. The secretions of the organism. 2. Antiseptics. 3. Mechanical measures. 4. Alimentary measures. Three factors should influence us in the choice of a method of asepsis—namely: 1. Its power. 2. The duration of its effects. 3. The disease in point. In the author's opinion two of the measures above indicated are superior to the others: purgation, by the intensity of its action, and a milk diet, by the duration of its results. The two complete each other, and by their means it is possible to arrive at almost an absolute intestinal asepsis.

The Difficulties of the British Army Medical Officer.—A correspondent signing himself P. O., writing to the *Indian Lancet* for July 1st on the Future of the Army Medical Staff, says: The concession of military titles is an item of their claim; but they have other needs than this. Lord Lansdowne can not really think that he has done all that is necessary when he abolishes the designation which connects medical men with the profession to which they have the honor to belong. The rates of pay and allowances are none too liberal—a veterinary lieutenant is more highly paid than a surgeon lieutenant—while the treatment to which medical officers are subjected in regard to changes of station is little less than scandalous. The tour of service is now running a short two years at home as against a long five years abroad; and what is worse, during the home tour there is no fixity of tenure. A surgeon may be in Ireland one week, in Scotland the next, and perhaps in the south of England before the month is out. If he should be married, as he generally is, and takes and furnishes a house, as he often weakly does, it almost surely follows that he is ordered off somewhere else at a few days' notice. All this is bad enough for him, but it may be even worse for his patients. The other day, in a garrison town, an officer had measles in his family. The family were attended by five different medical officers during six successive days, and if the children got well it was because the captain who was their father—albeit he was a captain without being equally a medical man—doctored them himself. What medical officers most need is considerate and reasonable treatment from headquarters and considerate and reasonable treatment from those with whom they live in daily association.

A New Operating Room for St. Joseph's Hospital, Philadelphia.—A modern operating room, with sterilizing and anæsthetizing rooms, has been added to the hospital.

The Annals of Gynæcology and Pædiatry.—We learn that Dr. Sherwood-Dunn is now associated in the editorial management of this journal.

The Kentucky School of Medicine, of Louisville.—At a recent meeting of the board of regents Dr. Samuel Cochran was elected to the chair of anatomy, and Dr. Arthur J. Boyd to that of chemistry. At a recent meeting of the faculty Dr. W. H. Wathen was reelected dean, and Dr. Henry Orendorf secretary.

Thirty Cases of Sunstroke in Philadelphia.—According to the weather report, this summer in Philadelphia has been the hottest on record for the past thirty years. It will be remembered that some weeks ago forty cases of thermic fever were reported in one day. The next highest number was thirty, which occurred on July 30th. From the mortality statistics it will be seen that thirty deaths have resulted from this cause during the week ending August 6th.

The Wounds of the Mauser Bullet.—According to the *Buffalo Medical Journal* for August, Lieutenant-Colonel Charles Smart, deputy surgeon general of the United States army, is reported to have replied substantially as follows to a question as to the nature of the wounds inflicted by the Mauser bullet:

After the fight at La Quasina and the battles of July 1st, 2d, and 3d, a report became current that the Spaniards were firing explosive bullets which spread in such a way as to cause great laceration. That was the first report and it has been repeated frequently ever since.

The fact is that the Mauser bullets used by the Spaniards in the battles we have had in Cuba make what surgeons call a "humane wound." They drop the man at the time he is struck and take him from the firing line, but if they do not kill him then and there he gets well.

Of all the men wounded in General Shafter's command I have heard of only one case of an amputation of a limb as the result of a bullet wound, where the bone has been shattered. The Mauser bullet does not leave a wound nearly so difficult to heal as do the bullets used in the Springfield rifle.

During the civil war, when a man was shot through the lungs by a bullet from a Springfield rifle he was almost sure to die in a few days, or in a few months from consumption or pneumonia, or some other affection brought on by the wound. The Mauser bullet will pass through the lungs and the patient will recover. It does not crush bones so that amputations are necessary. A wound made by such a bullet, if it does not affect a vital part, heals as readily as would a slight cut.

Bananas as a Food in Typhoid.—According to the *Dietetic and Hygienic Gazette* for August, Dr. Ussery recommends bananas as an excellent food for typhoid patients, inasmuch as the banana, though a solid food for all practical purposes, containing, as it does, some ninety-five per cent. of nutritive matter, does not possess sufficient waste to irritate the ulcerated mucous membrane. Nearly the whole amount taken into the stomach is absorbed.

"The Old Order Changeth."—The *Medical Council* for August credits the following to *Life:*

"Where is your mother, Johnnie?"

"Playing golf."

"And your aunt?"

"She's out on her wheel."

"And your sister?"

"She's training for the football game."

"Then I'll see your father, please."

"He can't come down now. He is upstairs giving the baby a bath."

Craniectomy for the Relief of Imbecility.—Dr. Hunter P. Cooper (*Atlanta Medical and Surgical Journal,* August) records the case of a female child seven years old in whom he performed craniectomy with good results. He describes the patient's condition as follows: Patient is an imbecile. Her sentences consist of only two or three words. She makes her wants known without much trouble. Has paresis and atrophy on left side; the left leg drags when walking. Her head is very small and very narrow from side to side, especially in the frontal and parietal regions. The child is self-willed, irritable, nervous, and suffers from insomnia. She is subject to fits of uncontrollable rage and is utterly devoid of reason.

The operation performed was as follows:

The patient being prepared in the usual manner, an incision was made beginning at the hair margin in front, about half an inch to the right of the sagittal suture, and carried back to the lambdoidal suture. The incision was slightly curved. The flap was turned back; also the pericranium. The skull was then trephined and with the cutting forceps the bone was removed forward for two inches and a half, and backward for about two inches, and then to the side for about an inch and a half. The space between the two edges of the bone was about an inch wide. All hæmorrhage was stopped, there being very little. The wound was slightly packed with iodoform gauze and sutured, and the usual dressing applied.

The mother noticed some change for the better in the child at once, and she was discharged eighteen days after the operation. Great improvement in the mental faculties followed the operation. She became obedient, had no more fits of rage, talked much better, and seemed like a different creature.

A similar operation on the other side of the head was performed five months later, with the result that the patient's mental condition has been wonderfully improved, and improvement appears to be continuing.

British Honorary Degrees for American Physicians.—We learn that Dr. Roddick, of Montreal, Dr. Osler, of Baltimore, and Dr. Bowditch, of Boston, were among those upon whom the honorary degree of LL. D. was conferred by the ancient University of Edinburgh during the recent meeting of the British Medical Association in that city.

The Influence of Suggestion on Life.—Dr. Wood (*Southern California Practitioner,* July) closes an article on Suggestive Therapeutics with the following pregnant phrase: Our lives are but the reflection of the suggestions about us.

Clamping the Common Carotid.—According to the *Buffalo Medical Journal* for August, Dr. George W. Crile has demonstrated that the common carotid can be closed by clamp for from twelve to twenty-four hours without injurious results.

Death from Santonin.—According to *Gaillard's Medical Journal* for August, the *Medical Press and Circular* records an inquest at Reading, England, on the body of a woman who died apparently from the effects of two drachms of santonin administered by an incautious friend for "worms." The patient became delirious and had "fits," which continued till she died. The autopsy revealed no worms, but an internal neoplasm.

Hypnotism in the Law Courts.—A case has recently been decided in England in which a bequest of £30,000 made by a patient to her physician, Dr. Kingsbury, an expert hypnotizer, was contested by her relatives on the ground that he had unduly influenced her. The jury found in favor of the doctor. Dr. Kingsbury's own book was put in evidence for the plaintiff to show the possibility of the deferred effect of post-hypnotic influence.

A Cure by "Suggestion."—The *Medical Council* for August quotes the following from the *Clinical Reporter:*

Enter two ladies. The elder is ill. After some parleying, the doctor takes his stethoscope, places the bell of the instrument against the lady's chest, and inserts the tubes into his ears. "Doctor, that electric machine is getting too hot; it's blistering me, I know!" A twinkle comes into the doctor's eyes. "But you feel better, don't you?" "Oh, yes! ever so much better, but the current is too strong—please! oh, do, please turn it off!" And he turns it off.

Examine the Coccyx as a Possible Cause of Neurosis.—Dr. Joseph Eastman (*Annals of Gynæcology and Pædiatry,* August) says that among other conditions coccygodynia is one which he has found worthy of attention in more cases than one. He believes it to be the imperative duty of every gynæcologist, and neurologist for that matter, in making an examination, to pass the finger into the rectum and to carefully examine the coccyx. It is well known that the coccyx may be bent forward by falls in childhood, or be broken backward by the fœtal head in childbirth. This point alone has been sufficient to enable him to find in many cases a condition from which patients could only be relieved by the removal of the coccyx. He recalls one case in particular: The patient had her ovaries removed; she had been in a sanitarium under the best of care; had been given massage, baths, etc., for a period of nearly one year, and was declared to be incurable by an excellent physician. She recovered within four weeks from all nervous disorders after the removal of the coccyx.

Pregnancy after Double Oophorectomy.—Dr. Sherwood-Dunn (*Annals of Gynæcology and Pædiatry,* August) relates the following remarkable case. He says that he was consulted about three years since by an unmarried woman of thirty. She had suffered for twelve years from unceasing pain and discomfort in the pelvis. She had been in the hands of some of the leading neurologists and spent periods of several months in some of our most noted sanitariums. Medication, electricity, massage, hydrotherapy, rest-cure, travel—all had been tried with varying success. She had not been free from the feeling of malaise and lack of energy, so constantly present in neurasthenics, except at periods following favorable treatment, all these years. She had local areas of hyperæsthesia and periods of excessive irritability, which during two years previous to his seeing her excited hysterical seizures. He resected two large œdematous ovaries for her; she married and in a letter written this year she informs him that *she is the mother of a fine boy,* has gained twenty-two pounds in weight, and has enjoyed perfect health ever since the operation. This can scarcely be another case of "castrating the wrong man," with the sexes reversed.

The Unacknowledged Clipping Habit.—The *American Medical Compend* for August has the following:

The Abolition of Grief.—Dr. T. E. Townsend (*Practical Medicine,* June), in a paper on the Physical and Mental Effects of Grief, thus winds up: "Peace of mind—cheerfulness and contentment—is the foundation of all happiness, and when these conditions exist grief will not be known." Exactly so. Lucidity is the foundation of being lucid, and when this condition exists obscurity will not be known.

We offer our apologies to the *American Medical Compend* for having unintentionally misled it into a misquotation—Dr. Townsend's remarks end at "will not be known." The sentence which follows it was our own comment in our issue of June 25th.

Another instance has come under our notice where opinions of ours are apparently attributed to the *Medical Record.* The *Woman's Medical Journal* for August—as well as more than one other journal—have clipped *in toto* without acknowledgment to us our note on The Appraisement of the Value of Prohibitive Legislation as a Means of Enforcing Moral Restraint, thereby making our respected contemporary appear to be responsible for opinions of our own on something we abstracted from it and commented upon. The whole of that paragraph beginning "This is just what might have been expected" down to the end is simply a comment of the *Journal* upon its quotation from the *Record,* and we trust that our contemporary will not feel aggrieved that our comments should have been fathered upon it. We can not be held responsible for the misdoings of others, for we are careful so far as possible to make due acknowledgment of the source from which we ourselves derive every item that we use.

Mechanical Surgery.—According to the *Physician and Surgeon* for August, an electric circular saw now renders service in lieu of the knife in all amputations performed at the Boston Emergency Hospital. Recourse to this agency obviates the necessity of an anæsthetic, as the rapidity of its action renders the operation painless and greatly decreases shock. Ligatures are not required, and the house surgeon says that patients treated by this method fare better than those subjected to the older procedure.

When, we may ask, is some ingenious surgeon mechanic going to give us an amputating machine into which the patient can be put at one end, and come out at the other with his limb amputated, the arteries ligated, the flaps sutured, and the dressings applied—as they say hogs are turned into sausages in Chicago?

Compulsory Vaccination in England.—The *Lancet* for August 6th, in a leading article on the new bill modifying the compulsory vaccination law in England, says:

"The whole question may be summed up in a few words. The object aimed at by the state in legislating on vaccination should be to secure the benefits of this safeguard to the greatest possible number of persons. This can be done with varying degrees of success by one of three courses: (1) Universal compulsion under penalties; (2) compulsion limited in extent by mitigation and restriction in the number of penalties; or (3) optional vaccination. The first plan, still effectively carried out in Germany with the best results, has been tried for many years in this country with a gradually increasing want of success. The strong opinion expressed by the Council of the Royal College of Surgeons of England in 1893, and reaffirmed the other day in favor of the continuance of such legislation, may be a counsel of perfection, but can be nothing more. *Nulla vestigia retrorsum,* and the practical man, especially if he has perused the evidence given before the Royal Commission on Vaccination, must be convinced that in regard to vaccination the policy of 'thorough' compulsion is no longer possible in this country. We may deeply regret the fact and may seek to explain it away as the work of misguided fanatics, but it is none the less real, and the continuance of the old plan only tends to bring the law into contempt. None of us are blameless in this matter. We have condoned laxity in the performance of vaccination. We have not striven to set forth its great advantages or to diminish its attendant risks. These have been unscrupulously magnified until parents with no fear of small-pox before their eyes have preferred to resist the law rather than subject their children to the supposed dangers of vaccination. The second alternative, modified compulsion with restricted and mitigated penalties, is what the Government bill intended, coupled with provision for increasing facilities for and diminishing the risks of vaccination. It was hoped that many objections would be removed by these concessions, but the opinions expressed in the House of Commons led the Government to change their plans and to adopt the third alternative and by the introduction of a conscience clause to practically make vaccination optional and not compulsory. This, which has been variously characterized as a piece of political expediency or as yielding to the clamor of a clique, may nevertheless prove to be the most statesmanlike course, though no medical man can view with equanimity the possibility of an outbreak consequent upon a liberal use by the public of the right to conscientious objection. However, if the plan were to reduce the number of recalcitrants, it would not attain the objects aimed at unless it were accompanied by provisions for a similar enforcement of revaccination of adolescents. Therefore, we shall not regret the withdrawal of this bill."

A British View of the Medical Breakdown in Cuba.—The special correspondent of the *Lancet* (August 6th) says that the condition of the wounded on shore was beyond measure wretched and excited the lively indignation of every one. He contented himself with mentioning this fact, for it was not the fault of the medical corps. The quartermaster and commissary departments were to blame. They were distressed not to be able to take the sick and wounded on board, but owing to some official red tape Dr. Torney was not given an anchorage—the shore, of course, had been prepared for the ship. Why this was not done when the wounded so sorely needed the comforts and attention which could have been given them was a mystery officialdom would have to explain.

Short Exposures in X-ray Work.—Dr. Thurstan Holland, M. R. C. S. (*Lancet*, May 28th), states the advantages of short exposures to be as follows: (1) The patient has not to be kept still for so long a time, and to any one in pain this keeping still is very irksome; (2) it is of advantage in the case of young children who can not understand the necessity of absolute immobility; (3) the risk of setting up x-ray dermatitis, etc., is smaller; and (4) the time of the operator is saved.

Lately, working with six-inch and ten-inch coils, he has obtained good results in many cases with comparatively short exposures, and he now uses this method in nearly all cases. Four plates are given, showing excellent pictures of a hand, knee, ankle, and elbow, giving remarkable results from exposures of fifteen to thirty seconds.

His method is as follows: Having tested the tube with the screen to see that it is working at its best—and in his opinion a tube giving a good screen result can always be depended upon to give a good photographic result—the exposure is made. Then the plate (usually a "Cadett-lightning") is put into a weak rodinal developer (one part to sixty-four or so of water) and left in the dark room. In the course of a few hours the plate is taken out and fixed. Sometimes, in order to obtain the best possible print, the plate must be intensified, but as a rule this is not necessary. The length of time developing is no disadvantage, as for immediate purposes the screen is nearly always sufficient and the plate can be left to develop itself, so that there is no waste of the operator's time.

The Behring Patent on Antitoxine.—*Pædiatrics* for August 15th, in an excellent article on this subject which deals with it under the subdivisions of Behring as a Patent-Medicine Proprietor, The Question from a Scientific Standpoint, The Patent from an Ethical Point of View, The German Spirit of Commercialism, and The Patent Laws of the United States are too Lax, concludes as follows: "Before leaving the subject of Behring's patent it may be as well to make a few remarks with regard to the patent laws of this country. The fact is well known that any like application would have met with prompt and final refusal in every other country in the world. Indeed, no sane person would have the simplicity to even apply for legal protection for an article of the nature of antitoxine in any country but the United States, convinced beforehand that the attempt would be useless. In France and Germany so strict and exclusive are the patent laws that foods and medicines, save on processes of manufacture, can not be patented. Does it not therefore seem an absurdity and injustice as well as a slur on the proverbial American 'cuteness that foreigners are allowed to enjoy privileges here that they are unable to obtain in their own countries? Antitoxine has been manufactured for years in England and other countries without an attempt being made to create a monopoly. This is the only country where such an attempt is possible. It should be borne in mind that in these matters 'they manage things better on the other side,' and we might with advantage take a leaf from the book of our German and French friends, and reconstruct our patent laws in such a manner that foreigners in this country would enjoy no greater privileges than they do in their native lands. Reform in our patent laws is urgently called for."

Spanish Respect for the Red Cross.—The special correspondent of the *Lancet* for August 6th writes under date of July 7th that he arrived at Siboney this afternoon to find that about two thousand men had been killed and wounded. The medical corps suffered severely. The Spaniards did not respect the Red Cross, having fired repeatedly upon the ambulances and at wounded men on stretchers. This, he says, is a severe charge, which he makes unreservedly upon the authority of a dozen men, surgeons and officers who were at the front. Colonel Dickinson was shot twice, once while being carried to the tent, and a second time, and this time fatally, just as he was entering the tent. Two surgeons and a hospital steward were killed in the same way. When Dr. Torney and Lieutenant Gobbs went ashore they wore the Red Cross brassard. The first remark which the wounded men and the surgeons made to them was to advise its removal, for far from being a protection it but served as a mark for the Spanish. This conduct on the part of the Spanish was in the face of the fact that they had Red Cross flags flying all over Santiago.

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Original Communications.

REPRESSION TREATMENT AND DIFFERENTIAL TEST FOR VISUAL NERVE STRAIN.

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In the light of advancement in the world of science, ideas and things that once were dark and dim become more clearly defined. So, the following statements that may have appeared extravagant seem, as we continue to investigate, more and more to deserve our serious consideration.

Neurasthenia, insomnia, and insanity are in many instances due to eye strain. It is also claimed that nervous dyspepsia, constipation, ovaritis, heart disease, kidney trouble, and, in fact, many other functional disturbances that were once considered incurable, may arise from eye strain, and some of such cases can be cured by abating that cause. At first thought it may perhaps seem that this is attributing more importance to the visual centres than the facts will warrant. Let us see.

Every function in the animal economy is performed by motive force derived from the nerve centres.

So delicate and intimate is the correlation existing among these nerve centres that a change or influence effected in one centre soon communicates itself to others, constituting reflex.

The largest nerve-centre area in the brain is for the function of vision. This is widened by those nerve centres that control the eye muscles, whose functions are so closely allied to that of vision that they should be considered as part of the visual nerve centres.

The nerve centres in the brain that preside over the movements of the arm and leg are much smaller in area than the visual centres, yet the arm and leg execute an enormous amount of work; they utilize a large number of foot pounds of energy. If a man weighing a hundred and fifty pounds climbs a hundred feet he has done fifteen thousand pounds of work. If he has done it in a minute, the nerve centres governing the leg have furnished nearly half a horse power in that time. This enormous amount of force has been sent from the leg nerve centres, which are, as before stated, much smaller in area than the visual nerve centres. What does this difference in area mean unless it means that the visual nerve centres have a proportionately greater amount of work to do—a much larger amount of dynamic force to generate and supply? This is probably what it does mean, and this enormous expenditure of vitality from the visual nerve centres takes place under the most perfect anatomical conditions. But under imperfect conditions a still greater call is made upon the visual nerve centres to perform the function of vision, and with less capacity to respond, thus instituting a strain. For illustration, the refraction may be deficient, or some of the muscles of the eye imperfect in length or attachment, thus increasing the labor or strain to keep the eyes focused and the lines of sight simultaneously fixed upon the same object. Thus perfect vision may exist with an excessive eye strain.

Besides extravagantly using up nerve force that ought to be utilized for other functions, these strains may act as irritants or disturbers of that natural peaceful relation which ought to exist among the various nerve centres.

When it is said that an eye strain may affect the heart, the stomach, the ovary, or the kidney, it naturally arouses wonderment, for these organs are very distant from the eye. How distant? Let us see. It is well known that some of the nerve centres for the individual movements of the eye muscles are located in the fourth ventricle of the brain, and it is also well known that an irritation of its floor will induce diabetes, demonstrating that the kidney is at least somewhat governed from the fourth ventricle of the brain. Here, from a physiological standpoint, we find that the governing centres of both the kidney and the eye muscles are located side by side in the nervous system. This being an established fact, it requires no stretch of imagination to see that an irritant eye strain centralized in the fourth ventricle might easily establish an irritant condition of certain nerve centres that govern the function of the kidneys, they simply manifesting a disease in the central nervous system.

The visual and their allied centres are so extensive in area and discretely distributed throughout the various portions of the brain that it seems fairly reasonable to suppose that their centres are here and there in immediate company with other nerve centres governing organs and functions quite distant from the eye.

For instance, if an eye strain arouses an irritant condition in certain of its nerve nuclei that lie adjacent to other central nuclei in the central nervous system, which govern the function of the ovaries, it would be very strange if the ovaries did not suffer functional disturbances from this central irritation; also, if the centre or centres governing vision use more vital force than they are entitled to, other functions necessarily suffer a deficiency.

We are not able to accurately locate and define all of the nerve centres that govern the various organs and parts of the body, but, as illustrated by the previous instances, enough localization of the nerve centres has been done to demonstrate that parts distant from each other in the body may have their governing nerve centres approximate.

Thus, viewed from the standpoint of the central nervous system, the question of reflex is robbed of its cloak of mystery and becomes a common-sense proposition.

Strictly speaking, an eye strain is the use of motive force to bring about the best vision under some anatomical defect. Perfect vision may be the result, but it will be at the expense of an excessive strain. But eye strain at present is spoken of as manifest or latent. There are two distinct methods of detection and treatment.

First, a strain is manifest when a defective length or attachment of an eye muscle is disclosed by some of the many diffusion tests, such as the cover test, diaphragm, colored glass, Maddox rod, or vertical and horizontal diplopia tests. Illustration: If with about 12° of prism, base in, a test object appears double, perfectly horizontally, no strain is manifested. But, if the left object appears lower than the right, there is manifest strain, and the left eye looks higher than its mate, or the converse. The number of degrees of prism required to render these two objects horizontal, say 5°, is the amount of manifest strain, and the use of this prism, or an equivalent tenotomy, constitutes a correction of this difficulty. A manifest ciliary strain exists in a case of manifest hypermetropia, or where the eye will accept a plus glass with improvement or no impairment of vision. A correction of this strain is the strongest plus glass which can be accepted without the impairment of distant vision.

Second, a strain is latent when it is not revealed by the above tests. The superior rectus muscle of the left eye may be anatomically as short as or even shorter than in the above case, which manifested 5°, but under the above diffusion test the two objects created by double vision remain horizontal. The reason this strain does not manifest itself is because the motive or nerve force which overcomes the anatomical defect has become a *fixed* nerve impulse, and does not suspend under diffusion tests. The nerve centres that supply the motive force have acquired such a vigorous development that they no longer depend on stimulus to awaken the nerve impulse that constitutes the latent strain; it continues during the hours of sleep as well as wakefulness.

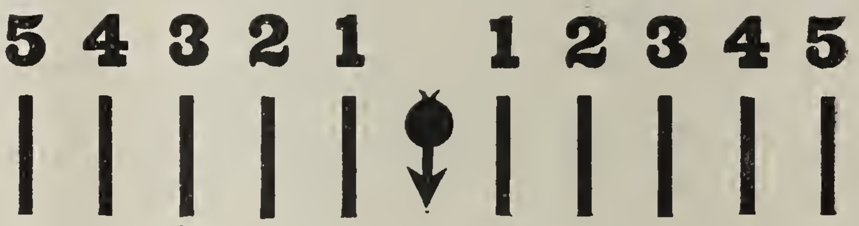
So it will be seen that when an eye strain exists, the more manifest it is the less the irritation and drain on the nervous system, because, when the eyes are closed, the strain is suspended—there is a temporary period of rest in manifest eye strain; but the more perfect the eyes appear under the diffusion tests the more latent the strain, the greater the irritation and nerve-centre exhaustion, for latent strain is incessant.

I will here answer a question that might possibly arise. If the function of vision is perfect, and no defects are manifest in the sight apparatus, what reason have we for searching out latent eye strain? To ascertain if some existing disease or serious functional disturbance may not be traceable to it. Latent strain being incessant even during sleep, causes irritation and exhaustion of the nervous system, from which cause functional derangement of any organ or part may follow, especially where some local disturbing cause assists in perverting a function, which perversion might prove only temporary if the nerve centres were in a vigorous, normal condition. Eye strain is the direct cause of many diseases, and by disorganizing the nerve centres it is a predisposing cause, favoring the reception, continuance, and emphasis of any disease. Disease is the manifestation by a part of the deranged condition of its governing nerve centres.

To exemplify my differential test for the development of latent strain (or repression treatment) I have selected a number of cases of the most serious disease that I know of which has proved amenable to this method. The results attained in these cases are so remarkable that I should not present them if I were not confident that any careful operator could attain a fair average of similar results by following the methods here exemplified.

As a test object a light or spot can be used. I will describe a chart, which I devised some ten years ago, that I believe facilitates the examination.

The chart consists of a piece of cardboard about two feet long and five inches wide, with an arrow or pointer in the middle running across the heart. On either side of the arrow are black lines about a quarter of an inch wide, equal distances from each other, so that each space between the lines subtends an angle of one degree. The spaces between these lines for an examination at a distance of twenty feet would be 2.1 inches for each prism degree (which is half a trigonometry degree).



For examining the external and internal rectus muscles the chart is fixed upon the wall horizontally, for the superior and inferior recti, vertically, twenty feet from the patient, in which position both manifest and latent tests can be easily made.

CASE I.—Mrs. W., forty years of age. At the suggestion of Dr. Fitch, of Rockford, presented herself at my office in December, 1893, at which time she was passing twenty-four pints of urine in twenty-four hours; no sugar, great thirst; very anæmic, with an excessive weakness of the general muscular system; walking a few rods was accomplished with great difficulty and exhaustion; much tenderness and pain in the ovarian region, greatest on the left side; pulse, 120. The patient had suffered from neurasthenia and painful menstruation from the first. The diabetes insipidus, which had existed about two years prior to my seeing the case, was diagnosticated as being due to a reflex from chronic inflammation of the ovaries, and an operation for their removal had been recommended; but the patient was considered too weak for this operation, and an effort was being made to "build up," so that her chances would be better. It was at this period that the patient presented herself to me.

Vision was found to be normal in each eye by both objective and subjective examinations. The chart was fixed horizontally on the wall. With an eight-degree prism, base down, before the left eye of the patient, there were apparently two charts. The arrow in the upper chart appeared to point directly to the arrow in the lower chart, indicating a manifest balance of the lateral muscles at twenty feet. At the same time it required twenty-four degrees of prism, base in, to bring about a balance at a distance of twelve inches. This excessive exophoria at the near point was one of the reasons for my suspecting a latent exophoria at the far point. I then put on the patient ten degrees of prism, base in, this being all she could fuse for at that time, combined with a plus 2 D. spherical lens before each eye.*

The most important indication that I was proceeding correctly was the physiological changes that followed the wearing of the above glasses for half an hour. The pulse was reduced from 120 to 88; the thirst was diminished; there was more color in the face and neck, indicating a better circulation, and marked relief from pain in the ovarian region. Leaving on the above correction, I again examined the patient with the 8° prism, base down, and apparently the arrow in the upper chart pointed directly to the arrow in the lower chart, indicating a manifest balance at the far point, the same as was manifested on the first examination before any correction was made. The patient was then able to fuse for six degrees more of prism, making in all sixteen degrees, base in. I supplied her with this combination with plus 2 D. spherical. She reported the thirst, ovarian pains, and tenderness much relieved, and a reduction of the quantity of urine to sixteen pints in the following twenty-four hours. I then increased the prism to 24°, leaving the spherical at 2 D. These glasses were worn constantly. I supplied the patient with an extra pair of glasses to use over the last prescription for the purpose of reading only. This prescription was a plus 3 D. with twenty degrees more of prism, base in.†

I next saw the patient in two weeks, she having worn the glasses constantly as directed. The pulse was now 80, and all the other symptoms were very much improved. The quantity of urine was reduced to twelve pints. I now made a complete division of the external rectus of the right eye, reducing the exophoria, which I had induced by my repression process, to a manifest esophoria of five degrees, fusion being possible at all distances directly to the front. Immediately after the operation, the patient could fuse for five degrees of prism, base in. I continued this amount in her prescription, and gradually added, day by day, as much more as she could possibly fuse for. One month after the first operation I performed a complete tenotomy of the left external rectus, the patient at that time again wearing twenty-four degrees of prism, base in. The result of this operation was an esotropia, or convergence of the eyes, to an extent that made single vision at a distance impossible. It required ten degrees of prism, base out, to enable the patient to fuse. This was gradually reduced until, at the end of two weeks, fusion was possible at all distances directly to the front, diplopia taking place on an effort to look sidewise very far. There was considerable improvement in the general health up to a period of three months, but there was more or less irritability of the heart's action, which ranged between 80 and 85, some tenderness in the ovarian region continuing, and the nervous dyspepsia also proved persistent. I suspected from this a hyperphoria, which thus far had not revealed itself.

I now fixed the chart on the wall vertically and made an examination at twenty feet, creating diplopia with prism, base in. To the patient there were apparently two charts hanging side by side. The arrows were on the same level, indicating no manifest error in the superior and inferior muscles. It is very important that the patient's head be perfectly erect in this examination, for a tilting to either side will show an apparent defect. I now proceeded with the differential test. With a five-degree prism, base down, before the right eye, there were apparently two arrows in the chart with four lines between them. Removing the prism and giving the eyes a few seconds to rest, I proceeded with the prism, base down, before the left eye. As before, there were two arrows in the chart with four lines between them. I now proceeded as above with a four-degree prism, which apparently produced two arrows with three lines between them in each position. I next used a three-degree prism. Base down before the right made two arrows with one line between, while down before the left with this same prism, there were two arrows with two lines between. I now used a two-degree prism, with which the patient could fuse, base down, before the right, but there were two arrows when placed in that position before the left, with no lines between them.

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* The following is one of the reasons why this spherical lens was added. There are others, but too lengthy to set forth in this paper. I usually reduce the acuity of vision to $\frac{20}{80}$ at least, with plus spherical lenses, which in this case required a plus 2 D. The relation existing between the interni, externi, and ciliaries has been established through the lifetime of the patient, and when a plus sphere is added, this old-established relation is disturbed, and in proportion to the amount of plus sphere added there is established a correlative exophoria. Also, when prism, base in, is added, the relation is likewise disturbed; a relaxation of the ciliary often takes place and makes manifest a previously latent hypermetropia. By this latter process I have frequently made manifest hypermetropia that mydriatics failed to reveal.

† In a case of eye strain due to a short muscle, the real nerve leak and disturbing element of the nerve centres is the excessive nerve impulse that is required to pull the eyes into visual alignment. In exophoria this is accomplished by contraction of, or excessive nerve impulse to, the interni and internal aspects of the superior and inferior recti. It is this excessive nerve impulse, and nothing else, that causes the loss of nerve force and irritation to the nerve centres. To correct the functional disturbances resulting from eye strain, we must get rid of this excessive nerve impulse.

There are two processes by which this abnormal nerve impulse dies out. First, by the abandonment of that stimulus that established the eye strain; this may be from a suspension of the function, as in the loss of vision. The excessive nerve impulse would usually die a slow and natural death when the function ceased. In this first division is also that class of cases in which manifest corrections are made. The correction of the manifest trouble only relieves that portion of the strain which is prominent at the time of a test, the patient generally manifesting more and more defect as time goes on, requiring still further correction.

The second and most active process is *repression*, which is a forced and more rapid suspension of the strain. For lack of a better term I have sometimes explained the process of *repression* as being a reverse strain. This latter term may seem open to criticism, but I have used it for the following reason: In a case of exophoria the external muscles are short. The disturbing element is an excessive nerve impulse to the interni. A few degrees of exophoria may be manifest, say five degrees. Being confident that the externi are short, instead of having the patient wear the actual correction of five degrees of prism, base in, we would add ten or fifteen degrees—in fact, all that the patient could possibly fuse for base in—thus utilizing the fusion stimulus to reverse the strain. In a full sense, it is not a true strain, it is a suspension of strain, for the eyes accomplish fusion more by the suspension of internal nerve impulse than anything else, because the externi are undeveloped, having been always on the stretch, and not qualified to take on a strain. In the case of latent hypermetropia the fogging or the reduction of the acuity of vision by the use of plus glasses establishes a cognate condition in which there is a constant effort to see better by *repressing* or forcibly suspending ciliary strain.

In testing with prism, base up or down, a few moments of rest should be given in changing from one eye to the other.

I had now found a difference in the vertical muscles, but to make sure that it was not due to some spasmodic condition I proceeded to verify it by "repression" as follows: With plus spherical glasses I kept the patient's vision at $\frac{20}{40}$, adding two degrees of prism, base down, before the right eye. In a quarter of an hour I was enabled to increase this to three degrees, and gradually, up to the end of an hour, to eight degrees, at which time the pulse had fallen to 70 for the first time, the color of the face was better, and a general feeling of relief in the ovarian region. I continued to increase the prism, base down, before the right eye, for ten days, at which time the patient was wearing twenty degrees. The nervous dyspepsia and pelvic tenderness had almost entirely disappeared, and the quantity of water was reduced to eight pints a day. I now made a complete division of the right superior rectus muscle. This dropped the eye below its mate four degrees, ability to fuse remaining. At the expiration of three months more, all traces of ovaritis and diabetes had passed away, and the menses, which had been absent for nearly two years, returned and remained normal for about three years, at which time she passed through the change. Just prior to writing this article I corresponded with this patient, and she informed me that her health now for nearly four years and a half has been good, there having been no tendency to a return of either diabetes or ovarian trouble.

Case II.—Mrs. N., aged about forty-six years, was a severe sufferer from nervous dyspepsia and chronic ovaritis with uterine disturbances; her general nervous and muscular system were very weak. In the spring of 1896 she was advised to have the ovaries and uterus with their appendages removed. This was successfully done by Dr. Metcalf, of Detroit. I here report the case from a paper which the doctor was kind enough to furnish me, and which was read before the Michigan State Medical Association, June 4, 1896:

"Case IX, Mrs. N., aged about forty-four years.

"Pain and tenderness across pelvis and in back; diarrhœa; rapid pulse, ranging from 110 to 140.

"*Diagnosis.*—Pyosalpinx.

"Vaginal hystero-oophorectomy, December 28, 1895. Two or three bleeding points were ligated. Pulse at close of operation, 96. Her highest temperature was 100°. As regards pain and digestion, her improvement was rapid. Her muscular system still remains weak."

The following is a recent report by the doctor.

"This case was much improved at the time this report was taken. I afterward found both the kidneys movable. She was still suffering from indigestion."

It was about two years and a half after the above operation that Mrs. N.'s case presented itself to me, November 6, 1897. Her muscular system was very weak; she could scarcely drag herself across the room without assistance. It was impossible to ascend stairs. Her nervous dyspepsia was very annoying, limiting her diet to a very narrow range. She could eat no fruit without suffering severely. Constipated, necessitating the regular use of cathartics. Pulse, 120.

With the chart in the horizontal position I created diplopia with a ten-degree prism before the left eye, base down. There were apparently two charts. The upper chart swung to the patient's left. The arrow in the upper chart pointed down to the figure 3 in the lower chart, indicating a manifest esophoria of three degrees. I always suspect such a manifestation to be functional or due to spasm of the interni. Near and distant vision about normal. The chart was now fixed in a vertical position. I created diplopia with prism, base in. There were apparently two charts side by side. One arrow pointed directly to the other, indicating a manifest balance.

With a five-degree prism, base down, before the left, there appeared to be two arrows, with four lines between them. Resting the eyes a moment, I placed the same prism, base down, before the right. There were four lines between the two arrows. I now resorted to a four-degree prism. There were three lines between the arrows before either eye; with a three-degree prism there were two lines; with a two-degree prism there was one line; with a one-degree prism there were two arrows with no lines between. The patient fused with a half-degree prism before either eye. Alternating it a number of times, I again returned to a one-degree prism. The patient fused with it before the right quickly, but before the left slowly. I repeated this for a few moments, when the patient fused with a one-and-a-half-degree prism before the right, but not before the left. This was the first difference manifested between the two eyes. I repeated this exercise, favoring my trials before the left. Because the opposite eye indicated a short upper muscle, I gave the left eye more time to make the differential indication more certain, a thing that should always be done in this procedure. By repeated exercise as above, I succeeded in getting the left eye to fuse for three degrees of prism, while with the right eye during the same length of time six degrees of prism could be fused for. I now guided myself by the symptoms. I reduced the vision to $\frac{20}{80}$ with plus spherical glasses, thus repressing any ciliary strain that might exist. A three-degree prism, base down, before the left eye was placed over these glasses. The patient's nervous conditions were at once emphasized, and her heart's action accelerated, while with all the prism that could be fused for base down before the other eye, within an hour the heart's action dropped to 96. This in connection with the differential test about satisfied me that there was a right hyperphoria or short upper muscle. I fixed the last combination in frames for the patient to wear. I saw the patient again in three days, at which time she was able to fuse for two degrees more of prism in the same direction as the last. I continued adding prism, base down, before the right eye, until she was wearing twenty-two degrees. This was worn about three weeks. I then divided the right superior rectus muscle. For some days there was considerable difficulty in fusing. After this was overcome, I examined her with the chart in the horizontal position. With prism, base down, before the left eye there were two charts. The upper one swung to the right of the lower one, the arrow in the upper chart pointing to the figure 5 of the lower chart (without the plus sphericals on as at first). So it will be seen that the manifestation was the reverse of the first examination. I continued the use of the plus sphericals. At the end of six weeks the patient's pulse ranged between 96 and 104. There was very little gain in her general condition. I now proceeded to add prism, base in, which was increased rapidly. I left her wearing ten degrees after the first trial. Her pulse was now reduced to 80. By the addition of four degrees more of prism on the next visit it was reduced to 72. Her general health and strength improved rapidly under this repression of the interni, with prisms base in.*

I proceeded as above with this case until the patient was wearing twenty-four degrees of prism, base in, at which time I made a complete division of the left external rectus muscle. This was two months from the first visit. After this operation I prescribed for reading glasses all the prism, base in, that the patient could fuse for at a distance of twelve or fourteen inches, with about all the plus spherical that gave distinct vision at that distance. I continued the use of plus spherical glasses that kept up a slight repression of the ciliaries during the use of distant vision. At the end of four months the patient was able to go up and down stairs, take the cars, walk about the city a dozen or more blocks, in fact, go about pretty nearly as she pleased. At this time, five months from the first, she reports better health than she can remember having had for many years, and has now taken upon herself the personal care of the hotel department of a sanitarium.

Case III.—Mrs. B., of Detroit, aged about forty years. Dr. F. D. W. Bates, of Hamilton, Ontario, has assisted me by watching the changes in this case with great interest during the period of treatment. Chronic ovaritis had existed for more than six years; headaches almost constant; pulse 110; for the past two years exceeding pain in the ovarian region and down the left leg; nervous dyspepsia and chronic diarrhœa existed. This patient had been out of the house but a very few times for the past four years; then could walk only a few blocks, and that with great difficulty. At such times she was liable to perfect and absolute prostration, sometimes being taken while crossing the street. She would then be carried home and lie in a helpless condition, sometimes for months. Mrs. B. had also been advised to have a complete removal of her sexual organs, as was done in Case II.

Proceeding as in Cases I and II, short external muscles were rapidly disclosed at the first examination. The vision was reduced with plus spherical lenses to about $\frac{20}{100}$, in combination with twenty degrees of prism, base in, which were easily fused for. There was little change for a week or ten days. Nothing but an absolute confidence, which had arisen from a knowledge of the improvement in Case II (who was a friend), caused her to continue the use of the glasses. At the end of three weeks there was sufficient improvement to warrant a division of the right external rectus muscle. The dim glasses were continued, and the patient from this time on improved rapidly. At the end of two months the headaches had ceased, not even returning during the menstrual periods; the pain in the limb had passed away. Three months later an operation on the other external rectus was performed, when the nervous dyspepsia and constipation were corrected, and the heart's action reduced to normal. In fact, not a trace of the old trouble remained.

Four months have now passed. Mrs. B. has become a great walker and enjoys it very much, sometimes doing as high as four miles in a day, something never before known in her history.

The above cases were selected from quite a large number because their treatment, as well as the result, was exceedingly radical. In the present state of the art, it is seldom one finds patients who have enough confidence in a physician to permit him to put their visual axes out of alignment, although it is only for a temporary period. But when the discomforts of this procedure are weighed against the dangers and discomforts of a complete removal of the sexual organs by any method, then such annoyances become of comparatively little consequence; for when desirable, the alignment of the eyes can be restored, but the lost sexual organs never, and especially, as in Case II, where the capital operation fails to relieve the nervous disease which was entirely cured by the repression treatment. I am confident that a large number of such cases as the above can be cured by repression. The physiological results in these cases tend to forcibly suggest an intimate relation in the central nervous system between the nuclei governing the organs of vision and those of sex.

905 Pullman Building.

THE POINTS OF DISTINCTION BETWEEN CEREBRAL SYPHILIS AND GENERAL PARALYSIS OF THE INSANE.

TWO LECTURES DELIVERED TO THE MEDICAL STAFF OF THE ILLINOIS EASTERN HOSPITAL FOR THE INSANE.

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Lecture I.

(*Continued from page 259.*)

Clinical History.—To make a differential diagnosis between general paralysis of the insane and cerebral syphilis, the procedure would better be essentially that of starting with the former disease as a type and noting such variations from it as are compatible with luetic disease, either in the symptoms present at any given time or in the sequence of their appearance, for brain syphilis itself can be said to have no type and to conform to no rule. It is constant only in its inconstancy, invariable only in its variability.

The signs of departure from the clinical syndrome of paretic dementia will ordinarily be found to be in the form of added symptoms, more rarely of symptoms wanting. In other words, a case of brain syphilis sufficiently approximating general paralysis to demand a careful differential diagnosis will present a fairly good clinical picture of this latter disease with something added, and this something is more frequently of a somatic than of a psychic character. In venturing to make so broad a statement it is not forgotten that dementia paralytica is not a disease of unique type, that individual cases differ widely, and that there must be many exceptions to so general a rule. The truth of the assertion, however, will be at once apparent if we take a cursory glance over the course of general paralysis from inception to termination, and rapidly compare it with that of brain syphilis.

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* When the external muscles are short the interni take upon themselves an excessive nerve strain to overcome the anatomical defect and hold the eyes in line. When prisms base in are added, the eyes turn outward to maintain single vision. When all the prism is used that one can fuse for, they turn out as far as possible, necessitating a suspension of nerve impulse in the interni. This continued suspension of impulse gradually and forcibly obliterates it; in other words, *represses* it.

The very earliest symptoms of the two diseases—the miscalled prodromes—are, as a rule, widely different. The first signs of dementia paralytica scarcely need to be recalled. They relate almost exclusively to the psychic sphere and to the highest and most complicated attributes of the *ego*. Prominent among them are to be noted a dulling or perversion of the ethical sense, a slowing of the more complex mental processes, impaired judgment, debased pride and affection, distorted ambition, and lack of attention. In my own experience, moral aberration has not been so frequent or so obtrusive as indicated by some other observers—a general dropping of the mental personality below par seeming to be the most frequent initial state.

As the psychic change begins with a deterioration of the highest and most refined mental attainment, so the motor disturbance of general paresis, although coming later, is characterized by first involving the functions farthest along in the progress of differentiation, and most intimately connected with psychic activity; speech, singing, facial expression, and the nicer coordinate movements may be instanced.

In syphilis of the brain, on the other hand, the inception is nearly always marked by somatic disturbance, slight and transient though it may be, with a decided *penchant* for focal manifestations. These early symptoms are of the most diverse kind. Brief or slight weakness, varying in distribution from a single muscle to a hemiplegia or diplegia, and particularly apt to affect the external ocular muscles; paræsthesia of every sort and of any part; vertigo; everything in the way of a fit, from the slightest local tingling or twitching or a passing obnubilation of consciousness to a violent and prolonged general convulsion, are among the more usual ones.

General paralysis is insidious in its inception, gradually progressive in its course. Temporary arrest is not very rare, but intermissions, returns to normal, are practically unknown. Furthermore, in the onward march of the disease, the relation of degree between psychic and somatic disorder is reasonably constant, the former always preceding and preponderating. Brain syphilis *may* have a gradual beginning, but usually there is something of the sudden and unexpected in its onset, and the same qualities characterize its further course. Long ago Hughlings Jackson indicated that nervous cases of the nonconformity type should at once awaken suspicion of syphilis; and anent the question under discussion Mickle * says: "A fitful appearance and capricious association and succession of the several symptoms and their frequent alterations are features more evident in the syphilitic cases."

As might be inferred from the preceding, cerebral lues not only grows in gravity by distinct increments, but, at least at first, runs a much more rapid course than dementia paralytica. Indeed, in the majority of instances, syphilis of the brain, if untreated, becomes serious within three to nine months, while in most cases of general paresis it is difficult even for the most intimate friends of the patient to tell within three to nine months when the disease began. But it is, above all, the motley mixture of psychic and somatic symptoms, the oscillating and checkered course, the capricious, I had almost said coquettish, behavior of the syphilitic disease that separates it from all others and stamps it with an individuality of its own.

SOMATIC SYMPTOMS.

Headache.—With your permission I shall here in a measure contravene my plan to speak first of headache, which is neither strictly somatic nor psychic, because it is a symptom of paramount importance, especially in the earliest, the wrongly called prodromal, period, when the diagnosis is of vital moment.

The great frequency and the striking features of syphilitic headache are too familiar to require emphasis. It seems quite safe to say that it occurs in seventy-five per cent. of all cases of cerebral lues. Seeligmüller † says that in two thirds of them it constitutes the initial symptom. Lamy ‡ asserts that it occurs early in more than three fourths of the cases of brain syphilis, and Fournier found that it preceded seventy-five per cent. of syphilitic hemiplegias. There is scarcely a case of syphilitic meningitis recorded in the literature in which it is noted that headache was absent throughout, and even when luetic changes are confined to the arteries cephalalgia is a frequent and prominent symptom. So, whatever the particular lesion in a given case of brain syphilis may be—arteritis, meningitis, gumma, or a combination of all three—headache is tolerably certain to be present, and there is something so idiosyncratic about it that sometimes a positive diagnosis may be made from this symptom alone. It is intense, persistent, generally nocturnal, often localized, and accompanied by cranial tenderness to percussion or pressure. Rather peculiar is the fact that it may be local or associated with tenderness when the lesion is confined to the base of the brain or to the arteries. Because it is persistent it is not necessarily continuous, although it frequently is so, and although the disease be steadily progressive the head pain may be distinctly intermittent and is nearly always more or less paroxysmal.

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* *General Paralysis of the Insane.* London, 1886.

† *Krankheiten des Nervensystems* 1887, vol. ii, p. 719.

‡ *Traité de médecine* de Charcot, Bouchard et Brissaud, vol. vi, Paris, 1894.

The nocturnal exacerbations of syphilitic headache have long been matter of record, but they are far from being a *sine qua non,* an increase of the pain at about four o'clock in the afternoon being almost as frequent. I have observed a specific cephalalgia that allowed the patient to sleep all night, and others have recorded instances of its purely diurnal appearance. Miekle[*] considers its aggravation by warmth a distinguishing trait, but in one of Clouston's[†] cases hot applications were the only discovered means of amelioration. Perhaps the most valuable trait of syphilitic headache is its severity, together with a persistency that makes it refractory to all remedies except active antisyphilitic treatment. This feature is particularly helpful in the diagnostic problem that confronts us, because often, even in delirium, in maniacal outbreaks, in states of profound stupor and dementia, the patient still betrays his suffering from this awful headache. For instance, a young man seen a number of years ago lay for days in a deep stupor from which it was almost impossible to rouse him, but he still would press his hands to his head and groan with pain, and even when aroused little could be elicited but complaints of his head. It may be worth while to mention that in syphilis cranial tenderness may be marked when pain is absent.

Intense cephalalgia does not belong to the symptomatology of paretic dementia, even when there is coexistent arterio-sclerosis. A feeling of discomfort or pressure, a cephalic distress, such as is complained of by neurasthenics, is frequent and often spoken of by the patient as headache, but a little questioning soon shows it to be quite a different thing from the pest of the syphilitic. So far as my investigation goes, Miekle[‡] is the only author who says that the headache of general paralysis may be severe, may even “lead the sufferer to knock his head for relief against the wall.” I have never seen or heard of anything like this myself, and should consider persistent, excruciating headache to cast a serious doubt on the validity of a diagnosis of general paresis, some palpable complication excluded. Indeed, Miekle himself says in another place[#] that syphilitic headache is “more urgent and persistent than is the prodromal headache observed in some cases of general paralysis.” There is, however, one notable exception to this rule of no headache in general paralysis of the insane, and that is the occasional appearance of migraine as a prodromal symptom. It has been noticed by many observers, and French writers especially have called attention to the fact, that attacks of migraine (particularly ophthalmic migraine) may be the first noticeable symptom of dementia paralytica.

I might note in passing, that Fränkel thinks that the cerebral discomfort of general paralysis is often due to œdema of the meninges, and finds the cranial sutures tender to pressure. This, even if frequent, could hardly be confused with the cranial tenderness so frequent in syphilis.

It seems scarcely necessary to emphasize the increased diagnostic value of headache when in sequence or association with other symptoms—for example, severe cephalalgia preceding the sudden appearance of monoplegia, hemiplegia, cranial-nerve paralysis, Jacksonian epilepsy, or projectile vomiting, could not be attributed to general paresis, no matter what the mental state might be. A combination like the following would make a diagnosis of syphilis imperative, regardless of psychic symptoms and previous history.

A man of thirty-four, after a month's severe and constant headache, had a somewhat gradual apoplectoid attack of which paraphasia was the first symptom, followed in ten days by a rather more serious attack and five days later still by a third, after which there was for some days incomplete ptosis of the left eyelid. Three months after this, having received no treatment in the mean time, he had almost completely recovered, except that he was not so fluent of speech or so quick mentally as usual.

In like manner the maniacal outbreaks of syphilitic disease, which in themselves may be indistinguishable from the maniacal attacks of general paralysis, are not rarely preceded by a prolonged period of intense headache, or, as before mentioned, the pain in the head may still continue in a degree not to be masked by the mental excitement. In some cases, too, there are accesses of mental excitement accompanying the nocturnal exacerbations of cephalic pain, and all of these combinations serve to exclude dementia paralytica and pronounce for syphilis.

Other Pains.—Obolensky[*] has described cases of syphilitic intercostal and lumbo-abdominal neuralgia that partook of all the principal features of specific headache—that is, the pains were intense, with nocturnal exacerbations, bilateral, appeared in paroxysms without apparent cause, and with no signs of neuritis, compression, or other pathological invasion of the nerves. Aside from such sharply defined attacks as this, which could never be regarded as belonging to the symptomatology of paretic dementia, distinct visceral or peripheral neuralgias very strongly point to syphilis as opposed to dementia paralytica, and this inference would be strengthened if, as sometimes happens, such pains alternated with luetic headache.[†] It is not to be understood that a paretic dement may not complain of pains, aches, or discomfort in any part of the body, but such distresses are, like the paretic headache, rather the uneasiness of the neurasthenic or hypochondriac than the shooting, burning, stabbing, boring pain of syphilis that may be a veritable agony. One caution, however, is necessary. As you are well aware, a certain number of general paralytics have also tabes dorsalis, and these patients may have the characteristic lightning or boring pains of this disease, although they are less frequent and generally less severe in locomotor ataxia thus combined with paretic dementia than they are in the uncomplicated affection.

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[*] Art., General Paralysis of the Insane, in Tuke's *Dictionary.*

[†] *Mental Diseases*, London, 1892.

[‡] Art., General Paralysis of the Insane, in Tuke's *Dictionary.*

[#] *General Paralysis of the Insane*, London, 1886.

[*] *Berlin. klin. Wochens.*, February 12 and 19, and April 16, 1894.

[†] Mairet. *Aliénation mentale syphilitique*, Paris, 1893.

Insomnia.—Besides the sleeplessness that necessarily accompanies nocturnal pain, syphilis may cause simple nervous insomnia. The condition itself is of little differentiating assistance, as wakefulness is a frequent symptom of general paralysis. The insomnia of syphilis is generally more absolute, persistent, and distressing than that of the other disease, but a difference of degree is apt to be elusive, and I wish simply to remind you that inability to sleep may be for a time the most crying complaint of a syphilitic as well as of a general paralytic.

Cranial-nerve Signs.—Among the greatest aids in the clinical differentiation of syphilis from dementia paralytica are symptoms relating to the cranial nerves. In general paresis any involvement of these nerves below the third (motor oculi communis) is rare, excepting possibly the sixth, while in syphilis, although the third is the one most frequently affected, none is exempt and multiple nerve palsies are relatively frequent. Even in affections of the nerve of predilection[*] of both diseases, the motor oculi communis, there are a number of striking differences that often indicate clearly the nature of the foundation trouble.

First let us notice the pupils. Difference in size alone is of no importance whatever, although one-sided mydriasis is said to be particularly frequent in syphilis; irregularity in form is of scarcely more significance. The Argyll Robertson pupil (reflex iridoplegia—that is, loss of reflex to light with preservation of contraction with accommodation), on the other hand, is very strongly indicative of general paralysis, although not positively excluding syphilis. Siemerling,[†] in a study of three thousand and ten cases of dementia paralytica, embracing the statistics of eight authors, found this symptom present in sixty-eight per cent., which incidence agrees in the main with that of most other investigators. One notable exception I find in the report of Neff,[‡] who reports normal pupillary reaction in sixty-six and two thirds per cent. of fifty-seven cases, and only four (seven per cent.) of the fifty-seven are noted as having reflex iridoplegia, a finding that is quite inexplicable even considering the comparatively limited number of his cases. It seems entirely safe to say that impairment or loss of pupillary contraction to light on one or both sides, with preservation of accommodation contraction, is present in from sixty to eighty per cent. of all cases of general paralysis of the insane. Lamy is in error in saying that "the Argyll Robertson pupil is unknown in syphilis," although I do not remember to have seen it myself as an isolated eye symptom, and well-recorded cases are hard to find. Just what proportion of cases of brain syphilis simulating paretic dementia would show this sign, I have no means of knowing, but it could not even remotely approach the seventy per cent. of this latter disease. Siemerling makes the statement that of 9,160 insane persons 1,639 had reflex iridoplegia and seventeen of these (one per cent.) were cases of syphilis of the central nervous system. The symptom may not only be the initial sign of general paresis, but may precede by several years all other evidence. For instance, Thomsen[*] relates a case in which unilateral rigid pupil existed for ten years before the outbreak of dementia paralytica. In such a case, however, it should not be forgotten that the reflex iridoplegia might be the last remaining vestige of a former more or less extensive, but practically recovered, syphilitic ophthalmoplegia. König has reported an interesting case of paranoia in which the Argyll Robertson pupils remained a puzzle for eleven years, the autopsy finally showing them to be due to an old, partially recovered, and stationary syphilitic lesion. Oppenheim[†] has also cautioned against such an error.

The state of the case seems to be about this: The gradual, diffuse, and microscopic tissue changes of general paralysis are well adapted to early interfere with the finer mechanism of the pupillary reflex without compromising the coarser movements of the eyeball.[‡] The lesions of syphilis being grosser in every way, should they be so located as to affect the pupillary function, are almost sure to involve some of the near-lying cells or fibres that subserve other motor functions of the eye. It has been said[#] that ninety per cent. of all rigid pupils in the insane are due to general paralysis or tabes, and this is certainly close to the truth. The presence of this sign, then, in the absence of tabes, is rather close to making a diagnosis of general paresis. Pupils unresponsive to both light and accommodation, as an isolated eye symptom, are not so very rare in syphilis, but still incomparably less frequent than more extensive ocular paralyses.

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[*] This expression is in harmony with current medical phraseology, but is essentially wrong. It were better to speak of "vulnerability" or "susceptibility," as the principle is practically that of *locus minoris resistentiæ*.

[†] *Berliner klinische Wochenschrift*, 1896, No. 44.

[‡] *American Journal of Insanity*, vol. liii, p. 39.

[*] *Allgemeine Zeitschrift für Psychologie*, 1895–'96, vol. lii, p. 889.

[†] *Charité-Annalen*, 1885.

[‡] I have found, for example, the Argyll-Robertson pupil after the administration of sufficient opium to contract the pupil; which would seem to indicate that the reflex to light is a more delicate and more easily disturbed mechanism than contraction with accommodation or convergence. But more investigation is needed along this line.

[#] Thomsen, *loc. cit.*

Bevan Lewis * has made a schematically beautiful and categorical arrangement of general paralysis with reference to pupillary symptoms, based on an analysis of one hundred and forty-seven cases. If we could only give full credence to the accuracy of this tabulation, it would be of signal service in diagnosis, but, aside from the inadequacy of the number of cases for a foundation of absolute classification, I find that other equally good observers, with much larger material, do not at all agree with him as to the constancy of certain associations. His groups are as follows:

Group 1.—Paralytic mydriasis; a partial reflex iridoplegia (light). Increased myotatic irritability. Excessive facial tremors and speech troubles. Great optimism with profound dementia.

Group 2.—Mydriasis, with associative iridoplegia rapidly passing into the cycloplegic form—an early symptom. Frequent myotatic excess, but no contractures. Late speech troubles. Acute excitement, with frequent convulsions. Very rapidly fatal course. (Preponderance of syphilitic history.)

Group 3.—Spastic meiosis; a complete reflex iridoplegia. Absent or greatly impaired knee-jerk. Failure of equilibration; locomotor ataxy; defective sensibility. Very defective articulation. Much optimism and excitement.

Group 4.—Late eye symptoms; paralytic mydriasis, a partial reflex iridoplegia (for light only). Ataxic paraplegia confined to lower extremities (arms do not participate). Great facial ataxy, with extreme trouble of speech. Epileptiform seizures ushering in pronounced mental enfeeblement.

Group 5.—No oculo-motor symptoms beyond occasional inequality. No contractures, but notable myotatic excess. No disturbance of equilibration, locomotion, or sensation. Speech troubles not pronounced. Epileptiform seizures very rare, but from the first progressive deepening dementia.

Of paralyses of the third nerve, including all its branches, seventy-five per cent., according to Fournier, are due to syphilis. Even supposing this estimate to be extreme, if you will deduct from the remainder cases caused by tabes, tumor, abscess, traumatism, neuritis, chronic nuclear disease, arterio-sclerosis, polioencephalitis superior, and meningitis other than syphilitic, it will be evident that a very small proportion is left for dementia paralytica. Furthermore, a goodly proportion of the third-nerve palsies of general paralysis occur in such cases as are complicated by tabes and may be due to the latter disease.

The same general rule applies to all external ocular paralyses. Kacs,† for instance, found some form or degree of strabismus in only 3.3 per cent. of over thirteen hundred cases of general paresis, and if those with tabes be deducted the percentage is reduced to 2.5. Ptosis is somewhat more frequent, the same author finding it in some degree, unilateral or bilateral, in 12.3 per cent. of the cases. Ocular pareses or paralyses are incomparably more frequent than this in brain syphilis.

Nystagmus, like strabismus, is very strongly indicative of syphilis as opposed to general paresis.

Examination of the optic discs will often shed light on the nature of a case and should never be omitted. With remarkably few exceptions, simple optic atrophy means general paresis, and optic neuritis means syphilis, but in either case the condition may be entirely unsuspected and must be looked for. For example, one of the young men alluded to in connection with syphilitic headache complained not at all of his eyes, but on examination showed almost no objective signs of brain disease except slight but perfectly distinct double optic neuritis. A man of forty, who was referred to me for examination by Dr. Ware, had no focal signs, the principal symptoms being a falling off in mental power, general debility, and tremor of the lips and tongue. Although vision was good, the doctor had found double optic neuritis, which cleared up on mercury and iodide. On three different occasions I have known good men to make a diagnosis of general paralysis until the ophthalmoscope revealed double choked disc. Theoretically, it is possible for syphilis to cause primary optic atrophy without involving other ocular nerves, but practically it may be said not to occur, the optic atrophy of syphilis being secondary to choked disc or being only a part of a more or less general affection of the nerves going to one or both eyeballs. In paretic dementia, on the other hand, atrophy of the optic nerve is relatively frequent, ten per cent. being perhaps a fair estimate of its incidence,* and not rarely it is a very early symptom, even antedating other manifestations by several years.† Hepburn ‡ not only reports several cases in which optic atrophy preceded all other symptoms by some years, but describes fundus changes which are visible before the atrophy begins. His cases are so meagrely reported as to make the reader skeptical as to the value of his findings, but they seem to be well worth looking for. He says that "in the earliest period the surface (of the disc) looks of the normal reddish-white hue, with numerous laminated striations through it of a slightly deeper color. Over this is an extremely fine layer of transparent nervous tissue on which the vessels of the disc appear to lie." I have seen something similar to this in one case of incipient dementia paralytica, a case that I considered to be complicated with tabes. Ostwalt # often finds in syphilis a mild degree of central retinitis with grayish-white patches on the arterioles and at times very small foci of chorioiditis. There may be minute flakes or a dusty appearance in the vitreous. These findings have been confirmed by Hirsch-

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* *British Medical Journal*, May 2, 1896, p. 1083.

† *Allgemeine Zeitschrift für Psychologie*, vol. li, p. 729.

* Hirt. *Diseases of the Nervous System.*

† Clouston. *Mental Diseases*, third edition.

‡ *American Journal of Insanity*, January, 1895.

Berliner klinische Wochenschrift, 1888, No. 45.

man, Horstman, and others. Oliver* gives in some detail the minute ophthalmoscopic abnormities of the fundus to be found in general paralysis, says the tissue changes are quite similar to those in the cerebral cortex, and makes the pregnant suggestion that this is so because the retina is simply an offspring of the cortex. Interesting as this may be, it is not of great practical importance, as the changes enumerated are not to be seen in the first stage, and I gather from the text that even in the second stage they are to be accurately recognized only by a skillful ophthalmoscopist. It is quite needless to say that examination of the eye grounds may reveal active syphilitic lesions which, as already noted, would tend to refer any existing dementia to the same ætiology.

I may add here that transient or recurring amblyopia is strong evidence of brain syphilis, and the same may be said of hemiopia or other segmental defect in the visual field. Please do not forget that a careful examination of the fields of vision is due to every case. I have seen more than one patient in whom a more or less imperfect hemiopia was almost the only localizing symptom.

A gentleman of thirty-three years, who was referred to me by Dr. Wilder, had had a chancre eight years before, but had received no treatment. Three months before I saw him he had begun to suffer from dizziness, without headache or diplopia, and vision rapidly failed. At the end of a week the left eye was quite blind, and after another week he could see only to the left with the right eye. By this time specific treatment had arrested the progress of the disease, but when I saw him the left eye was still blind and the right hemiopic—a state of affairs that with the history made the localization very simple.

The presence of hippus would rather indicate syphilis than general paresis, as it is very rare in the latter affection: noted in only two of Siemerling's three thousand and ten cases.

As before stated, paralysis of the lower cranial nerves is exceedingly rare in general paralysis, very common in syphilis. Hence a facial paralysis, anæsthesia in the distribution of the fifth nerve or one of its branches (especially anæsthesia dolorosa), tinnitus with nerve deafness, or atrophy of the tongue would be strong presumptive evidence of intracranial syphilis. Strikingly typical of syphilis are the grouping, association, and course of some of these cranial-nerve palsies. They are apt to be irregular in distribution, degree, and progress, with a general come-and-go tendency that is seen in no other organic affection. The paralysis may affect one nerve after another in a sequence that points to a gradually spreading focus of disease and nothing else; for instance, such a progression may be from one nerve to its neighbor above or below, or to its fellow across the median line. Almost as typical is the paralysis of cranial nerves quite distant from each other; for example, in a case seen recently there was complete ophthalmoplegia on one side, partial ophthalmoplegia on the other, and freedom of all the cranial nerves from here to the twelfth, paralysis of which on the left side caused hemiatrophy of the tongue. Certain groupings may be considered to exclude paretic dementia. The symptom-complex of acute or subacute bulbar paralysis is far from rare in basilar syphilis, but does not occur in dementia paralytica except in the latest stages. Graefe* considered the simultaneous and unilateral paralysis of the fifth and sixth nerves to be almost pathognomonic of syphilis, and perhaps equally diagnostic is involvement of the sixth and seventh or seventh and eighth.

Either of the three types of crossed paralysis—that is, paralysis of the third nerve on one side and the extremities on the other, paralysis of the facial on one side and the extremities on the other, or paralysis of the hypoglossus on one side and the extremities on the other—is quite alien to the symptomatology of general paralysis, but may be caused by syphilis, since they are due to a unilateral lesion of the crus cerebri (peduncle), of the upper part of the pons, and upper part of the medulla oblongata respectively. This assertion regarding the diagnostic significance of crossed paralysis I would have made more emphatic were it not for the statement of Mickle that in general paralysis apoplectoid attacks may be followed by the variety of crossed paralysis first mentioned—that is, of the third nerve on one side and the extremities on the other. The occurrence, however, must be of the rarest in paretic dementia, and I should think probably due to the coincidence of arterio-sclerosis.

Syphilis is almost absolutely excluded by the combination of Argyll Robertson pupil and loss of the knee-jerk, while if the symptoms of brain disease be well marked—that is, if the somatic signs or psychic symptoms, or both, be pronounced and the pupils still respond perfectly to light—the case is in all probability one of syphilis. Single or multiple cranial-nerve paralysis coming on with or after severe headache, stupor, or vomiting is almost conclusive evidence of the same disease. Chasmus—persistent yawning—if there are no signs of bulbar disease, indicates general paralysis; that is to say, it may be one of the earlier symptoms of this disease, and I have never heard of it as a symptom of cerebral syphilis. The same may be said of ptyalism.

(*To be continued.*)

How does Beta-tetrahydronaphthylamin Elevate the Temperature of the Body?—Dr. Isaac Ott asks this question in *Contributions from the Physiological Laboratory of the Medico-chirurgical College* for 1897. We don't know, but we imagine in much the same way as any other "cuss word."

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* *University Medical Magazine*, March, 1894.

* Quoted by Mickle.

A CASE OF EARLY SPINAL SYPHILIS WITH BROWN-SÉQUARD'S PARALYSIS.*

By HENRY BARTON JACOBS, M. D.

The following case is offered the society because it illustrates certain features of spinal-cord pathology, interesting, perhaps, not alone to the neurologist but to the general practitioner as well:

Briefly, the history is as follows: A man, aged forty years; native of the United States; married; occupation that of "property" man of a theatrical troupe. First came to the Johns Hopkins Hospital Dispensary February 21, 1893, complaining of twitching of his toes at night, and loss of power in walking. Family history negative. Always strong and active to the beginning of present trouble; not a hard drinker; no history of injury. One year ago contracted syphilis, the primary lesion being followed by a slight skin eruption, loss of hair, and some sore throat. His treatment was very meagre, and consisted simply of cauterization of the sore, and medicine, the nature of which he does not know, for a week or two, when it was abandoned.

Until about three weeks before he came to the hospital he considered himself perfectly well; then he first noted diminished sexual power. Nothing further occurred until ten days later, when otherwise apparently well at night, he awoke in the morning to find himself lame in the right leg in beginning to walk, and utterly unable to decide upon the cause of the lameness.

Next, on attempting coitus, he completely failed. His lameness rapidly increased and he had to resort to a cane, and with it was only able to walk with difficulty; at night, when lying horizontally in bed, he noticed a peculiar twitching of the toes of his right foot. Coincidently, he had some indefinite pains in his legs and back. There was no absolute loss of control of his sphincters, although for a few days he had to go quickly when the desire to urinate came, and there were sensations of numbness in the left leg.

At the time of entrance he limited his trouble entirely to the lower half of his body, and declared that he was all right above the waist. Physical examination showed a small but fairly well nourished man, walking with difficulty by the support of a cane; gait decidedly spastic and hemiplegic on the right side and quite unsteady. Careful examination failed to detect any disturbance in speech, or of eyes, ears, face, arms, and chest. The dorsal posterior border of tongue bore two suspicious ulcerating patches suggestive of syphilitic lesions. No glandular enlargements present. On the under side of penis was a suppurating, indolent ulcer of the skin about half a centimetre in diameter, not deeply excavated nor with surrounding induration. Strength of left leg normal; right: marked weakness in flexors of thigh, lower leg, and dorsal flexors of foot; while extensors of thigh, lower leg, and plantar flexors of foot, as well as adductors, were nearly normal; abductors and rotators slightly weak.

Sensation normal as far as the upper half of body, the right side of abdomen, and right leg were concerned, save, possibly, slight confusion in the muscular sense of the right foot. On the *left side*, however, below the level of the umbilicus in front and that of the first lumbar vertebra behind, there were changes which require more careful description. Below these levels throughout the left leg the sensation of touch was everywhere accurately perceived and accurately located; but especially below Poupart's ligament and the gluteal fold the patient declared the cotton was not so sharply felt as on the opposite leg; here, too, the sensations of pain were entirely wanting, the patient being unable to distinguish between the head and the point of the pin, both being felt merely as touch. So, too, in the same region there was complete loss of temperature sensations, test tubes of hot and cold water being nowhere distinguished. No disturbances whatever of the sense of position of the left leg or in its vasomotor innervation were to be noticed, nor changes in the electrical excitability of the nerves or muscles in any part of the body.

Examination of the deep reflexes showed them markedly exaggerated on the side of the motor weakness, there being present on that side both a patellar and an ankle clonus; while, on the other hand, the superficial or skin reflexes were more active on the anæsthetic side, with only slightly increased activity of the deep reflexes. The cremasteric reflex was well obtained on the left, but not on the right. Abdominal reflexes not obtained on either side.

When standing in bare feet with heels together, eyes closed, there was considerable swaying of the body and a constant play of tendons in the left ankle, while those of the right remained quiet. In endeavoring to stand on the right foot alone he tottered over, apparently from the weakness of that leg; while in attempting to stand on the left foot alone he was somewhat more steady, and the play of the tendons at the ankle was particularly noticeable, evidently due to an incoordination of the muscular innervation.

Thus, at the time of his first visit the man presented an incomplete picture of crossed paralysis of motion on the right side, and of pain and thermic sensations on the left, limited to the region below the umbilicus in front and of the first lumbar vertebra behind, while the sensation of touch and the so-called muscular sensibility were but little or not at all affected.

Of eight thousand and seventy-six cases treated in the neurological dispensary of the Johns Hopkins Hospital there has been but one other case presenting similar features.* Galen, early in the Christian era (120–200 A. D.), recognized the condition and probably produced it in his vivisection of pigs, animals which in those days might be used for such purposes without question. After nearly eighteen centuries Fodera, in 1823, repeated Galen's experiments in France, and Schops, in 1827, in Germany. But it is to Brown-Séquard that we owe our first accurate description of the condition. Beginning in 1849 with experiments upon animals, he compared his results with the clinical features observed in men, and in 1863 † published his conclusions in connection with a study of some thirty-five cases which he had collected. In many of these cases the arms as well as the legs were involved: the former were called spinal hemiplegia, the latter spinal hemiparaplegia, names which have been since adopted, though in general the author's name is most frequently associated with both, as Brown-Séquard's paralysis.

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* Read at the annual meeting of the Medical and Chirurgical Faculty of Maryland, May, 1897.

* Presented by Dr. H. H. Thomas to the Johns Hopkins Medical Society, 1892.

† *Journal de physiologie*, Paris.

Brown-Séquard concluded this crossed paralysis could only be due to a lesion affecting one half the cord. He determined that if the nerve fibres which conduct motor impressions downward to the muscles were disturbed anywhere within one half the cord, the muscles would be affected on the same side as the seat of the disturbance, but that, on the other hand, the fibres conducting sensory impressions upward would be affected at the periphery on the side of the body below and opposite to the seat of the lesion. As explanation he suggested that the sensation fibres, together with those governing vasomotor innervation, crossed to the opposite side of the cord immediately or soon after entering from the posterior roots, and continued their course upward upon that side; while the fibres presiding over muscular sensibility remained on the same side upon which they entered. In general these views have since been substantiated, though the details involved in the conduction of sensations are still obscure. Brown-Séquard found that it made little difference what was the nature of the disturbance, so long as it cut off in part or in whole the unilateral integrity of the cord. The resulting paralyses may be of all grades, from the milder forms, such as in the case presented, to the complete, where there is total loss of motion on the one side and of all sensation upon the other. The pure type is almost never realized in syphilis of the spinal cord except in a few instances reported, where there were isolated unilateral gummata unaccompanied by meningitis. It is only in such cases and in those where other isolated tumors are found, and especially after hemisection of the cord by stab wounds, that we find the pure form of Brown-Séquard's paralysis.

The partial type, however, is not very uncommon in spinal syphilis, and Oppenheim * has considered it of diagnostic importance as one of the "criteria" of this disease. Lamy,† too, has remarked that "the Brown-Séquard symptom-group complete and permanent is very rare in spinal syphilis, but partial and transitory it is the rule."

In view of the history of syphilis, the lack of injury, and the incomplete nature of the paralysis, our patient was put upon a rigid course of mercury and iodide in increasing doses. In one month he returned with marked improvement. He had thrown away his cane, the disagreeable involuntary twitching of the toes had ceased, his throat was no longer sore, and the ulcer upon the penis had healed. Sexual impotence, however, persisted, and the gait was still spastic and somewhat hemiplegic. The flexor group of muscles of the right leg was still considerably weaker than that of the left. Otherwise the muscular strength of the legs was practically normal. There was now slight muscular rigidity in each leg to passive movements, while the reflexes remained as before. Sensation, too, had markedly improved, and the point of a pin was felt everywhere sharp on the two legs and throughout the trunk, though below Poupart's ligament and the gluteal fold of the left leg the sharpness was not quite so acute as on the right side. He was able to distinguish hot from cold test tubes fairly well to the level of the left knee, below which there was slight confusion between them. Throughout the left leg, however, there was not that acuteness to the test that was found in the right. With eyes closed and feet together he now stood fairly well, even when attempting it with one foot alone; the play of the tendons of the left ankle was still noted, however, though not so considerable as before.

May 4th, two months and a half after beginning treatment, the patient again returned, feeling very well. The note says: "Now has little trouble in walking and can even run. He has kept up the iodide persistently. The twitching of the toes has disappeared. His gait is still slightly hemiplegic and spastic. He stands well with feet together, and there is no longer any play of the tendons on one side more than on the other. The muscular strength everywhere fairly good, save that there is the slightest weakness of the flexors of the right thigh, the right leg, and of the dorsal flexors of the right foot. There is no longer any confusion between the head and the point of the pin in the left leg, nor between the hot and cold test tubes, even with but very slight difference in their temperature. The deep reflexes are still exaggerated in the right leg, though perhaps not quite so actively as at the former examinations. The cremasteric reflex is still quick and active on the left: scarcely to be obtained on the right. The plantar reflexes are active on both sides. There is slight increased muscular tension now in both legs and both arms."

On February 10, 1894, nearly two years later, the patient returned, having been very well since his last visit; complains, however, that his sexual power has not been regained. He still walks with a spastic, slightly hemiplegic gait. Examination shows condition practically the same as two years before, except that the deep reflexes are now more nearly alike on the two sides, being considerably exaggerated in both arms and legs. There is no difference between the two sides as regards the sensations of touch, pain, or temperature.

On December 30, 1896, again after nearly two years, the patient appeared, saying that he still feels fairly well, though he does not seem to have quite the buoyancy of spirits that he had on his last visits. He has not yet been able to have sexual intercourse, though desire for it is present. Since the first there has been no trouble whatever with his sphincters. When fatigued, however, he now sometimes has a twitching or jerking of the toes of both feet. He has a dark-red erythematous eruption on the back of his hand and upon his ankles, which he says recurs, disappearing upon taking iodide. There is also a rather angry-looking dark-red pharyngitis, which appears syphilitic in character. The lymphatic glands are nowhere palpable. The deep reflexes of the arms and legs are considerably exaggerated; the muscular strength is good, save that there is still that slight weakness of the flexors of the right thigh, lower leg, and foot which has been constantly present. There is slight rigidity to passive motion in both legs as well as in the arms, the rigidity being more noticeable in the right leg. The gait is somewhat stiff and hemiplegic. No disturbances in sensation.

He is now subject to attacks of nervousness, which

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* *Berlin. klin. Woch.*, 1897.

† *Thesis*, Paris.

come on suddenly, described as "peculiar, queer, restless feelings," beginning in the feet and legs, extending over the whole body, and compelling him to move about, whereupon the sensations pass off. During these attacks there is no loss of consciousness, no involuntary micturition or other objective phenomena.

Thus, after four years of fairly persistent antisyphilitic treatment there are present symptoms of no slight importance. The early improvement, which restored the man from a cripple to a self-supporting individual, was remarkable but not continuous after two months and a half. Evidently there had been a specific morbid process present, which was definitely affected by the antisyphilitic drugs, and still another later process inaugurated over which these had little or no influence.

In general, syphilis or its effects may show themselves in the nervous system in one of two ways: (1) As a truly specific syphilitic process, or (2) as a nutritive change in some way dependent upon a foregoing syphilitic contamination, the connection with which is but indifferently understood. The specific lesion may be in some part of the nervous system from which with rigorous treatment the patient may wholly recover; but it is possible there may be left behind the stigmata of its presence in the shape of nutritive changes, which go on slowly and resist persistently the action of the antisyphilitic remedies. These latter disturbances are usually sclerotic in nature, and have been grouped together by Fournier * under the term of "parasyphilitic" processes, he meaning that while their dependence upon an antecedent infection of syphilis is certain, yet their nature is not of a pure specific kind, capable of being combated with mercury and iodide.

Nor apparently is it necessary that any part of the nervous system should be originally affected by the acute process, inasmuch as it seems quite sufficient, in order to bring on these nutritive changes, that the disease should have been once contracted, even though many years before.

The more we know of locomotor ataxia and paralytic dementia the more we are compelled to associate these diseases with the parasyphilitic affections. So the case at hand illustrates how changes in the lateral columns of the cord beginning coincidently with an acute specific syphilitic process may outlast that condition, persist, and slowly extend in spite of all we may do. The acute process, whatever was its nature, yielded at once to the antisyphilitic remedies, but the deeper nutritive changes once established continued uninfluenced. At the present time it is very enticing to believe that the earlier process may in some way have to do with a specific syphilitic germ, while the consequent nutritive changes are dependent upon its toxines. Further than this, however, we will not enter upon the question.

A word or two in regard to the period of time in the history of the syphilitic infection that we may find the nervous system attacked. Errors exist upon this point, even many of our modern text-books stating that syphilis of the nervous system is one of the latest manifestations of the disease, and that an early appearance of nervous symptoms is a rare exception. Nothing could be farther from the truth than this teaching, and it is by no means for want of statistics to the contrary that such theories are held. As Ogilvie,* of London, recently remarked, "it is rather due to our difficulty in getting rid of heresies once accepted as facts and covered by Ricord's great name." In the last twenty-five years numerous observers have shown that an extraordinary number of cases of nervous disease appear early in syphilis. As to just what is meant by "early" in the disease there is no very definite explanation. Mr. Jonathan Hutchinson,† of London, would limit the term to the first two years of the disease; that is, to the period which he considers to belong to the secondary stage of syphilis, making the terms primary, secondary, and tertiary dependent upon chronological limits, the secondary stage ending with the second year. Whatever symptoms occur within those first two years, whether of the skin, viscera, or nervous system, he would consider as secondary symptoms. He has supporters in this belief, notably among German writers, Brasch ‡ having declared that "a distinction between secondary and tertiary syphilis can not any longer be made"; to which Oppenheim remarked that "already Heubner and Rumpf had broken away from Ricord's views"; but the French, led by Fournier, still adhere to the older doctrines and consider the constitutional manifestations, such as the syphilides, the affections of the viscera, and of the nervous system, to belong to the tertiary period, and when any of these appear in the earlier months of the disease they are called, as Fournier named them, "precocious."

As I have said, there is no lack of statistics for the occurrence of syphilis of the nervous system in the early months. None are more striking than those of Naunyn,# collected in 1888. He gathered three hundred and twenty-five cases from the literature and from his own experience, in all of which he was able to ascertain definitely the date of the infection and that of the first appearance of the nervous symptoms. A vast amount of literature was covered and no cases accepted which were not strictly definite with regard to these points. Of the three hundred and twenty-five cases, 11.4 per cent. showed disease of the nervous system within the first half year, 8.6 per cent. in the second half year, making a total of twenty per cent. manifesting nervous symptoms within the first year after infection. During the second and third years there was but 19.7 per cent.; during the fourth and fifth years, fifteen per cent. So that, according to his statistics, the first year must be considered the most favorable for the occurrence of nervous disease. I can not believe, however, that these figures represent anything like the real truth. The cases were largely selected from literature, which would be most likely to contain the somewhat startling cases of early syphilitic nervous manifestations, and more than that, it is much more probable that the patient should remember the date of his infection and that of the beginning of his nervous complaint if but a few months intervened rather than if several years separated the two events; so that the association of the two diseases is not likely to be made.

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* *Cf.* writings of Professor Fournier, Paris.

* *Lancet*, 1895. † *Ibid.* ‡ *Neurol. Centralbl.*, 1896, p. 45.

# Quoted from Ogilvie, *Lancet*, 1895.

The statistics of Fournier on this point are much more valuable. Fournier's article may be found in *La Gazette médicale de Paris* for the 9th of December, 1893. He writes upon the topic of Le Tertiarisme précoce. He says (I translate freely): "The term defines itself; that is, tertiary syphilis occurring in a premature fashion before the time which is considered its legitimate period in the normal order of evolution of the diathesis. Now does there exist a normal order of evolution? Since the days of Ricord there have been considered three division—primary, secondary, and tertiary—each definitely associated not only with a peculiar character of lesion, but also with a more or less definite period of time in reference to the initial lesion: the primary representing the stage of the chancre and lasting, say, for six or seven weeks; the secondary beginning with the skin efflorescent mucous patches and continuing for a more or less indefinite period, say two to three years; the tertiary period then following and being represented by the constitutional effects, such as bone, visceral, and nervous lesions, and occupying the years following the second or third, even up to the thirtieth or fortieth. This scheme, of course, must be considered quite elastic and subject to exception. The first two or three years were to be occupied by the secondary symptoms, and the later years were reserved exclusively for the tertiary manifestations; and it must be admitted that this order represents for the most part the order of events in the majority of cases of syphilis; but it is scarcely possible that Nature always follows such mathematical laws. Very often one sees secondary symptoms manifesting themselves in the tertiary period and the tertiary features appearing in the years of the secondary. Proof is not wanting." Of 3,032 cases of syphilis in men and women which Fournier had seen and classified, tertiary features appeared as follows: In the first year, 158 cases, or 5.2 per cent. of all cases; in the second year, 291 cases, or 9.5 per cent.; in the third year, 316 cases, or 10.4 per cent.; in the fourth year, 270 cases, or 8.9 per cent.; in the fifth year, 260 cases, or 8.5 per cent.; in the sixth year, 234 cases, or 7.7 per cent.; in the seventh year, 193 cases, or six per cent.; in the eighth year, 153 cases, or five per cent., and so on, with decreasing numbers even up to the fortieth year.

In reviewing this table the author calls attention to several interesting facts:

"1. That tertiary symptoms may appear in any year, from the earliest to the most remote.

"2. That the frequency of the manifestations of tertiary symptoms varies with the age of the diathesis—in other words, that it follows exactly a curve whose ascent is considerably more abrupt than its descent.

"3. The summit of this curve corresponds to the third year of the disease, where it rises visibly above the other years, and represents the maximum of frequency in the appearance of tertiary symptoms.

"Here at the outset is an error disclosed, a prejudice corrected, for it has generally been considered that the third year was the point of departure of tertiarism, that it was at this time that tertiarism began; on the contrary, this year is not the point of departure, it is rather the *fastigium;* it is the year which is most fertile in tertiary developments; it is, properly speaking, the terrible year (*l'annee terrible*).

"4. Not only is this third year not the point of departure, but it is preceded by two years in which there is remarkable frequency of tertiary symptoms. In the second year, while the frequency is notably less than the third, yet it is higher than in any other year except that; higher than the fourth or fifth, years in which it has been thought that these symptoms were most likely to appear. Numerically, then, the second year is more fertile in tertiary accidents than any other year except the third, and this fact is very striking, inasmuch as the second year has been thought to be reserved almost exclusively for secondary manifestations.

"5. We must now come to the first year, the year *par excellence* for the manifestation of the secondary symptoms, and the secondary manifestations the simplest, the slightest, and the least like those which constitute the tertiary symptoms. It is the benign year, the year of the efflorescence and the superficial mucous patches, etc. What, in fact, do we find from analysis of these 3,032 cases? We find that in this first year 158 cases of tertiarism developed, 5.2 per cent. of the whole number, and when compared with other years it is to be noted that while it is considerably below the second, third, fourth, fifth, sixth, and seventh years, it is higher than the eighth, ninth, and succeeding years. Therefore, these figures would teach that the risks of tertiary syphilis are a little greater in the first year than in the eighth year, and much greater than any following year."

Of the kinds of tertiary lesions found in this first year there were ulcerous syphilides, gummatous lesions, exostoses, and particularly diseases of the nervous system, such as partial paralysis, paraplegia, etc. And as to the frequency with which the various organs are attacked, Fournier adds still further statistics. In the 158 cases that occurred in the first year, out of his total of 3,032 cases there were observed 202 different kinds of lesions. Of these 202 lesions those of the skin were most numerous, it being affected 84 times, or 41.5 per cent. The nervous system comes next, affected 69 times, or 34.2 per cent. The bones were affected 14 times, or 6.9 per cent. Now, 34.2 per cent. of the lesions of early syphilis in these 158 cases were of the nervous system; from which it is easily computed that 1.8 per cent. of the whole number (3,032 cases) showed nervous disease within one year of the primary lesion, or, in other words, nearly two out of every hundred cases of syphilis manifested nervous disease within one year of the infection.

In regard to the likelihood of the early appearance of nervous disturbances, all authors agree that the neglect of or inadequacy in the treatment during the first few weeks or months of the disease is most prone to increase the numbers. Some think certain other constitutional disturbances may favor the early appearance of these nervous manifestations, such as alcoholism, malarial poisoning, and other dyscrasias.

That syphilis of the spinal cord is a much rarer disease than cerebral syphilis there can be no doubt, Gerhardt * putting the ratio drawn from personal experience at about one to four and a half or five.

Briefly let us consider the nature of the lesion in spinal syphilis. It is only within the last ten or fifteen years that particular attention has been paid to it, though, to be sure, Virchow and Ricord recognized it, but associated it only with macroscopic gummatous tumors of the meninges of the cord. It is to Leyden, Rumpf, Oppenheim, Heubner, Erb, Maurice, Fournier, Lamy, Déjérine, Sottas, and other writers, especially in France and Germany, that we owe our knowledge of the features of this disease.

Erb,† with the same acumen which led him to classify the myopathies, has already described syphilis of the spinal cord as a disease entity under the name syphilitic spinal paralysis, claiming for it very constant clinical characteristics and definite pathological findings. The clinical features upon which he lays particular stress are a spastic condition of the legs, with distinct rigidity in the muscles, early and continuous involvement of the sphincters, and frequent disturbances in sensation. He believes the disease occurs at about the same age at which tabes dorsalis appears, from thirty to forty-five, but relatively is a much rarer disease than tabes, occurring in the ratio of perhaps one case of syphilitic paralysis to ten cases of tabes dorsalis.

While the increase of the reflexes is well marked in this type of Erb's, and the tension in the muscles is noticeable, it is to be sharply differentiated, however, from that older disease known as transverse myelitis by the relatively less intensity of these two features in the former case. Certain other writers agree with Erb in considering this set of symptoms to belong to a distinct disease, yet many others consider that the limitations are much too narrow, and that true cases of syphilis of the spinal cord, while showing some of the characteristics of this type of Erb, show still others which can not be brought within such narrow limits.

From a pathological point of view there is still much to be learned in regard to the lesions of syphilis within the spinal canal. As already said, Virchow, in his *Archiv*, early described * the gummatous tumors growing from the membranes. But not until the use of the microscope and staining reagents became more common were the finer lesions determined. Lamy,† who has devoted considerable attention to these studies, concludes that the syphilitic process may affect the cord in one of three ways:

1. Involving the meninges alone.
2. Involving the meninges and the cord.
3. Involving the cord alone.

The clinical features of each of these three pathological classes are quite distinct. In the first the meninges, particularly the pia mater, are infiltrated with small embryonal cells, which produce symptoms similar in nature to the symptoms of cerebral meningitis—namely, nightly pains in the back corresponding to the headache of the latter disease. In this form the prognosis is considered most favorable.

The second group in which the meninges and the marrow of the cord together are involved is known as meningo-myelitis. Clinically as well as pathologically there seem to be two stages: The first stage is similar to the form just described, where the features are those of a syphilitic spinal meningitis merely, and a second stage in which the cord itself becomes affected, and a picture is presented similar to that of transverse myelitis, with possibly paralysis and changes in sensation, often following the Brown-Séquard symptom group. Here the change in the cord itself is due not to a primary syphilitic lesion of the spinal-marrow cells, but rather to a primary change in the walls of the vessels of the cord, which secondarily produce changes in the nerve cells. Indeed, the question of priority as regards the involvement of the meninges or of the vessel walls has yet to be fully determined, many believing that in all cases the vessel walls are the first to be affected, even where there is simply a meningitis present, when the involvement occurs in the finer meningeal vessels.

Lamy's third group consists of the syphilitic myelitis proper without the membranes being affected. This he considers to belong more to the chronic types of syphilis, though he believes there may occur acute cases showing some paraplegia with total paralysis of the sphincters. Here he admits the involvement of the vessel walls without involvement of the meninges, and attributes the myelitis, as in the preceding group, to a secondary change in the nerve cells following the vessel changes, and usually consisting of small inflammatory foci, leading to softening and later to sclerosis.

It is to be noted that not alone are the arteries of the cord affected by this syphilitic process, but also the veins as well, and in several cases reported it would seem that the veins were the first and most extensively involved. Just the seat of the morbid process in the vessel walls is still a somewhat open question, some finding the intima of the artery the primary seat, but the majority of observers considering the process to start in the adventitia and to consist of an infiltration of small round cells or embryonal cells, as the French describe them. It would seem to make but little difference at what period in the history of syphilis the nervous system becomes affected; in any case the nature of the process is practically the same, though in the cases of early involvement the course of the symptoms is relatively more rapid and perhaps the prognosis somewhat less favorable.

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* *Berlin. klin. Woch.*, December 11, 1893.

† *Neurol. Centrlbl.*, No. 6, 1892.

* 1864–'65.

† *Thesis*, Paris, 1893.

As differing somewhat from the types described by Lamy, Gilbert and Lion * concluded that the initial process within the cord may be either one of four forms:

1. Arteritis and phlebitis.
2. Embryonal infiltration of the meninges and short intramedullary prolongations.
3. Gummatous growths.
4. Hyperæmia with dilatation of the vessels.

As to softening and sclerosis, these changes they say are secondary lesions. Still, it is not wholly proved that sclerosis may not at times be the primary lesion. The softening is consequent often upon obliteration of the arteries and blocking of the veins by small cell infiltration, either focal or diffuse, and possibly may follow hyperæmia and interstitial hæmorrhages. In any event sclerosis represents the ultimate process which will follow either softening or infiltration. According to this view, that hyperæmia with dilatation of the vessels may produce symptoms of spinal-cord disturbance, we may perhaps explain those cases which occur so early in the syphilitic history as to be thought by many to be purely toxic in their character. Such cases occasionally follow other infectious processes—typhoid fever, influenza, gonorrhœa, and the like, and are recorded in the literature.

It may, then, be said that all observers practically agree that the pathological process is mainly one of meningo-myelitis, the myelitis being secondary to vascular changes—*i. e.*, that there is a diffuse gummatous meningitis, in which the pia mater, especially, is infiltrated with small round cells, and, associated with this, an involvement of the vessel walls, either arteries or veins, in the shape of an infiltration of the adventitia with similar round cells, and possibly a hyaline † degeneration of the intima, processes either of which may lead to blocking of the lumen and a consequent focus of anæmic necrosis and softening in the substance of the cord, thence leading to destruction of the nerve cells and eventually to sclerosis.

Whether the meninges are the first to be affected or whether the vessels take precedence is a question for further study; at any rate, the two conditions are almost invariably found associated. So, too, as regards the coat of the artery which is first to become involved, time will doubtless adjust any discrepancy of opinion that may exist upon this point. The main fact is that there has now come to be recognized a distinct syphilitic process within the spinal canal, the point of election of which is within the dorsal and lumbar regions (Gilbert and Lion finding the arms affected in only five out of forty cases), a process setting up a fairly constant train of phenomena, and if early and vigorously treated tending to amelioration if not to complete cure.

The clinical features which most strikingly point to syphilis as the affection of the spinal cord are, as remarked by Sachs: *

1. The relatively slight intensity of the morbid process as compared with the extensive area involved, exhibited by the preservation of some of the functions of the cord with complete loss of others.
2. A rapid dwindling of some of the symptoms and the chronic persistence of others—*e. g.*, anæsthesia transitory, with paralysis persistent.
3. The very general involvement of the lateral columns of the cord, and hence the great frequency of the spastic symptoms.
4. The presence of transient or partial disturbances of sensation, particularly those of pain and temperature.

The whole central nervous system can show itself affected from the highest to the lowest level—*e. g.*, by ptosis or paralysis of the third nerve at the upper level and slight changes in the power and sensation of the legs at the lowest level, a condition scarcely to be found in any other disease than that of syphilis.

A word in regard to the seat and nature of the lesion in the case before us, which will explain the symptoms found. These, briefly, were slight indefinite pains in back and legs, twitching of toes, loss of sexual power, extreme weakness of right leg; disturbance of sensation, particularly of pain and temperature in the left leg, slight loss of muscular sense in the right; incoordination of muscular action in the left, as seen by the remarkable play of the tendons at the ankle; increase of deep reflexes of the right and of peripheral reflexes of the left, and slight involvement for a few days of the sphincter of bladder.

That modified analgesia and thermic anæsthesia were found on the left side to the level of the umbilicus in front and to the level of the first lumbar vertebra behind locates the upper level of the lesion within certain narrow limits, inasmuch, as has been said in speaking of Brown-Séquard's paralysis, the sensory nerves are supposed to cross to the opposite side directly after entering the cord; hence the fibres entering above the level of the first lumbar vertebra in this case met with no disturbance in their path to the brain.

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* *Gazette médicale de Paris*, May 6, 1893.

† See case reported by Thomas, *Johns Hopkins Hospital Reports*, 1892.

* *Brain*, 1893.

The lower level of the lesion is somewhat less accurately determined, inasmuch as an obstruction at the point of the upper level would be sufficient to account for the motor and sensory disturbances; but coupled with them we have the involvement of the genito-urinary nucleus, producing sexual impotence and slight temporary loss of control of the bladder sphincter, also the disturbances in the reflex arcs. So the lesion must have descended to such a point as to include those nuclei which lie within the lumbar enlargement of the cord, or at least the paths leading to them, as well as those tracts through which the higher inhibitory action is exerted upon the lower reflex centres—viz., the lateral tract—and, further, as determined by Brown-Séquard, the lesion must be largely unilateral and upon the side of the cord corresponding to the motor paralysis.

The nature of the lesion can not be fully determined, and it would seem idle to speculate at any great length upon such a hidden fact. That it was primarily syphilitic there can scarcely be any doubt, judging from the history of the case, the nature of the symptoms, scattered in their appearance and slight in their severity, and, furthermore, the results of antisyphilitic treatment. The process followed doubtless the more usual form, and may be considered to have been a meningo-myelitis in which the former element, meningitis, while early present and causing the slight pain and muscular irritability, must have been of the mildest grade or there would have been more pain in the back, a symptom which has been particularly dwelt upon by Heubner as being evidence of spinal meningitis. So, too, the fact that the nuclei of the genito-urinary system, which lie within the cord, were affected, points further to some change within the cord itself, as do also the motor weakness and the increased reflexes; and the probabilities would seem to point not alone from these facts, but also from the comparatively sudden onset of the symptoms, that the vessel walls were involved in a syphilitic process which led to obliteration of some of the finer vessels, arteries or veins, small areas of softenings, and later to sclerotic changes. The subsequent history of the case, too, supports this conclusion; while the early and more alarming symptoms were rapidly recovered from under the influence of mercury and iodide, such others persisted as would lead one to the belief that there was some degree of sclerosis of certain regions of the cord. Only in this way can we explain the persistence of the hemiplegic gait, the exaggerated reflexes, the increased muscular tension, which now involves the arms as well as the legs, and the persistence of the sexual incapacity.

While the case in many respects agrees with Erb's syphilitic spinal paralysis, there has been wanting the involvement of the bladder, a symptom upon which he dwells as so characteristic of his cases that I can not classify this under that head and must be content with a more general term.

The last point to which I wish to call your attention is in reference to the conduction of both motion and sensation within the spinal cord.

In the study of this case, as in other cases of the hemiplegic type, I have often wondered at the selective method displayed in the resulting partial or complete paralysis. Here the weakness was pretty definitely limited to a certain set of muscles—namely, to the flexors of the thigh, flexors of the leg, and the dorsal flexors of the foot. The question naturally arises, How is it possible that such a group of muscles could become paralyzed through a single lesion in the motor tract, while the other muscles of the leg remained intact?

Wernicke, in 1889, first called attention to the fact that it made no difference at what point the pyramidal tract was interrupted, whether within the brain or within the cord, the resulting paralysis was constantly the same. He showed that all paralyses of the hemiplegic type sooner or later, even though complete at first, resulted in this constant form; that the extensors of the leg regained more power or were less affected in the beginning than the flexors. Ludwig Mann,* of Breslau, in an article just published on the study of cases of Brown-Séquard's paralysis, corroborates Wernicke's assertions and offers interesting theories in explanation of the facts. I will call your attention as briefly as possible to a few of his conclusions:

Mann suggests the term "residuary hemiplegia" for this paralysis, which, either slight in the beginning or severe at first, undergoes certain retrograde changes, and finally results in disablement of constant groups of muscles—namely, the flexors. He points out, as Wernicke had not done, that such paralysis may be primary without existing previously as a more extensive paralysis. He determines that this set of muscles—the flexors of the thigh, the flexors of the leg, and the dorsal flexors of the foot—which are always paralyzed or partially paralyzed in the residuary hemiplegia, are united functionally into a very definite group, while another group equally definite is left undisturbed—namely, the extensors of the thigh and the extensors of the leg and the plantar flexors of the foot.

Mann analyzes the great function of the leg—namely, walking—and finds it to consist of two acts, the lifting and swinging forward of the leg performed by the flexor group, and the placing of the foot upon the ground, supporting and shoving forward of the body, by means of the other group—the extensor group. The former group he designates as "shorteners," the latter group as "lengtheners." He finds that the residuary hemiplegia is definitely confined to the shorteners, and, therefore, definitely connected with one of the stages of walking; while the lengtheners either retain their function, or in more severe forms only partially lose it. A close study convinced him that this was always true, even in regard to certain individual muscles whose proper function at first sight seemed doubtful or possibly double. Mann recognizes that all grades of paralysis of these muscles may be present, from the partial to the complete. Further, that there are cases in which in connection with the more complete paralysis of the shorteners there is a weakness of the lengtheners; but the reverse is not true, the lengtheners never being affected unless the shorteners are too, and to a greater extent.

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* *Deut. Zeit. f. Nervenheil.*, 1896, Bd. x.

To find an anatomical explanation of these clinical facts is difficult. In one of Mann's cases in which there was paralysis of the hemiplegic type—namely, paralysis of the shorteners and intact function of the lengtheners—the lateral pyramidal tract was totally degenerated. The innervation fibres of the lengtheners can not, therefore, pass exclusively through the lateral pyramidal tract, but must have some other path. His case makes it enticing to believe that the anterior pyramidal tract can care for the innervation of the muscles remaining intact in hemiplegia, since it was practically the only tract unaffected by the lesion he studied. This view, however, would presuppose that the fibres of the anterior pyramidal tract remained intact on the same side. But this view is contradicted by the findings in cerebral hemiplegia, where the anterior pyramidal tract on the same side and the lateral pyramidal tract upon the opposite side are degenerated. If, then, the above-mentioned hypothesis concerning the anterior tract were correct there would be in cerebral hemiplegia paralysis of the lengtheners on the side of the cerebral lesion and of the shorteners on the opposite side, a condition never seen. In Mann's case, therefore, we can not consider the preservation of the anterior tract on the right side to explain the retained function of the lengtheners. All other centrifugally conducting paths were, however, completely destroyed in the right half of the cord, so that no other path remained on the diseased side which could be made responsible for the innervation of the lengtheners. That these muscles are innervated by some path in the other half of the cord, say by the opposite anterior pyramidal tract through decussation of its fibres within the cord, can not be held, since even then in a complete one-sided lesion of the cord the lengtheners on the opposite side must be paralyzed. Under these circumstances there remains nothing except to assume a double-sided innervation of the lengtheners, a view which, *a priori*, appears forcible, inasmuch as these muscles have to deal with the function of standing, ordinarily a double-sided action innervated from both sides of the brain, requiring, as it does, an intimate working together of the two hemispheres. With this view of double-sided innervation of the lengtheners along with unilateral innervation of the shorteners, there is produced harmony in the clinical and pathological facts.

Now, as to the conduction of the sensory impressions within the cord. Many theories have been advanced, in all of which there is a common view that the various sensations lie in definite paths within special regions or at different depths of the cord *; none of them, however, have ever satisfactorily explained the phenomena found.

Mann studied six cases, in all of which he finds that the sensation of touch, as it has been designated, is preserved, but that the sensations of pain and temperature are variously affected, from being slightly dulled to being absent. In one or more cases the perception of touch, while always present, was spoken of as being slightly duller on the one side than on the other. But, to repeat, it was the sensation of touch which was preserved and it was those of pain and temperature which were lost. The reverse never occurred, neither in his own cases nor in those recorded in literature. To quote Mann further: "Here, then, is an interesting analogy to the behavior of the motor paralysis through lesion of the lateral pyramidal tract, where the function of one group of muscles is always better retained than that of another, the reverse never being found."

In other words, we can say that when there is in the spinal cord a conduction interruption of the motor or of the sensory path and the interruption is not absolute, but part of the function remains over, in both motor and sensory paralysis it is always an entirely definite function which disappears and another definite function which is retained. This analogy only pertains to the paths within the spinal cord and not to the paths within the brain. This partial sensory paralysis of which we speak has long been known in tabes dorsalis and more recently in syringomyelia. In each of these it is easy to find an explanation, for in them the lesion is pretty definitely localized (especially in the latter disease) to the gray matter, in which, according to the older physiological views, the paths for pain and temperature were supposed to lie, while the perception of touch was thought to be conducted through the posterior white columns. For unilateral lesions, such as we are considering, this explanation can not be so easily accepted. The paralysis causing Brown-Séquard's symptom group depends upon such diverse causes—trauma, inflammation, tumors, etc.—occurring in all parts of the periphery and substance of the cord, that the lesion is, therefore, likely to be situated at almost any spot in the cross section of the cord. So, if we dare think of an actual separate conduction for pain sensation on the one hand and touch sensation on the other, there must in the purely accidental localization sometimes be found a case where only the paths concerned in touch sensation are gone, while those for pain sensation are still retained.

As has been said, such a case has apparently never occurred. Therefore Mann concludes that there can not be two strictly separate paths of conduction, but that these sensation qualities must stand in another more complicated relation to one another. In endeavoring to explain these clinical facts Mann begins by analyzing physiologically the nature of the touch, pain, and temperature sensations, and is inclined to believe that in reality all pain and temperature sensations have in them an element of the pure touch sensation—*e. g.*, if we gradually lighten the pressure upon a pin which has caused a pain sensation there comes a moment when it is no longer felt as pain, but merely as touch; the change is one of quantity rather than quality, and Mann hesitates to believe that in this gradual transition of pain sensation into touch sense the conduction of the impression has at some given moment sprung from one definite path to another. Further analysis of these sensations with the physiological considerations of pain as advanced by recent observers *—viz., as being but an accumulation of touch sensations—leads the author to the conclusion that while *pain* and *temperature* sensations may be conducted in a definite region of the cord—namely, in that path through the gray substance which has been described as the "summation" path—touch sensation is conducted in *all* the centripetal paths of the corresponding half of the cord. If we accept this theory it is easy to explain why it is, when through interruption of the spinal cord there is any degree of sensory conductivity left, that it is the touch sensation which is retained.

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* Cf. Brissaud, *Clinique des maladies du système nerveux.* Van Gehuchten, *Anatomy of the Nervous System*, third edition, 1897.

Plausible as the theory appears at first thought, it is not in accord with the accurate physiological investigations of von Frey,† of Leipsic, who has brought forward evidence which strongly supports the doctrine of the independence of painful and tactile sensations and of separate paths for pain and touch, not simply within the spinal cord, but also within the peripheral nerves themselves. Moreover, the cases of elective sensory paralysis ‡ due to injury of peripheral nerves, in which the sense of touch may be affected, the sense of pain remaining undisturbed, or *vice versa*, are difficult to harmonize with Mann's assumption. The whole subject is still dark, and we must await the results of further investigation before the last word on the subject can be said.

A New Stigma of Degeneration.—Giuffrida-Ruggieri (*Rivista sperimentale di freniatria*, April 15th; *Indépendance médicale*, August 10th), having noticed that a true glenoid fossa is nearly always absent in primitive mammals, examined the crania of thirteen persons who had been mentally unsound, and found it wanting there also—or at any rate very badly defined. There was also a certain asymmetry noticed. He found this condition more common among women than men. The author suggests it as a possible stigma of degeneration.

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* Wundt, *Physiol. Psychol.*, fourth edition, p. 111. Goldscheider, *Ueber den Schmerz*, Berlin, 1894.

† M. von Frey, *Beiträge zur Sinnesphysiologie der Haut*, vols. i, ii, iii, Leipsic, 1894-'95; *Aus den Berichten der math.-phys. Classe der k. sächs. Gesellsch. der Wiss.*, July 2 and December 3, 1894, and March 4, 1895.

‡ L. F. Barker. A Case of Circumscribed Unilateral and Elective Sensory Paralysis. *Journal of Experimental Medicine*, 1896, vol. i, No. 2.

A PRELIMINARY REPORT OF EXPERIMENTS WITH HEATED BLOOD IN THE TREATMENT OF CROUPOUS PNEUMONIA AND TUBERCULOSIS PULMONALIS.

By CARL E. ELFSTROM, M. D.,
LATE SURGEON, ROYAL SWEDISH ARMY;
MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, BROOKLYN.

WITH SOME CLINICAL OBSERVATIONS

By AXEL V. GRAFSTROM, B. Sc., M. D.,
LATE HOUSE PHYSICIAN, CHARITY HOSPITAL, BLACKWELL'S ISLAND.

"G. AND F. KLEMPERER (in 1891) published an important memoir relating to the pathogenic action of this micrococcus (*Micrococcus pneumoniæ crouposæ*). They succeeded in conferring immunity upon susceptible animals by inoculating them with filtered cultures of the micrococcus, and in some instances this immunity had a duration of six months. *A curious fact developed in their researches was that the potency of the substance contained in the filtered cultures was increased by subjecting these to a temperature of 41° to 42° C. for three or four days, or to a higher temperature (60°) for an hour or two. When injected into a vein after being subjected to such a temperature immunity was complete at the end of three or four days; but the same material, not so heated, required larger doses and a considerably longer time (fourteen days) to confer immunity upon a susceptible animal.*" *

Now, is there not a more direct way to secure immunity than the one just described? Suppose that immunity depends upon a substance formed in the blood of immune animals, and that this substance neutralizes the toxic products of the pathogenic micro-organisms, why should not such a substance exist in the blood of the patient, at least at a time when the disease is so advanced as to admit of a diagnosis? And why could not this substance, if present in a more or less active form, or present but not developed to activity, be used to confer immunity in a shorter time by being subjected to a certain constant temperature for a certain limited period? Does not lobar pneumonia, for instance, with its high temperature, limited time, and crisis, prove the plausibility of such a theory? Does not Nature show in this very disease an attempt to produce the needed antitoxine by such a high temperature as life will permit? When time and heat have performed and finished their work the crisis suddenly appears. If they are lacking in or overdo their work something goes wrong, and destruction is liable to occur. Let some blood be taken from a patient suffering from an infectious disease, such as pneumonia, typhoid fever, diphtheria, yellow fever, etc., and heated to a temperature of 60° C. for two hours, and let it be injected subcutaneously into the patient's body. Why, then, should not the immunity hereby be hastened, that is, the duration of the disease shortened?

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* Sternberg's *Bacteriology*, p. 320.

Here I will report a few cases of pneumonia which occurred in my private practice during the last two months and which were treated by subcutaneous injection of heated blood.

Case I.—Woman, thirty years old, croupous pneumonia, unilateral, complicated by otitis media. Temperature, 104° to 105° F.; great prostration. I saw the patient the seventh day of the disease, and applied two leeches on the breast. When well filled they were taken off, and by means of salt the blood was squeezed in a clean tumbler and mixed with salt solution (nine tenths per cent.) in proportion of 1 to 6. This mixture was put in a test tube, which was finally placed in water and heated to 60° C. for two hours. The blood was now subcutaneously injected into the breast of the patient. The next day the patient had the appearance as if the crisis had passed. The dyspnœa was decreased, and the temperature was down (102° F.). The respiration was tubular in character, and considerable mucous râles could be heard. The same temperature continued for a few days, but within a week the patient was restored to health.

Case II.—Child, three years and six months old. Croupous pneumonia, unilateral, as a sequela of scarlatina and complicated by meningitis. High temperature. Comatose condition and twitching of both arms. A vein in the arm was opened and half an ounce of blood withdrawn. It was defibrinated and mixed with salt solution, as in the previous case. For two hours and a half it was kept at a temperature of 60° C., and then injected. Next day the respiration was more bronchial, and mucous râles could be heard. The child was still comatose and died the second day after the injection.

Case III.—Child, five years old. Croupous pneumonia, unilateral; no complications. High temperature; pulse, 160; delirious. I saw the patient the third day of the disease. One leech was applied on the arm. The blood was mixed as before and heated (62° C.). It was then injected at 3.30 a. m. At 1 p. m. the same day the crisis occurred. The breathing became bronchial and mucous râles could be heard in great amount. The child was in a very good condition, and four days later the patient was fully restored to health.

Case IV.—Child, five years old. Croupous pneumonia, bilateral, complicated by otitis media. Temperature, 104° F.; patient greatly prostrated. I saw the child the fifth day of the disease. One leech was applied, and the blood mixed, heated, and injected, as in previous cases. The next day the temperature went down (101° F.). Apparently the crisis was past. The respiration was tubular in character and mucous râles were heard in great number. Two days later the temperature was normal, and in less than a week the child had fully recovered.

In all these cases no other treatment, except brandy in moderate doses, was employed.

Not seeing any advantage in taking the blood directly from a vein, I now always employ leeches, and having reached the conclusion, so far, that the quantity does not play any rôle, one leech only is used in each case. Further, I have tried different temperatures, but decided upon 176° F. as the one to which the blood should be subjected for two hours. Mixed with a solution of salt (nine tenths per cent.) in the proportion of one to five or six, and put in a test tube, which is placed in a water bath, the blood, after being heated in this way, becomes coffee-brown in color. Flocculation should not occur in higher degree than can be easily removed or corrected by decanting. Finally, this preparation is injected subcutaneously either in the back or chest of the patient by a large antitoxine syringe (H. K. Mulford Company). A whole syringeful is generally used at each treatment. A few days afterward the patient will complain of tenderness around the place of injection, but abscesses have never occurred. One injection only has been used in each pneumonic patient. Not having been able to secure any suitable typhoid-fever case, a sickness which in my mind would offer a great field for experiments with heated blood, I decided to try the method on patients suffering from phthisis. The prospect of success in this disease was, from the start, not considered to be very promising, and the result has not been very brilliant; but the method can be improved and thereby perhaps better results attained. The regular record of low morning and high evening temperature so often found in phthisis has been broken by this treatment; in some cases the temperature has remained normal for several days after the injection. Also, I have noticed a decrease of the râles and an increased hyperæmia in the affected portions of the lungs. Although the time has been too short, and the patient too far advanced, I am prepared to say that the injections should be used more frequently. In the majority of the cases the intervals between the injections have been from five to fourteen days or longer. In the future I have decided to repeat the injections every third day.

Below, my friend Dr. Axel V. Grafstrom, who has greatly assisted me in carrying out the experiments, will give a short review of his observations.

445 State Street.

Clinical Observations on the Treatment of Tuberculosis Pulmonalis by Heated Blood.

By AXEL V. GRAFSTROM, M. D.

From my private practice I have selected two cases as representing one the incipient, the other the chronic stage.

Patient No. 1.—Tailor, Swede, twenty-six years old. Family history good. Moderate drinker. Five months ago the patient contracted a cold and was treated in different dispensaries, probably for pleurisy. About two months ago the patient began to cough and suffer from night sweats, dyspnœa, loss of flesh and strength.

Examination.—Dullness over left apex; a few moist râles; prolonged high-pitched expiration. Tubercle bacilli found in sputum. Normal temperature in the morning; evening temperature, 99° to 100° F. Treatment: Dr. Elfstrom's heated-blood treatment was suggested and accepted.

April 1st.—3 p. m., first injection; 8 p. m., temperature, 102° F.

April 5th.—5 p. m., second injection; 9 p. m., temperature, 99° F.

April 9th.—2 P. M., third injection; 7 P. M., temperature, 98.6° F.

April 15th.—The râles had disappeared, but the dullness was increased. No tubercle bacilli were found in the sputum. The temperature was normal. Less cough and no night sweats. The patient, having secured a position on a farm in Texas, left New York, April 19th, in an excellent condition of health and spirits. No other treatment.

PATIENT No. 2. — Conductor, Swede, forty-three years old. Family history good. Moderate habits. Two years ago the patient had pneumonia, left lung. Since that time he has suffered from cough, night sweats, great dyspnœa, loss of flesh and strength. Examination: Cavities in both lungs. Respiration, 25 to 30; morning temperature, 99°; evening temperature, 102° F. Treatment: The patient, considering his case hopeless, consented eagerly to try the injections. No other treatment.

April 10th.—5 P. M., first injection; temperature, 101.6° F.; 8 P. M., temperature, 98° F.

April 14th.—9 A. M., temperature, 98.6° F.; 9 P. M., temperature, 99° F. Patient felt better. Less cough and dyspnœa. No night sweats since the day of injection.

April 15th.—The patient had a "weak spell," and was persuaded by another physician called in not to try another injection.

Dr. George Taylor Stewart, chief of staff, Metropolitan Hospital, Blackwell's Island, and Dr. E. G. Rankin, visiting physician to same hospital, kindly permitted some experiments to be carried out in said hospital, the result of which is here given: "Six patients, all men, and suffering from tuberculosis pulmonalis, second and third stages, were chosen, all being badly nourished, anæmic, and low-spirited. A few hours after the first injection the temperature in most of the cases went down to subnormal. Only two patients seemed to improve somewhat by the treatment. The temperature in those two cases was brought closer the normal line, and kept so. Some depression was noticed in all patients. Three injections were given to four patients, and two injections to two. An increased hyperæmia of the affected portions of the lungs was observed. No other treatment."

For the foregoing observations I am indebted to Dr. W. F. Doyle, house physician, Metropolitan Hospital.

Through the efforts and interest of William A. Mahnken, Ph. G., M. D., some experiments with heated blood were undertaken in the Workhouse and Almshouse Hospitals, Blackwell's Island, and I will quote from Dr. Mahnken's notes:

"First group—tuberculosis pulmonalis, first stage. Patients fairly well nourished.

"PATIENT No. 1.—Woman, aged twenty-seven years. Family history of phthisis. Six months ago the patient began spitting blood. Became emaciated. Night sweats every night; appetite poor; vomits often; high-pitched, prolonged expiration and subcrepitant râles, both apices, but especially on the right side; dullness.

"*April 12th.*—First injection.

"*April 16th.*—Second injection.

"*April 23d.*—Third injection.

"Present condition: Patient feels much stronger. Appetite markedly increased; had no night sweats since the first injection; cough has almost ceased; sleeps well; temperature normal.

"PATIENT No. 2.—Woman, aged thirty-seven years. Family history of phthisis. Four months ago the patient began to cough very badly; lost weight rapidly; has night sweats every night; pain in chest; gives also a specific history; no appetite; vomits frequently; broncho-vesicular respiration and subcrepitant râles, both apices; injections given April 12th, 16th, and 23d. Present condition: Temperature normal. Patient coughs less; had night sweats twice only since the first injection; no pain in the chest; sleeps better. No other treatment in these cases.

"Second group—tuberculosis pulmonalis, second and third stages. Patients poorly nourished; greatly anæmic; low-spirited. One injection was given the same day to five patients, all women, belonging to this class. A few hours afterward the temperature went down to subnormal in all cases except one, only to rise again. Some depression was noticed in all cases. No improvement was observed except in one case. No other treatment was given for forty-eight hours.

"I am greatly indebted to Dr. D. F. Harkin, house physician at the workhouse, for his careful observations concerning these cases."

In conclusion, I beg to say that: (1) So far no abscesses have occurred; (2) in patients poorly nourished, anæmic, and low-spirited, and being in the second or third stages of the disease, the injections seem to have a depressing effect, and the temperature will fall below the normal line within the nearest hours following the treatment. In such cases this treatment apparently should not be used alone, but in connection with other remedies; (3) in incipient cases the injections alone have proved to have a beneficial influence; (4) this treatment undoubtedly opens a wide field for interesting experiments, but it needs to be more fully investigated, and, perhaps, it needs developing and perfecting before a decided opinion is ventured regarding its permanent effect on tuberculosis pulmonalis; (5) most of the patients experimented upon were for several months previous to the injections on a regular treatment, consisting, in different cases, of creosote, arsenic, iron, strychnine, quinine, morphine, etc., and a great many were getting daily doses of whisky. In all cases such a treatment was suddenly stopped, and, naturally, this would in itself cause more or less depression.

444 EAST EIGHTY-SIXTH STREET.

Therapeutical Notes.

The Treatment of Neuralgia.—The *Clinica moderna* for July 20th recommends the following:

℞ Extract of cannabis indica ..... 7½ grains;
Salicylic acid .... 75 "

M. Make into ten powders.

Two or three powders to be taken daily.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 27, 1898.

THE CANADIAN MEDICAL ASSOCIATION.

The thirty-first annual meeting of the association, held in Quebec last week, was one that our brethren across the border may well be satisfied with. The number of members in attendance was larger, we understand, than had been expected, and the various Provinces were well represented. The programme, which we published two weeks ago, announced only twenty-four papers, and the fact that the number was so small was, in our opinion, of distinct advantage. Commonly, in the case of large societies, we see the programme fairly glutted with titles of papers. The result is that very few of them are really read and still fewer are adequately discussed. In Quebec, however, the list was gone through with conscientiously, and yet there was time for an all-day excursion to the very well appointed quarantine establishment on Grosse Isle.

The president, Dr. Beausoleil, took a stand in his address that was highly satisfactory to the gentlemen who have worked hard for a number of years to bring about interprovincial registration. We are glad to learn that their worthy purpose seems now to be on the verge of accomplishment, thanks in great part, no doubt, to the favorable consideration given by the College of Physicians and Surgeons of Ontario, early in July, to the following resolution presented by Dr. Armour, of St. Catherine's: "That this council hereby places on record its willingness to cooperate with the medical organizations of the several Provinces and territories to establish an office of dominion medical registration, whereby provincial practitioners may secure the right to practise their calling in all parts of Canada on the following basis: The several Provinces shall require a course of professional study of not less than four years, with sessions of eight months each, and shall have a central examining board, before whom all students and applicants must pass before receiving provincial registration, when all provincial licentiates of five years' standing shall be entitled to dominion registration."

Dr. Armour's speech in support of his resolution, as we find it printed in the August number of the *Canadian Medical Review,* was a most cogent plea for the measure he advocated.

To return to the programme, one of its notable features was a poem by Dr. W. H. Drummond, of Montreal, the clever delineator of the "Habitant," dealing with the pioneers of medicine in the Province of Quebec. But the entire list of titles was one of papers on subjects of the utmost interest to all physicians engaged in family practice. The topics were all well handled, and the sessions were attended with unflagging faithfulness. Our Canadian brethren are certainly to be congratulated on the good work done by their association. As for the physicians of the city of Quebec, they did their utmost to make their visitors feel at home in that quaint and picturesque town.

THE MEDICAL AFFAIRS OF THE ARMY.

It is the will of the American people that their soldiers, whether regulars or volunteers, shall be provided with all the safeguards and comforts that the matchless resources of the nation can procure for them. Somebody has balked the people's will in this respect, and the public will not be satisfied until the guilt is fastened upon the person or persons to blame. The people will not stop to reflect that they themselves are primarily at fault in having clamored for immediate offensive operations in Cuba while the volunteers were yet unused to camp life and to military discipline. They know that some of their servants have blundered and that the results have been deplorable, and those servants they will certainly hold responsible. Some of the newspapers have sought to fix the blame upon the medical corps of the army, but in this they have not succeeded. The medical corps of the army is above reproach. We have maintained this all along, and with practical unanimity the medical journals of the country have taken a similar stand. It is pleasant to have foreign testimony to the same effect. The English people are much more accustomed to military operations than we are. Through dire calamities consequent on past defects in the handling of their forces, they have learned that it is absolutely indispensable for the medical department to be untrammelled, that it will not do to leave their medical officers to go about, hat in hand, among the corps comamnders begging for the use of transports, for example. Consequently the British have now brought their medical corps to a high state of efficiency, and they can speak intelligently of those of other countries.

One of the *Lancet's* special correspondents, a volunteer medical officer of the American army, writes from Jacksonville as follows: "I believe the hospital corps is the hardest worked part of the army, even without any other battle than that with disease germs. We volunteers find the regular army surgeons most pleasant. They overlook our lack of knowledge of military forms and facilitate our work in other respects. All realize the difficulty of hastily meeting the needs of so great a military force at once and attach little importance to hastily made and unjust criticisms of the medical department of the army."

Editorially, our London contemporary mentions Surgeon-General Sternberg's defense of his department against General Shafter's criticisms, and it assumes that the medical service furnished the war department and the military officials with recommendations and suggestions as to the nature of the Cuban climate and its diseases, the choice of the best season for military operations, the selection of the force, the food, the clothing, the best times for marches, and many other matters of military hygiene. Surely, when such competent judges as the *Lancet's* writers take it for granted that our surgeon general has done his work well, our own people should at least admit that he has been to some extent thwarted by officers who were not under his control, and that to that extent only has the medical service in Cuba fallen short of what they had expected.

MINOR PARAGRAPHS.

THE BEHRING ANTITOXINE PATENT.

We understand that Parke, Davis, & Company have decided to fight the patent recently granted to Behring, and have for that purpose retained the services of Betts, Betts, Sheffield, & Betts, the well-known patent attorneys. We think they are to be commended for doing so, inasmuch as we regard that patent as a seriously threatening precedent to American pharmaceutical enterprise, besides being unjust and unfair to others, detrimental to the interests of humanity at large, and a blot upon the dignity and honor of the escutcheon of medicine. We would suggest that Messrs. Parke, Davis, & Company should make it a public matter by inviting all the established firms that manufacture antitoxine to join with them in the attack; and we have little doubt that they will have the hearty commendation and support of the medical profession and the medical press throughout the United States.

KOPLIK'S EARLY DIAGNOSTIC SIGN OF MEASLES.

Dr. Q. C. Smith (*Nashville Journal of Medicine and Surgery,* August) writes that during the civil war, when measles raged furiously in many camps of rendezvous, both Northern and Southern, the eruption on the mucous membrane of the lips and cheeks (to which Dr. Smith adds the soft palate), described by Koplik as an early sign of measles, was a matter of common knowledge among doctors, soldiers, and citizens. Dr. Smith concludes: "Many new ideas and things are good, while many good old things and ideas are called new." While, no doubt, Dr. Smith's contention is correct, there can be no doubt that in these latter days the eruption in question has been very generally unknown. Even an old truth reobserved and recorded does not suffer thereby, and it does not follow that the man who hits upon something that was known long ago and has been forgotten was acquainted with that prior knowledge. The wise man once said, "There is *nothing* new under the sun." Dr. Koplik has done good service by calling attention to the overlooked eruption; Dr. Smith's remarks serve to confirm the accuracy of what Dr. Koplik has advanced. There is ample room in medicine for all honest work, whether it be new or merely a recrudescence of the old.

THE TREATMENT OF EPILEPTICS.

Bonnet (*Presse médicale,* July 23d; *Indépendance médicale,* August 10th), as a result of his observations, finds that urea and the phosphates are not the reason of the toxicity of the urine of epileptics, since in the cases in which these elements are abundant the toxicity is almost nil. An exclusive milk regimen almost completely suppresses the urinary toxicity which appears to be greatest subsequent to the crisis. It gradually diminishes toward the access. The epileptic poison, he thinks, may be cumulative like digitalin, and the crisis a natural discharge for its evacuation. Therapeutics having in view the diminution of toxæmia, however, and favoring diuresis (theobromine and a milk regimen, for example) have amply succeeded. The bromine treatment he considers useless and even harmful. The indications should be to favor the elimination of the unknown poison. He suggests that possibly the injection of artificial serum and powerful purgatives, which also favor diuresis, might obtain good results. This treatment, he maintains, if sufficiently prolonged, causes the injured organs to again perform their functions properly, and, moreover, preserves to the patient the integrity of his mental functions. It suppresses his crises and allows of his living in the world.

BLISTERED FEET IN SOLDIERS.

According to Vitaliani (cited in the *Presse médicale* and in the *Nouveau Montpellier médical* for August 7th), the painful blisters of the feet that are apt to result from the use of defective shoes may speedily be so palliated as to enable the soldier to resume his march with comfort. An incision is made with a bistoury through the raised epidermis from one side of the blister to the other. Each flap in turn is gently raised with a forceps, and the surface beneath is dusted with iodoform. The flaps are allowed to resume their place, a little absorbent cotton is applied, and this is held in place with adhesive plaster.

THE ARMY MEDICAL STAFF IN PUERTO RICO.

We hear on good authority that the work of the army medical department in Puerto Rico was as successful as it appears to have been deficient in the Santiago campaign. This was almost entirely due to the fact that there was complete cooperation between the medical officer in charge, Colonel C. R. Greenleaf, and the commander in chief, General Miles. Technical work can only be properly done when its organization, as well as its execution, is entirely in the hands of professionals in place of amateurs. We understand that the wounded all received prompt attention on the field, no redressing was allowed save under urgent necessity, and operations were only done on the field under the most instant stress for the patient's life; the result of all which was that the wounded were shipped in good shape promptly toward the base, and arrived there in good condition without pus or other indications of sepsis. The typhoid has been successfully handled, and there has been so far, as a result of careful quarantine measures, no yellow fever on the island. This shows what can be done when the medical staff has a free hand accorded to it by the military commanders, and is not relegated to the background until some one has to be made a scapegoat for the blame of maladministration.

KERNIG'S SIGN OF MENINGITIS.

At a recent meeting of the Paris Hospital Medical Society (*Progrès médical,* July 30th) M. Netter insisted upon the great value of a sign of meningitis described by Kernig in 1884. The sign is this: When a person in health sits up in bed with his leg flexed, he can straighten it without difficulty; a person affected with meningitis can not do it unless he lies down. Netter regards this sign as almost pathognomonic.

PUS BASINS "TO BURN."

Dr. Konrad Majewski, a military surgeon, describes and figures in the *Aerztliche Polytechnik* for August a kidney-shaped pus basin made of waterproofed pasteboard. The material is cut by a pattern, moistened, molded roughly into shape by creasing the border that is to be turned up, and dried in the sun or in an oven. After the basin has been once used it is to be burned.

MORE HOME NEWS FROM ABROAD.

The *Gazette médicale de Paris* quotes from the *Imparcial* a statement to the effect that there are cases of cholera in New York at present. It is to be presumed that the *Imparcial* is a Spanish newspaper and consequently well informed as to American affairs. *Il faut ajouter foi à la Gazette de Hollande.*

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 20, 1898:

DISEASES.	Week ending Aug. 13.		Week ending Aug. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	34	13	94	18
Scarlet fever	58	3	64	5
Cerebro-spinal meningitis	0	0	0	0
Measles	76	4	59	6
Diphtheria	101	15	98	13
Croup	5	7	0	0
Tuberculosis	148	120	166	132

Death of Dr. Auguste Voisin.—We learn from the *Medical News* for August 13th of the death of Dr. Auguste Voisin, physician to the Salpêtrière Hospital, Paris, and a prominent authority on hypnotism and mental diseases.

Philadelphia Mortality Statistics.—The number of deaths was 446 for the week ending August 20th, showing an increase of 3 over the week preceding, and of 16 over the corresponding period of last year.

The following are the principal causes of death: Tuberculosis, 50; heart disease, 20; marasmus, 23; old age, 19; cholera infantum, 40; pneumonia, 20; Bright's disease, 26; sunstroke, 2; uræmia, 8.

Infectious Diseases.

DISEASES.	Week ending Aug. 20.		Week ending Aug. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Diphtheria	45	16	49	2
Scarlet fever	10	1	25	0
Typhoid fever	78	8	60	13
Total	133	25	134	15

A Philadelphia Physician Appointed Military Camp Inspector.—To combat the epidemics of typhoid fever now raging in the different camps of the volunteer army, the war department has appointed an army board of sanitation composed of Dr. E. O. Shakespeare, of Philadelphia; Dr. Victor C. Vaughan, of Ann Arbor; and Dr. Reed, who will begin work at once. This board, it is stated, was appointed for the purpose of taking matters into their own hands with such dispatch as may be necessary for the prevention of the spread of typhoid fever among the troops.

As matters now stand, the war department is encumbered with so much red tape that the necessity for this board became imperative.

The board will visit the different army camps for personal inspection, and wherever unsanitary conditions prevail they will be reported by dispatch to the war department and the necessary measures for their correction will be promptly instituted.

Dr. Shakespeare was doubtless chosen because of his extensive experience in dealing with such matters, he having served before on similar commissions. In 1885 President Cleveland appointed him a commissioner to India to investigate the cholera epidemic. In 1884 the State of Pennsylvania sent him to Plymouth to investigate the epidemic of typhoid fever then prevailing at that place.

In 1892 he was port physician of Philadelphia during the cholera scare, and the absence of the disease at this place points to his capabilities. In 1894 he was the representative of this country to the Paris Conference to consider means to regulate the navigation of the Persian Gulf and Red Sea and to prevent the transmission of cholera from India toward the west.

It is stated that the first objective point of the sanitary board will be Montauk Point, after which it will visit the different army camps to institute the necessary precautions against the diseases which are prevalent.

Philadelphia's Sanitary Condition.—At a recent meeting of the board of health of this city the chief nuisance inspector made his report. House-to-house inspections have been made especially among the foreign inhabitants residing along the Delaware River front. Three thousand six hundred and seventy-three premises were inspected, with the result that seven hundred and four nuisances were discovered. He reported that his work was not hindered by any nationality except the Polish. He thought that while in some sections contagious diseases might develop, a thorough renovation would prevent the spread of yellow fever even though it were introduced.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending August 20, 1898:

Small-pox—United States.

Cascade Cañon, Col.		7 cases.	
Washington, D. C.	Aug. 13	1 case.	

Small-pox—Foreign.

Madras, India	July 2–8		1 death.
Osaka Fu, Japan	June 27–July 27	1 case.	
Tokyo Fu, Japan	June 27–July 27	3 cases.	
Aichi Ken, Japan	June 27–July 27	4 "	
Akita Ken, Japan	June 27–July 27	4 "	2 deaths.
Awomori Ken, Japan	June 27–July 27	55 "	11 "
Chiba Ken, Japan	June 27–July 27	1 case.	
Fukushima Ken, Japan	June 27–July 27	2 cases,	2 "
Hiogo Ken, Japan	June 27–July 27	6 "	1 death.
Iwate Ken, Japan	June 27–July 27	4 "	2 deaths.
Kanagawa Ken, Japan		1 case.	
Miyagi Ken, Japan	June 27–July 27	3 cases.	
Aita Ken, Japan	June 27–July 27	1 case.	
Yamagata, Japan	June 27–July 27	4 cases,	1 death.
The Hokkaido, Japan	June 27–July 27	11 "	1 "
Odessa, Russia	July 16–23	2 "	2 deaths.
St. Petersburg, Russia	July 16–23	4 "	3 "
Warsaw, Russia	July 9–16		7 "
Warsaw, Russia	July 16–23		15 "
Warsaw, Russia	July 23–30		5 "
Caracas, Venezuela	July 25	150 "	
La Victoria, Venezuela	July 25	A very large number of cases.	
Valencia, Venezuela		1,000 cases.	

Yellow Fever—Foreign.

Port Limon, Costa Rica	July 14–Aug. 4	2 deaths.
Monterey, Mexico	Aug. 1	Reported present.

Yellow Fever—United States.

Key West, Fla	Aug. 16	3 cases at marine barracks.
Pensacola, Fla.	Aug. 14	1 case on Br. S. S. Nicaraguan from Tampico, Mexico.
Franklin, La.		1 case (origin believed to be the pulling down of an old house infected last year).
On transport ships arriving at Camp Wikoff, Long Island:		
S. S. St. Louis	Aug. 14	1 death *en route.* No cases on arrival. 1 case developed on the 16th.
S. S. Grand Duchess	Aug. 15	25 suspects.

Cholera—Foreign.

Bombay, India	June 21–28		2 deaths.
Bombay, India	July 5–12		3 "
Calcutta, India	June 26–July 2		9 "
Madras, India	Aug. 12	Cholera epidemic.	
Tokyo Fu, Japan	June 27–July 27	15 cases,	10 deaths.
Fukuoko Ken, Japan	June 27–July 27	1 case.	
Iohikaw Ken, Japan	June 27–July 27	3 cases,	2 "
Yamagata, Japan	June 27–July 27	1 case.	

Plague.

Amoy, China	June 8	About 20 deaths reported daily. Plague epidemic since May 8th in 3 cities distant 30 miles from Amoy.
Alexandria, Egypt	Br. S. S. Carthage arrived July 12th from Bombay and Aden; reported one case of plague put ashore in hospital at Aden. Vessel disinfected.	

The Philadelphia Hospital Train Returns with One Hundred and Four Patients.—It will be remembered that in a previous issue of the *Journal* mention was made of the success obtained by Dr. William Batt, of this city, in obtaining the consent of the war department for bringing to this city the sick soldiers at Chickamauga and other army camps.

The plan worked admirably, and a large number of them arrived in the hospital train on Sunday evening, August 21st. Consent having been obtained from the war department, nothing remained but to enlist the aid of the Pennsylvania Railroad in carrying out the proposed measures.

Thirty workmen were immediately put to work removing the seats, disinfecting the compartments, and adding all the necessary equipments, such as a sick diet kitchen, bath tubs, tables, gas heaters, and a department for drugs. Linoleum carpets were put down, and the cots were fastened to the floor with cleats, to prevent jolting, and over each cot mosquito netting was placed. Each car was said to be a rolling hospital with two night and two day nurses in charge.

The train was made up of eight coaches, five of which were fitted up as hospital cars. The forward car was converted into a complete culinary department and refrigerator. In the rear were two Pullman cars, one used as a dining car for the physicians and nurses, and the other as a sleeper.

The physicians in charge were Dr. Carl Frese of the German Hospital, Dr. Henry Sykes of the Episcopal Hospital, Dr. George Pfromm of the Medico-chirurgical Hospital, and Dr. Wilmer R. Batt, a member of the city council, through whose effort the plan became an accomplished fact.

The train arrived on Sunday without any mishap. Dr. Pfromm was so unfortunate as to slip upon a piece of ice and fall from the moving train, but was able to resume his duties immediately.

The troops seemed to bear the journey well, and a change for the better occurred in some cases immediately after the start was made.

All of the hospitals of the city had ambulances at the depot awaiting the arrival of the train, so that the patients were without delay conveyed to places already prepared for them.

City Officials of Philadelphia Investigating Cases of Ptomaine Poisoning.—The five cases of ptomaine poisoning recently reported from this city, followed so closely upon the heels of other cases developing farther uptown, set the city and State officials to work to find out those responsible for the bad condition of the ham eaten by the Cartledge and McNamara families. It will be remembered that shortly after eating the boiled ham (which had been purchased at the same place by the two families) all were seized with intense abdominal pain accompanied by nausea and vomiting, and in one case hæmorrhage followed. All the cases were treated promptly and were pronounced due to ptomaine poisoning by the attending physicians. The meat inspection department of the city, and also the pure food commission, have both put experts at work on the cases.

Samples of the infected meat were obtained by both parties, who are now making experiments with it, besides subjecting it to chemical analysis.

Dr. Prose, of the city bacteriological department, will try the effects of the ham on rabbits and guinea-pigs, and his report is looked forward to with much interest.

Dr. Henry Leffman, analytical chemist, is authority for the statement that the cases were due to ptomaine poisoning.

Expert Testimony by Philadelphia Physicians.—A few days ago Dr. Charles K. Mills, professor of diseases of the nervous system in the University of Pennsylvania, was called to Lancaster, Pennsylvania, as an expert witness in the Wireback murder trial.

The case is attracting quite a good deal of attention owing to the shocking tragedy which occurred in April last. It seems that the prisoner Wireback owed rent to D. B. Landis, a banker, and on defendant's refusal to pay Landis, he and a party called at the house owned by the latter, in which Wireback was living. The prisoner defied the entrance of officers of the law and barricaded the doors of the house.

After a few words of parleying Wireback was finally induced to permit Landis to come to the top of the stairs to talk with the tenant, and it was reported at the time, while they were discussing matters, that Wireback shot Landis and he died immediately.

Dr. Charles K. Mills, on the stand, testified that he examined the prisoner on May 18th and again July 11th, and from his own observations he believed the prisoner was insane, of unsound mind at the time of the shooting.

The type seemed to be a delusional form of insanity, as exhibited by the patient's declaration that he had discovered perpetual motion, and seemed to fear that he would divulge the secret while detailing his claim to witness.

On cross-examination Dr. Mills admitted that there was a wide difference of opinion among doctors regarding these cases. There seemed to be as many opinions as there were doctors. He is further reported as stating that his opinion was not changed by the fact that the prisoner was negotiating with Mr. Landis just before the shooting occurred.

Dr. J. Z. Gerhart, of the State Hospital for the Insane, and Dr. Theodore Diller, of Pittsburgh, also concurred in the opinion as expressed by Dr. Mills.

The prosecution then introduced witnesses in rebuttal, who stated that they had had dealings with Wireback shortly before the shooting, and they further stated, under oath, that they did not see any change in the manner of Wireback to indicate that he was of unsound mind.

Dr. John R. Chapin, of Philadelphia, stated he had made a special study of mental diseases for forty-three years, and had several years' experience in asylum work. His testimony was to the effect that the prisoner could not have done what it is alleged he did do if he was suffering from delusional insanity. He thought the disease in this case could not have developed within six months. He thought it was not possible to pass from a conscious state to unconsciousness and back again to consciousness within half an hour. In regard to delusional insanity, Dr. Chapin said the delusions would be so apparent, continuous, and without intermission, that they would be noticeable by the general community. He inferred from the fact that the prisoner had conducted his business without change from his usual manner of conducting it for many years that the man was sane.

M. J. Cassidy, warden of the Eastern Penitentiary, Philadelphia, testified that many criminals feign delusions even to such an extent that they often deceive expert alienists. The trial is not concluded.

The Government Inquires of Accommodations at University Hospital.—In reply to a recent dispatch from Washington making inquiry regarding the accommodations at the University Hospital, Philadelphia, the officials of that institution reported that all its facilities would be placed immediately at the disposal of the government if required.

Death of an Army Nurse.—We learn from the *Boston Medical and Surgical Journal* for August 18th of the death of Miss Dorothy Phinney, said to be the first woman to lose her life in hospital service in the war. She had been a nurse in Kings County Hospital, Brooklyn. Her loss is deeply regretted.

Severance of Several Toes; with Restoration.—Dr. John Cooke Laurens (*Louisville Medical Monthly*, August) reports the case of a colored man who had been using a heavy axe, and had cut through the heavy shoe he wore and severed the metatarsal bone of the first toe just through the head and completely disarticulating the toe. The second toe was off entirely just forward of the metatarsal joint, and the third was cut and broken, but not off.

Owing to the distance from the house he had to ride horseback more than a mile, and this, with the slowness of the messenger, caused a delay of four hours before the doctor reached him.

The shoe and sock had not been removed, and the foot was elevated. Dr. Laurens cut the shoe away, with the sock, and found that practically all hæmorrhage had ceased, owing to the clots. When he examined the injury the second toe fell away in his hand and the first toe was discovered to be hanging by a mere string of skin, every muscle and vessel being cut.

As in all cabins, the room was small and ill-suited for hospital purposes, but it was decided to try the forlorn hope and replace both toes. The site of injury was washed in warm water, and was found very dirty.

No hæmorrhage other than a slight oozing being present, the hot water was quite sufficient to stop it. The toes being quite warm from the mass of clot which filled the shoe, no time was lost in placing them in position and suturing the approximated edges, the needle being inserted deep enough to include the tendon on each toe. Interrupted sutures were used, as the foot was very rough and the wound in an awkward place for continuous work.

A dressing of iodoform and boric acid, equal parts, was used, with plain gauze, and the foot bandaged to a splint extending beyond both heel and toes. The iodoform was discontinued after the first day, as it inflamed the part too much, and plain boric acid was substituted.

In spite of the disadvantages of lack of attention, care, etc., union by first intention occurred over more than half the injury, and there was but little pus where granulation took place.

On the third day sensibility was present in both toes, and in a week the patient could move them a little on the splint. The stitches were removed on the tenth day and a good recovery was made.

The toes now (July) are strong and movable, sensibility perfect, and, save for a little tenderness, the man reports his foot as good as ever.

The Antitoxine Treatment of Tetanus.—Dr. F. B. Lund (*Boston Medical and Surgical Journal,* August 18th) thus summarizes a careful and exhaustive paper on this subject: 1. Although the statistics of the antitoxine treatment of tetanus up to the present time apparently show a diminution in the mortality under this treatment, they may be legitimately criticised as on the whole insufficient in total number, in definiteness of reports, and as probably not including all fatal cases treated. 2. The more carefully we study them the less evidence do we find that the antitoxine treatment, and not the mild course of the disease, was responsible for the favorable course in the cases which have recovered. There is no satisfactory evidence that harm has resulted from the injections. 3. There is a distinct probability that in the great majority of the total number of cases treated the dose of antitoxine, especially the all-important initial dose, has been too small to have any possible effect upon the disease. 4. The treatment in view of the present intractability of the disease demands further trial. 5. There are certain means by which we can hope to make it more effective, and these include earnest efforts on the part of those engaged in the production of serum to secure a stronger product, and on the part of those who employ it in treatment to give a sufficiently large initial dose, and to give it at the earliest possible moment. The serum should be injected directly into the blood stream. 6. The strength of the antitoxic preparations furnished by the Massachusetts and the New York Boards of Health, when first supplied, was so slight as to render it necessary to employ 500 cubic centimetres as the initial dose. 7. A valuable field for the use of antitoxine lies in its employment for immunizing purposes. 8. The treatment of tetanus, according to our present knowledge, should consist of: *a.* Thorough disinfection of the primary focus by mechanical means, including, if necessary and practicable, amputation. *b.* The thorough local employment of such chemical antiseptics as have been shown to destroy both the bacilli and the toxine. *c.* Symptomatic treatment by sedatives, etc. *d.* Thorough diuresis. *e.* Intravenous injection of an amount of antitoxic serum which shall contain at least 500 antitoxic units at the earliest possible moment.

Chloroform Externally During Labor.—Dr. Archangelsky (*Vratch; Louisville Medical Monthly,* August) says that for several reasons the external application of chloroform to the abdomen in severe and irregular labor pains is superior to chloroform anæsthesia. He employs a mixture of one part of chloroform to two or three parts of olive oil, rubs it in well on the abdomen, and then applies a warm compress. In a very short time the pain is relieved, the contractions become regular and more effective. Its advantages over chloroform anæsthesia are: The patient remains fully conscious, the pulse and the respiration remain good, there are no nausea, vomiting, or uterine atony.

Pharyngitis Sicca. — Krebs (*Internationales Centralblatt für Laryngologie,* No. 5; *Journal of Eye, Ear, and Throat Diseases,* July) concludes that pharyngitis sicca is but a name under which several entirely distinct diseases have been collected—namely:

1. Those cases in which we diagnosticate pharyngitis sicca from the varnish-like coating or from scabs are normal or inflamed pharynges covered with nasal mucus or pus.

2. A second series of cases consists of chronic pharyngeal catarrh, produced by obstructed nasal breathing or mouth breathing. Here the abnormal sensation of dryness has given cause for the name pharyngitis sicca.

3. Especially in France those cases are called pharyngitis sicca which, together with dryness of the throat and mouth, are concomitant symptoms of diabetes and Bright's disease.

The treatment of the nose is the proper one, all painting of the throat being without result. The result of treatment confirms the author's conception with regard to the ætiology of pharyngitis sicca.

Stab Wound of the Thoracic Duct.—Dr. W. H. Lyne (*Medical Register,* August 15th) records a case of stab wound of the thoracic duct, which terminated in recovery. Plugging was the method adopted, iodoform gauze being used after cleansing the wound with a weak, hot, carbolized solution.

The Metrorrhagia of Young Girls.—Dr. Castan (*Gazette de gynécologie,* August 1st) considers that obstinate constipation with fæcal accumulation plays an important part as a causative factor in the production of metrorrhagia, not only from a mechanical, but also from a toxic point of view. The retention of ptomaines, derivatives of putrefaction, nitrogenous compounds, phenols, indol, skatol, etc., remaining in the intestine induce stercoræmia, which is a prominent cause of hæmorrhage. Dr. Castan therefore directs special attention to combating constipation in all cases.

Births, Marriages, and Deaths.

Married.

Babcock—Richardson.—In Springfield, Missouri, on Thursday, August 11th, Dr. Charles Lord Babcock, of Milwaukee, and Miss Georgie Richardson.

Biggs—Richardson.—In Hornellsville, N. Y., on Thursday, August 18th, Dr. Hermann M. Biggs, of New York, and Miss Frances Richardson.

Died.

Chadwick.—In Omaha, Nebraska, on Saturday, June 11th, Dr. Payson Martin Chadwick, aged forty-six years.

Otterson.—In Long Branch, N. J., on Wednesday, August 17th, Dr. William Carter Otterson, of Brooklyn, in the sixty-ninth year of his age.

Vermyne.—In Francestown, New Hampshire, on Tuesday, August 16th, Dr. John B. Vermyne, of New Bedford, Massachusetts, in the sixty-third year of his age.

Letters to the Editor.

THE REORGANIZATION OF THE ARMY MEDICAL SERVICE.

Bath, N. Y., *August 17, 1898.*

To the Editor of the New York Medical Journal:

Sir: Your article of August 6th on the reorganization of the medical corps of the army was most judicious. There is one custom to which I would call attention, and against which I think the medical profession should protest—viz., the employing of acting assistant or "contract" surgeons in time of war. There can be no objection to employing physicians by contract for temporary duty on the frontiers in times of peace; but in times of war the custom should be abolished, as it leads the physician into great embarrassment in later years. Why should not the physician of experience be commissioned, as is the captain or lieutenant, who perhaps has not studied tactics three months? While he has the rank and pay of a first lieutenant, and is treated accordingly in time of war, when peace is restored he is not recognized by the government or the G. A. R. I write from experience, having served in that corps twenty-five months during the civil war. The system works a great injustice and should be abolished, and I respectfully ask the influence of the *Journal* to that end.

Ira P. Smith, M. D.,
Late Acting Assistant Surgeon, U. S. A.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 11, 1898.

The President, Dr. Walter B. Johnson, in the Chair.

(*Concluded from page 281.*)

Inorganic Heart Murmurs.—Dr. Henry H. Schroeder read a paper on this subject. (See page 228.)

Dr. Walter Lester Carr said that he thought a paper of this kind was of the utmost value in every way: In the first place, in the consideration of the functional murmurs when examining a well-marked case of cardiac lesion; and in the second place, the proper elimination of the functional conditions in all cases where one had to deal with constitutional states irrespective of cardiac disease. Of course, there was the chance of dismissing a case of lesion, thinking it might be functional, if one made a single examination. He asked what the reader of the paper meant by idiopathic endocarditis. With reference to endocarditis, there was a tendency in severe forms of the disease to produce changes which were characteristic, but occasionally one had a case of endocarditis, following a mild attack of rheumatism, or following a case of typhoid fever, where for some time the symptoms would be distinct and then disappear, and if an examination was not made for a long time it would be thought that there was no further disease. Then, after exercise or strain or further illness, it would be found that the heart was undoubtedly diseased. Some of these cases should be carefully watched before they were dismissed as functional murmurs. He spoke of a case of endocarditis in a boy of fourteen, who had been thought to have a functional murmur because he was anæmic. The boy had come to the speaker, who had found that he had a tricuspid lesion. The mother had been in bed for six months of her pregnancy with inflammatory rheumatism. The boy had had endocarditis in the right side, and the lesion, of course, had left that trouble which showed at the present time. With reference to the hypertrophy of anæmia, he thought it a little difficult to determine about an absolute general hypertrophy. He had seen well-marked cases of anæmia that had lasted for a long time, accompanied by an hypertrophy which had not been at all a general hypertrophy. In general, the paper was a very valuable one, and he agreed with the writer in most of the points.

Dr. Rupp said that the paper covered pretty much the whole ground of heart murmurs. He thought it a misnomer to speak of inorganic murmurs, and in looking up Broadbent and Rosenbach he had found that these most recent authors did not refer to inorganic murmurs in their indexes. In diagnosticating heart disease we must, in order not to make mistakes, not only in diagnosis, but in prognosis, too, look for other features than simply a murmur. He spoke of a classmate of his in whom a mitral murmur had been discovered. The boy had been advised not to run or play baseball, not to dance or to do gymnastics, etc. Of course, the boy had finally done everything the doctor had cautioned him not to do, and to-day, twenty-five years after, he was a strong and hale man. He had his mitral murmur, but that gave him no trouble. Murmurs, of course, were important items in fixing a diagnosis, but to give them paramount importance they must be considered along with other heart signs and constitutional symptoms, otherwise mistakes would be made.

Dr. Schroeder said that, in regard to idiopathic endocarditis, he confessed, though he had mentioned it as occurring in rare instances, that he took the possibility of such a condition entirely on faith, and regarded it only as serving a useful purpose when the diagnostician had been unable to trace out the cause, and, so far as his experience went, there was no other reason for retaining such a disease as idiopathic endocarditis on the list. In regard to the murmurs heard in infectious fevers, all physicians had probably heard them during measles, scarlet fever, diphtheria, and typhoid fever, and some had been surprised, wondering that they had not known before that the child had heart disease. In most instances, however, the murmur disappeared when the fever abated, having been due largely to overaction of the heart. Dr. Carr had mentioned a case of tricuspid disease following rheumatism. This was an unusual case, for we were far more apt to find tricuspid disease the result of rheumatism during intra-uterine life; it very rarely originated after birth. In *slight* hypertrophies one ought always to be cautious in the diagnosis and prognosis, for in these cases it was very hard to say whether the hypertrophy was limited to the left side of the heart as a result of valvular disease, or general, as the result of anæmia, when a murmur which might be functional so existed. If the enlargement was quite general, or if a marked ventricular hypertrophy was present, it could be made out, but there were cases in which we should be left in doubt for a while. Dr. Rupp had taken the stand that murmurs *per se* were of minor importance, but that in connection with other constitutional and local organic troubles they were varyingly grave. On this very ground insurance examiners had been unjustly criticised, because some applicants had been declined for valvular disease and had gone on living for years without any disturbances attributable to that disease. Notwithstanding this, it must be admitted that chronic endocarditis was always a menace, and that no one could foretell just when secondary symptoms would be excited, or how unfavorably the prognosis would be affected in consequence thereof in the course of any acute ailment, such as influenza or pneumonia.

Book Notices.

Rheumatoid Arthritis: Its Pathology, Morbid Anatomy, and Treatment. By GILBERT A. BANNATYNE, M. D. Glas., M. R. C. P. Ed., Hon. Physician to the Royal United Hospital and to the Royal Mineral Water Hospital, Bath. Second Edition. Illustrated. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898. Pp. xii–182. [Price, 7*s.* 6*d.*]

WE are happy that a second edition of this monograph gives us again the opportunity of calling it to the attention of the profession in America. The causes, pathogenesis, pathological anatomy, and clinical behavior of rheumatoid arthritis are exhaustively considered. The author cites the views of previous writers on this subject, and voices with renewed emphasis his own conviction as to the bacterial origin of the disease.

The chapter on treatment is particularly full and satisfactory. The volume is reenforced by excellent skiagraphs, and photographs of affected joints.

The disease is one of such great interest and one which, as the author says, so frequently fails to be recognized, that its present systematic portrayal is to be considered as a valuable contribution to medical literature.

A Manual of Hygiene and Sanitation. By SENECA EGBERT, A. M., M. D., Professor of Hygiene and Dean of the Medico-chirurgical College of Philadelphia, etc. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. viii–17 to 368.

THE advantage of this manual lies in the fact that it is written in plain language and, while primarily designed for physicians, it can be studied with profit by any one of ordinary intelligence. The writer has adapted it to American conditions, and his suggestions are, above all, practical. At the present time, when all readers of the daily papers are having their attention called to matters of military hygiene, it is an excellent season to advance the general intelligence of the community along this general line, and for that reason the present manual is likely to meet with much approval. It will be a valuable corrective for much of the nonsense which, under the title of "Medical Notes," is published in our magazines and newspapers.

Atlas and Abstract of the Diseases of the Larynx. By Dr. L. GRÜNWALD, of Munich, Authorized Translation from the German. Edited by Charles P. Grayson, M. D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania, etc. With One Hundred and Seven Colored Figures on Forty-four Plates. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 103. [Price, $2.50.] [Saunders's Medical Hand Atlases.]

THIS series of *Atlases* (of which the present volume is No. 3) has much to commend it to both the student and practitioner. The one under consideration is written on somewhat of a different plan from the usual treatise of its size, and forms a most valuable groundwork on which to build one's knowledge. The text comprises a series of chapters on methods of examination, acute and chronic inflammations, neoplasms, disturbances of motility and sensibility, solutions of continuity and malformations. Then follow the figures and plates, which are not merely schematic, but are faithful delineations of cases which have been observed by the author. Opposite each plate is an epitome of the clinical history of the case with the results of treatment and other pertinent information. The result is that the reader can almost fancy himself at a clinic rather than merely reading a book. The fine quality of the plates is remarkable in a work of this size. They show the various common pathological conditions and also sections of various tumors, diseased tissue, etc., so that the manual is of service as a book of reference, in spite of its small size. In its way, it is incomparably the best thing we have yet seen.

Die Hyperplasie der Rachentonsille und die adenoiden Vegetationen des Nasenrachenraumes. Von Dr. GUSTAV ABELES, prakt. Arzt in Wien. Mit fünfzehn Abbildungen im Texte. Leipzig: C. G. Naumann, 1898. Pp. vi–1 to 122.

THIS is a monograph of 118 pages and forms one of the series of the Medicinische Bibliothek fuer praktische Aerzte. It gives a systematic description of the familiar subject of "adenoids" incorrectly so called, and forms an excellent exposition of the subject as at present regarded. It contains nothing new and calls for no special remark.

Hay Fever and its Successful Treatment. By W. C. HOLLOPETER, A. M., M. D., Clinical Professor of Pædiatrics in the Medico-chirurgical College of Philadelphia, etc. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–9 to 137. [Price, $1.]

THE writer gives a history of the disease, discusses in turn its exciting and predisposing causes, time of occurrence, symptoms, pathology, etc., and finally comes to treatment. The foregoing chapters contain nothing new, but are a fair exposition of the various theories which have arisen regarding the disease. A valuable bibliography is appended and the book has a good index.

Naturally one turns first of all to the chapter on treatment. When a writer says that he has *given complete relief to two hundred patients in the last ten years,* we feel that surely the philosopher's stone of hay-fever therapeutics has been discovered; but we find that this remarkable plan of treatment consists merely in thoroughly cleansing the nasal passages (presuming that they require no surgical procedures) with Dobell's solution and then applying menthol in albolene.

We have no wish to question the honesty of the author as to the results he has obtained with the plan of treatment he describes. But it must be said that others have tried the same plan with results far less satisfactory, and we fail to see why he feels called upon to add another to the already large number of inconclusive works on hay fever.

The Extra Pharmacopœia. Revised in Accordance with the British Pharmacopœia, 1898. By WILLIAM MARTINDALE, F. L. S., F. C. S., Member of Council of the Pharmaceutical Society, etc. Serotherapy, Organotherapy, Medical References, and a Therapeutic Index, by W. WYNN WESTCOTT, M. B. Lond., etc. Ninth Edition. London: H. K. Lewis, 1898. Pp. xxviii–626. [Price, 10*s.* 6*d.*]

THE recent revision of the British Pharmacopœia is chiefly responsible for the ninth edition of Martindale and Westcott's well-known publication, as well as for the larger number of changes in it as compared with the eighth. Pharmacological advances, however, have been constant and rapid among the large class of the non-official during the last three years, and therefore a rejuvenation of the Extra Pharmacopœia will be thoroughly welcome. Our view of this work has often been expressed, and is in harmony with the general opinion of it. Its value is exceedingly great, and scarcely less to the student of the United States Pharmacopœia than to him of the British Pharmacopœia, for what is "extra," in most cases, appeals to both. The form and arrangement of the work are excellent, and the small size of the volume a great advantage. No doubt to the pharmacist a dispensatory would be the preferable work, but for the physician's needs the Extra Pharmacopœia has manifest advantages, for it briefly yet thoroughly makes him acquainted with all drugs, and by reference makes it possible for him to pursue his research further if he so desire. The Extra Pharmacopœia is a very valuable work.

Miscellany.

An International Congress of Hypnotism.—According to the *British Medical Journal* for August 6th, the Second International Congress of Experimental and Therapeutic Hypnotism will be held in Paris in August, 1900, immediately after the closure of the International Congress of Medicine. The Executive Committee consists of Dr. Dumontpallier (president); Dr. Boirac of Dijon, Dr. Grasset of Montpellier, and Dr. Liégeois of Nancy (vice-presidents); Dr. Bérillon (general secretary), Dr. Paul Farez (assistant general secretary); and Dr. Henri Lemesle, Dr. Félix Regnault, Dr. Julliot, and Dr. Lépinay (secretaries). The honorary presidents are Professor Azam, Professor Raymond, Professor Richet, and Dr. Durand, Dr. De Gros, Dr. Liébeault, and Dr. Jules Soury. General reports will be presented on the following subjects: 1. The formation of a vocabulary of hypnotism and the phenomena relating thereto. 2. Hypnotism in relation to the law of November 30, 1892, on the practice of medicine; interference of public authorities in the regulation of hypnotism. 3. Relations of hypnotism to hysteria. 4. Applications of hypnotism to general therapeutics. 5. Indications of hypnotism and suggestion in the treatment of mental diseases and alcoholism. 6. The applications of hypnotism to general pedagogy and mental orthopædics. 7. Value of hypnotism as a means of psychological investigation. 8. Special responsibilities arising from the practice of experimental and therapeutic hypnotism. Communications will be received on subjects referring to the (1) clinical and therapeutic applications; (2) medico-legal applications; (3) psycho-physiological applications; and (4) pedagogic and sociological applications of hypnotism and suggestion. Further information may be obtained from Dr. Bérillon, 14, Rue Taitbout, Paris.

Clinical Quackery.—The *Chicago Medical Recorder* for August says that the Roman Catholic Bishop of Augsburg, Germany, has recently made a communication to the clergy of his diocese on the increasing tendency of the clergy to give advice in cases requiring medical treatment—a practice which he condemns and charges that it be avoided. The action of this bishop, says our contemporary, is the more pertinent, since the home of the late Father Kneipp and his successors is within his diocese. Would that the American clergy, both Catholic and Protestant, might receive a similar rebuke and that their penchant for quack nostrums might be forsworn.

Are "Doctors' Orders" Responsible for Habitual Inebriety?—According to the *Medical Sentinel* for August, Dr. Norman Kerr, the well-known authority on alcohol and temperance advocate of London, denies the statement so often heard that "doctors' orders" are a frequent cause of inebriety. He has studied the subject and is not able to trace such a cause in more than one half of one per cent.

Further Evidence of the Value of Antitoxine in Diphtheria.—We learn from the *Western Medical Review* for August 15th that a committee representing the Clinical Society of London, which has been investigating the treatment of diphtheria with antitoxine, has made its report. It shows very careful research, and an honest endeavor to arrive at the truth. By comparison of a series of cases treated with antitoxine with that of a series treated by other methods, the former, the antitoxine method, is shown to be superior, the mortality being only 19.5 per cent. in the former as against 29.6 per cent. in the latter. The use of antitoxine in the laryngeal cases was found to have reduced the number of cases requiring tracheotomy, with very marked lessening of mortality in the cases operated on. This mortality was reduced from 71.6 per cent. to 36 per cent. On the whole the report confirms the value of antitoxine in the treatment of diphtheria to be remarkable.

The Relations of Insanity and Pelvic Disease in Women.—Dr. W. O. Henry (*Western Medical Review*, August 15th) sums up a paper on this subject as follows:

1. The relations of insanity and pelvic disease in women have not heretofore received the attention their importance deserves, nor which they will receive in the future.

2. Not all insane women have pelvic disease as a cause or factor, but many do.

3. Not all insane women who have pelvic disease as a factor can be cured by local treatment or operations, but in the early stage such treatment or operation in many cases would have been curative or preventive.

4. Cases not benefited by local treatment and conservative operations might still be cured by more radical operations.

5. Epileptic and insane married women, before being returned to their husbands, should, as a rule, have the tubes and ovaries removed (if not more) for two reasons: (1) Many such will thereby be restored to health, happiness, and usefulness, while (2) such will not then propagate their unfortunate and helpless kind.

6. All insane and epileptic women should have their pelvic organs most thoroughly examined at once, and all diseased conditions there relieved by whatever means necessary as quickly as possible.

7. If these things be true, it is important for the general practitioner (under whose care all of these cases

first come) to see that all pelvic disorders in women are properly treated and cured as soon after their discovery as possible, in order to prevent these mental troubles.

8. Finally, it is important for our insane women to have the benefit of what the gynæcologist can do at the earliest possible period.

A Company to Provide Consultants.—According to the *Medical Age* for August 10th, a company has been formed in England, with a physician at its head, to provide consultants in particular cases. This is where the commercializing spirit of the age is leading us. But will reputable consultants lend themselves to such a debasing practice?

The Parental Transmission of Tuberculosis.—Dr. Jordan (*Chicago Medical Recorder,* August), in an article on The Inheritance of Certain Bacterial Diseases, says of tuberculosis that its transmission by germinal infection stands in a doubtful light, and convincing evidence of the relative frequency of such transmission, if it occurs at all, is difficult to obtain. The reason for this is that either a mother originally tuberculous or one infected by the male parent may communicate the infection to the child *in utero,* in which case the child is only secondarily infected during its intra-uterine life, and the case can not be distinguished as one of purely germinal transmission.

The transmission of a bacillus from mother to fœtus during uterine life must be regarded as answered somewhat more emphatically in the affirmative. Anthrax bacilli, typhoid bacilli, pneumococci, and a few other micro-organisms have been found in the fœtus in cases where the mothers are suffering from these respective diseases. The bacilli in some of these cases, however, seem not to have produced their specific local lesions, the child—that is, could not be strictly regarded as suffering with typhoid fever or anthrax. The interest in this matter of intra-uterine infection really centres upon tuberculosis. There exists now a considerable number of well-established instances where tubercle bacilli have been discovered in a body of a fœtus from a tuberculous mother. A case lately described by Bugge is typical of the whole class: A woman, thirty-nine years old, belonging to a highly tuberculous family, conceived after she had suffered for about a year from a form of lung tuberculosis. In the eighth month she gave birth to a child who died in thirty hours, the mother dying three days later. The autopsy showed that the mother had extensive tuberculous lesions in the lungs and the intestines and numerous miliary tubercles in the heart, the liver, and the kidneys. In the body of the child, tubercle bacilli were found on microscopical examination in the blood of the umbilical vein and in the liver. Three guinea-pigs, inoculated respectively with blood from the umbilical vein and with small pieces of the liver and lung, all died of tuberculosis in from two and a half to five and a half months. Similar results have been obtained by a number of investigators.

In addition to these cases which show that tubercle bacilli are actually able to pass from mother to fœtus possibly through the placenta, or it may be through the lymph channels of the umbilical cord, through the membranes or amniotic fluid or through the Falloppian tube and wall of the uterus, there are rare cases revealing actual development of the bacilli with formation of tubercles in the body of the fœtus. Baumgarten found in a stillborn infant a tuberculous caseous nodule in the upper cervical vertebræ. Honl found well-developed tubercles in the body of a fifteen-day child; Merkel, Rindfleish, and others have reported similar cases. Among other susceptible mammals this sort of congenital tuberculosis appears to be commoner than in man.

The point upon which most vigorous controversy has arisen is the relative frequency of such germinal or intra-uterine transmission of tuberculosis in man. Baumgarten, as is well known, rejects the theory of inheritance of a tendency and would account for the appearance of the disease in the children of tuberculous parents by supposing that tubercle bacilli are in such cases commonly passed over from parent to child and remain latent in the body of the latter, it may be for a long period. This theory of latency finds some support in experimental observations by Maffucci and others, but can not be considered in the light of our present knowledge as proved to general satisfaction. The interesting experiments of Gärtner upon the latency of tubercle bacilli in the eggs of canaries can hardly be looked upon as presenting conditions strictly homologous with those prevailing in the human ovum, which is so far less richly supplied with food material in the shape of yolk. The possibility, then, of tubercle germs remaining dormant in the body for a long time must be admitted, but convincing evidence that this happens frequently in the case of man is not forthcoming.

The Treatment of Poor Tuberculous Patients in Sanitariums.—MM. Netter and Beaulavon (*Presse médicale,* August 3d), in a paper on this subject before the fourth congress for the study of tuberculosis, held at Paris from July 27th to August 2d, thus formulate their conclusions:

I. The treatment of indigent tuberculous patients in sanitariums is demanded from three standpoints: 1. The sanitarium assumes the isolation of the tuberculous person, whose very presence constitutes a danger to society. 2. The sanitarium, by reason of its special appointments, affords the tuberculous the treatment which they need. 3. The sanitarium, being specially devoted to the most curable cases, allows the realization of true financial and social gain, as the results obtained by insurance companies against disease and old age have demonstrated.

II. Isolation hospitals and quarters, as it appears to us, only imperfectly answer a part of the question—viz., that which treats of the tuberculous as a danger to society. Their establishment entails the inconvenience of a very heavy outlay, which would not be exceeded by the establishment of sanitariums that would completely solve the entire problem.

III. We should use all our endeavors to direct to the sanitariums those patients who are most easily curable, those who are just at the beginning of the disease. It is important to facilitate this, to pay attention to the support of the family of those sent to hospital during the absence of those on whom they are dependent.

IV. The considerable pecuniary sacrifices exacted by this reform being given, it is necessary that general support be gained for the work, and that individual initiative should associate itself with that of the public powers in the struggle.

The Delirium of Self-intoxication and of Infection.—M. E. Regis (*Presse médicale,* August 3d) draws the following conclusions in summing up a paper on the foregoing subject: 1. The delirium of toxic infection or self-intoxication is analogous to that arising from exotoxic causes, of which alcoholic delirium is the type. 2. The clinical formula of this kind of delirium is *mental confusion* in one or other of its varieties. 3. The delirium of toxic infection, at least in its usual form of subacute mental confusion, is, like alcoholic delirium, a dreaming delirium. 4. This delirious dream does not belong to normal sleep, but to pathological sleep. It is, from its characters, a true somnambulism. 5. Hypnosis, when it can be induced in patients suffering from toxic infection, enables us to recall the remembrance, ordinarily more or less lost, of their crisis, and sometimes even throws them spontaneously into their delirium. 6. Suggestion may be equally employed therapeutically on these patients. It appears particularly successful in those cases in which, subsequent to self-intoxication and intense intoxications, delirious ideas, disconnected and fixed, as in many hysterical subjects, persist in the subconsciousness of the somnambulistic dream. 7. The dreaming delirium in all cases probably results from an intoxication and would appear to be a clinical characteristic thereof.

Chloroform-Ether Anæsthesia.—Dr. L. Fuster (*Nouveau Montpellier médical,* July 31st), in a communication to the Society of Medical Sciences, compares the relative dangers and advantages of ether, chloroform, and a tentative mixture of chloroform and ether in the proportion of two of chloroform to one of ether. He quotes the aphorism that the danger of anæsthesia varies inversely as its completeness, because of the reflexes which sometimes determine syncope. The corollary of this proposition would be that every anæsthesia, no matter for what purpose, ought to be complete. With ether, it is asserted, he says, that anæsthesia is produced more rapidly than with chloroform; the subsequent vomiting is exceptional; primary syncope is hardly ever observed; secondary syncope presents this favorable character that it manifests its onset by an arrest of respiration; and only tertiary syncope is more frequent than with chloroform. Such is the oft-repeated opinion with which, however, Dr. Fuster does not agree. The drop-by-drop method of administering chloroform, when properly employed, he affirms to give quicker anæsthesia than ether, and the vomitings are by no means exceptional if more rare and less severe than with chloroform; he doubts the assertion that primary syncope is not observed with ether; and he regards the admission that tertiary syncope is more frequent with ether as a very serious argument against it.

At the clinic of Professor Tédenat there have for five years been employed ether, chloroform, the A. C. E. mixture, and finally a tentative mixture of chloroform, two parts, and ether, one part, freshly made at the time of operation by pouring into a flask half as much ether as it contains chloroform. The flask is turned upside down a few times to effect a thorough mixture. This process gives rise to an appreciable evolution of heat. No special flask and no special inhaler are required; a piece of flannel on a wire frame is sufficient. The method of administration is as follows: Waiting till the patient breathes regularly, four or five drops at a time are poured on the flannel, and as soon as they have evaporated, six or eight more, especially selecting the moment of inspiration. When two or three doses have been thus administered in the first minute, if the patient takes the anæsthetic well, three or four more doses of five or six drops each may be given without hesitation in the second minute. At this point, he asserts, nearly always the anæsthesia is sufficient for the operation to be begun. If any reaction is displayed when the bistoury cuts the skin, the involuntary inspiration it causes is taken advantage of for giving six or eight drops at once. When profound (or even simple) anæsthesia is once attained it is easy, according to him, to keep the patient in that state by a few drops given at varying intervals.

The author has employed this mixture in young people and old, in emphysematous and cardiac patients, etc. Anæsthesia is obtained, with a few exceptions, in from two to three minutes. It is maintained easily and for a long time by pouring out, from time to time, three or four drops of the anæsthetic. Between twelve and fifteen drachms of the mixture proved sufficient to keep a patient anæsthetized for four hours, in a case of total resection of the iliac bone by Professor Lapeyre. The anæsthesia was in every way satisfactory.

This mixture, according to the author, produces ordinarily no excitement; the patients awake quite calm and answer clearly any questions put to them. Vomiting is very often absent. The heart keeps up well. Large doses of from fifteen to twenty drachms are well borne. In operations about the face anæsthesia can be maintained without embarrassing the operator. The advantage of chloroform in its small doses is equally attained by this mixture, and the ether in it combats the depressing effect of the chloroform on the heart.

The Use of the Bedpan in Typhoid Fever.—Dr. Henry C. Drury, assistant physician to Sir Patrick Dun's Hospital, Dublin (*Dublin Journal of Medical Science,* August), says that it seems to be almost an article of faith that as soon as a patient is pronounced in typhoid fever he must use a bedpan for the rest of his illness. All Murchison says about it is to refer us to the section on typhus fever, where he says: "After the first week in severe cases they ought to be provided with a bedpan, and on no account to get out of bed." This comes into a section commencing: "Steps must be taken to prevent the patient exhausting his muscular and nervous power." Dr. Drury presumes, therefore, that that is the object of the bedpan in typhus; but as no mention is made of it in typhoid, it is not clear whether Murchison recommended its use to preserve muscular and nervous power, or to guard against the danger of perforation or hæmorrhage—probably he had all these objects in view.

There is no doubt, Dr. Drury says, that to many people the use of the bedpan is exceedingly irksome. He believes that to nearly every one it is so at first. Some find the greatest difficulty in making use of it, and except in the case of "needs must" can not or will not do so. He remembers one doctor that he attended who, though he had not typhoid, had diarrhœa and such extreme weakness that he feared his sitting up. He tried by every art and persuasion to get him to use the bedpan, and a few trials were made, but after that persuasion was useless; the patient would always get out of bed to the night chair so long as he had strength to do so. A doctor who was ill with fever in Cork Street Hospital had a similar experience, and so hated and dreaded the trials he made to use the bedpan that he raved about it when he became delirious, and always insisted on getting up to the night chair.

It will surprise many here, says Dr. Drury, to learn that the bedpan is seldom used, even in typhoid fever, in Cork Street Hospital. There is a night chair beside every bed, and as long as the patient is able to get up to this he is allowed to do so. The nurse gives him assistance and covers him up. Only when unable to get out of bed is the bedpan used; then it is found in many cases to be unnecessary, as by that time the patient generally passes all evacuations unconsciously.

The arguments in favor of the unusual practice are: 1. Less annoyance to the patient. 2. More complete evacuation of the bowel, and therefore less frequent disturbance. 3. The more natural position causes less straining, and therefore really less risk of either hæmorrhage or perforation. A weak patient can not fall off the chair on account of the strong high arms, which give him comfortable support while he sits. Dr. Drury says that it will, of course, be objected that this is a ready way of courting disaster, either by hæmorrhage, perforation, or syncope. He can only say that he does not find it to be so.

He has looked up the bed cards of all cases admitted during a period of five months. During that time ninety-two cases were treated, nine of whom died. Of the eighty-three that recovered not one had either hæmorrhage or perforation.

Tuberculosis of the Genitals in a Girl Four Years and a Half Old.—Schenck (*Wiener klinische Wochenschrift*, 1897, x, 788; *Pædiatrics*, June 1, 1898; *Columbus Medical Journal*, August 2d) reports a case of a girl four years and a half old in whom was found in the vestibule of the vagina a loss of substance, three centimetres (an inch and a fifth) long and two centimetres (four fifths of an inch) broad, flat, and covered by a grayish deposit having no sharply defined borders. The bacteriological examination of this deposit showed tubercle bacilli present. Both the inguinal regions presented swollen glands. The ulcer, as well as the glands, was removed by excision. Healing was delayed by the formation of pus, and was only completed after several weeks. Eight months after the operation the child remained perfectly well. The removed glands were also found to contain giant cells and tubercle bacilli on microscopical examination. He believed the manner of infection to have been as follows: The child had a habit of frequently scratching her genitals with the fingers; as she saw a great deal of patients suffering from tuberculosis, it was safe to assume that her fingers became contaminated with tuberculous virus. Another explanation was that small ulcers being present on the genitals, their infection by direct contact with tuberculous sputum or fæces was easily possible in a place like Reichenhalle.

Home Massage in Infantile Paralysis.—Surgeon Lieutenant-Colonel Lee, of the Indian Medical Staff (*Indian Lancet*, July 1st), says, in a note on infantile paralysis, that electricity combined with massage is no doubt very useful, and galvanism, when employed for months or even years, has obtained final results better than can be got in any other way. Apparatus for the constant current is, however, not always available; but by the practice of massage alone some benefit may be hoped for, the progressive wasting of the muscles being checked, and their nutrition improved. Moreover, the effect of systematic exercise of the muscles is to cause increased afflux of blood to the cord, thereby improving its nutrition and causing compensatory enlargement of the still healthy ganglionic cells in the neighborhood of the degenerated ones.

He has had directions for practising massage translated into some vernacular languages of southern India for distribution. The idea is a good one, and we reproduce herewith Dr. Lee's directions to mothers respecting paralyzed children.

Lower limbs: Rubbing.—For a quarter of an hour twice daily, set the child on a chair, or lay it on the bed, or let it sit on somebody's knee.

1. Rub the paralyzed leg from the foot right up to the top of the thigh. Rub upward only. Put the broad part of your hand on the back of the child's leg. In rubbing the thigh, you may put your hand first on the back of the child's thigh and afterward on the front of its thigh; but always rub upward, and be sure to go as high as the child's loins. While rubbing with your right hand hold the child's foot with your left. Use for rubbing any kind of oil.

2. Take hold of the child's leg with your two hands just above the ankle. Rub round the leg with your two hands in the opposite direction, as though you were wringing out some cloths. Work up the leg and thigh, from the foot up to the top of the thigh, in the above manner.

3. Take the child's calf with your two hands. Put your fingers to the back of the leg and your thumbs to the front. Squeeze the soft parts out between your fingers and thumbs, so as to flatten the leg out and make it as wide as possible. Work right up the leg and thigh in this manner.

4. Put your right hand over the front of the child's knee. Put your left hand against the child's foot. Push up the child's foot, and holding your right hand in front of the child's knee, you will prevent yourself doing any harm. You want, if possible, by pushing the child's foot, to make the child push against your left hand with all its might. *This is the most important of all the exercises.*

5. *Flip* every part of the leg and thigh with your fingers, so as to make the whole of the limb quite red and warm.

6. Gently rub up and down all over. This will take the stinging away which was left by the last movement.

Baths.—Once a day let a large jugful of hot water, containing two handfuls of salt, be poured down the leg and thigh. Then pour about half the quantity of cold water over the leg and thigh. Then rub thoroughly dry with a towel, and continue to rub until the limb is perfectly warm.

N. B.—The lower limbs should be kept warm.

The Triumphs of Science.—First medico: Do you know that Blank says if you keep a consumptive patient for a month at a temperature of 108° F. it will kill every tubercle bacillus in his body? Second medico: And the undertaker will send in his bill to the executors.

The Government on the Lookout for Yellow Fever.—Recently a unique craft sailed out of Philadelphia bound for Fort Pond, near Montauk Point, and having on board Supervising Surgeon General Walter Wyman, of the Marine-Hospital Service; Dr. S. H. Austin, surgeon in charge of the Marine Hospital in Philadelphia, and several others connected with the marine department. The vessel is called the *Protector*, and is built of steel. It is a hundred and fifty feet in length, of over twenty feet beam, and is without propelling machinery. It is a floating quarantine station and is fully provided with all the necessary appliances for the thorough disinfection of everything carried by the soldier. By these means it is hoped to keep the disease out of the United States. After disinfection each soldier will be detained for a sufficient length of time in order to more thoroughly forestall the disease which might attack the patient subsequently to his return home.

The complete outfit is said to have cost about fifty thousand dollars.

More Ptomaine Poisoning from Ham.—Eight persons now lie seriously ill from the effects of what two physicians pronounce to be ptomaine poisoning. George Cartledge, of 1524 South Second Street, recently purchased some boiled ham at a neighboring grocery store, and he and his family, consisting of his wife and a daughter two years old, ate the meat at supper. The same day a family by the name of McNamara, of 140 Greenwich Street, purchased boiled ham at the same grocer's and ate it for supper. At the Cartledge home the meal was eaten at 7.30 P. M., and about 11 P. M. all members of the family became seized with intense abdominal pains, accompanied by nausea and vomiting sufficient in one case to give rise to hæmorrhage. About the same time three members of the McNamara family became similarly affected. No deaths have so far occurred, but it is said that one of the patients is in a very critical condition.

Further Protection against Tuberculosis in Philadelphia.—Contrary to the statements frequently made by writers, the total number of deaths each year from tuberculosis is gradually growing less in Philadelphia. If we look at the mortality statistics we shall find that for the year 1892 the deaths per 1,000 persons living were 2.480, while in 1897 the rate was 1.966 per 1,000. This good result is attributed to the excellent work being done by the Pennsylvania Society for the Prevention of Tuberculosis. In 1892 a thorough investigation was made in order to find the infected houses and areas and to properly instruct those who were living in these zones. This work has been highly commended by one of the lay papers here, and as soon as public opinion shall have reached the proper stage it is probable that still greater good will ensue. It is proposed that a State sanitarium be built so that these cases may be properly treated and the spread of the disease limited.

Septicæmia from Performing an Operation.—It is said that Dr. Emil Dippell, chief resident surgeon at St. Timothy's Hospital, Philadelphia, is suffering from multiple abscesses, the result of infection occurring while assisting in an operation several weeks ago.

Rough Riders Ill in Philadelphia.—Three soldiers belonging to the regiment of Rough Riders, who were taken sick while on their way home, were brought to the University Hospital in Philadelphia for treatment. Two were said to be suffering from malaria, while the third had typhoid fever.

The Will of the Late Dr. William Pepper.—The will of the late Dr. William Pepper was admitted to probate in Philadelphia the week before last. The document was very brief, covering about three typewritten pages, and was written in February of the present year. To comply with the regulations concerning the fees of the registrar only two items were mentioned; the personal property being valued at $100,000 and the real estate at $20,000. These two items are, however, merely nominal, as it is known that Dr. Pepper carried a large life insurance policy, and it is thought that the value of the entire estate will not be far short of $1,000,000. The will provides for four executors—namely, his widow, Mrs. Frances Pepper; his eldest son, Dr. William Pepper; his nephew, George Wharton Pepper; and his brother-in-law, James B. Leonard. The following clause appears in the will: "I direct that my body be cremated unless my wife objects. I bequeath my brain to the American Anthropometric Society." The entire estate is divided among his widow and his three sons.

Golf from a Neurological Viewpoint.—Dr. Irving C. Rosse (*Journal of the American Medical Association*, August 6th), in a paper read at a meeting of the American Neurological Association in New York, May, 1898, says that what was yesterday the fad of a few has today become the practice of many sorts and conditions of men, who find in the exhilarating game of golf (which experts prefer to call a study) a means of hygiene and a sport of inestimable value. A short time since, in a paper On the Conservative Value of the Play Impulse, Dr. Rosse endeavored to point out the individual and phylogenic good brought about by the exercise of the manly sports which bring together men and women of the leisure class at such places as the tennis court, the hunt, the meet, and the golf links.

Any golf player familiar with the niblick shot out of sand in front of a bunker cliff will, the writer is sure, recognize the cool judgment and prompt action required by a successful player who makes a good drive and avoids or extricates himself from awkward hazards, as well as the many advantages entailed thereby in the way of invigorating and healthy employment of the highest bodily activities. While doubtless from the sportsman's point of view and that of the hygienist the value of golf is quite apparent, its therapeutic value, not so well established, is practically an untrodden field and in need of an exponent. To the neurologist, who trusts to psychic, mechanical, and hygienic influences rather than to drugs for treatment, the theme is replete with magnificent possibilities of prophylaxis and even of therapeutics. We have a royal road to physical exhilaration in a game that can be played all the year round, independently of atmospheric vicissitudes, during all the seven ages of man, by delicate young girls as well as by strong athletes, and even by decrepit old men whose declining powers do not admit of severe exertion. It combines exercise, pleasure, and fresh air without that risk of injury to heart, lungs, or nervous system that is the case in certain other exercises in which there is high blood pressure and arterial tension. There is absolutely no danger attached to the game, and consequently no accidents ensue. Unlike the bicycle, it is doubtful if such a thing as an accident insurance was ever paid for any injury incurred at golf. Nor is the game contraindicated in heart lesions, arterial calcification, albuminuria, old age, childhood, or certain hysterical conditions which would be aggravated by such exercise as bicycling, swimming, horseback riding, or by mountain climbing; while in all affections marked by slowing of oxidation, or in those consequent upon intoxication by the products of organic disassimilation, the game of golf is to be recommended as the best method of bringing about a cure.

The obesity and degeneration of middle age, when the biceps has diminished and one's energy is failing, may be helped by devotion to golf. The further tendency of the exercise is to eliminate the so-called diatheses, and thus do away with gout, lithæmia, headache, and dyspepsia; while its hygienic and therapeutic consequences are admissible in cardiac and pulmonary affections. Although moderation is advisable under such circumstances, there can be no doubt of the benefit derived in some cases of cough, nervous asthma, and in affections of the bladder and prostate; but it is preeminently in functional nervous disease that our great Anglo-Saxon game is to be recommended both as prophylactic and curative. No exercise or recreation is better fitted for the mentally overworked, the hysterical, the melancholic; none helps more to preserve the concerted action of eye, brain, and muscle known as the psychological moment; none, perhaps with the exception of swimming, gives one so good an appetite; there is not a more sovereign remedy for dyspepsia; and as to insomnia, such a thing scarcely exists among the devotees of golf.

Improvement in appetite and digestion has come under the notice of nearly every one connected with a golf club. Only two years ago the breezy air of the Newport golf green caused such an improvement in this respect that the members of the club replaced a French by a negro cook, whose dishes were considered more wholesome and better suited to a golfer's appetite.

In addition to the unconscious vigor of body and mind imparted by golf, the social amenities arising therefrom are of unquestionable therapeutic value, since the genial influences of the game, by expanding the ideas, tend to promote the good-fellowship that comes from diversion and sensuous amusement, and by oiling the wheels of life, so to speak, makes them go on with rattling glee. In these days of excessive drive, competition, and overpressure, when undue waste of vital energy shows itself to the clinician in the shape of various neuropathic conditions and decayed nerve elements, the problem of averting or mitigating such mischief comes to us with much seriousness. An obvious help in the solution is the encouragement of all innocent sports and recreations as a compensatory factor in the phenomena of life.

If there is one innocent recreation adapted more than another to all sorts and conditions of both men and women, but more especially to the gloaming of life, when the mind needs an alterative, it assuredly is to be found in the national game of Scotland.

Memorandum Relating to Operations of the Medical Department.—We have received from an official source the following:

Medical Officers.—The number of medical officers allowed by law is inadequate even in times of peace. The total number allowed is one hundred and ninety-two. There are at present thirteen vacancies. The administration of the surgeon general's office and the army medical museum requires six. Eleven are on duty at medical supply depots and as chief surgeons of military departments. One is at the soldiers' home; fifty-six are at general hospitals, on hospital ships, and at garrisoned posts. Four have been disabled during the war by sickness. Five are on duty as chief surgeons of army corps. This leaves ninety-six medical officers available for duty with troops in the field. Of these, thirty-five have been appointed brigade surgeons of volunteers and are distributed among the various army corps.

This deficiency in regular medical officers has made it necessary to employ nearly four hundred contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, and many of them are thoroughly well-equipped physicians and surgeons with ample hospital experience; but it has been impossible to make a careful selection, owing to the great pressure of business in the surgeon general's office, and the urgency has been so great that it has not been practicable to have examining boards to pass upon their qualifications. In addition to this there have been appointed by the President eight brigade surgeons, with the rank of lieutenant colonel; twenty-four division surgeons, with the rank of major; and sixty-five brigade surgeons; also three medical officers for each of the regiments of United States infantry, cavalry, and engineers. All volunteer regiments have three medical officers appointed by governors of States.

General hospitals have been established at Key West, Florida, with a capacity of 755 beds; at Fort McPherson, Georgia, 1,050; Fort Thomas, Kentucky, 432; Chickamauga Park (Leiter Hospital), 255; Fort Monroe, Virginia, 535; Fort Myer, Virginia, 308. In addition to this, several hundred sick and wounded soldiers have been placed in the marine hospital on Staten Island and in civil hospitals in New York and Brooklyn; also nearly two hundred in the civil hospitals in Charleston, and a smaller number in civil hospitals in various parts of the country.

The hospital train, which was equipped for service June 22d, and consists of ten tourist sleepers and a dining car, has made repeated trips from Camp Thomas, Tampa, and Fernandina with sick to the general hospitals at Fort McPherson and Fort Thomas, and has proved to be most useful.

The hospital ship *Relief* was purchased May 18th, but, owing to delays in preparing her for service, did not sail from New York until July 2d. Four days later she arrived at Siboney with an ample supply of medical stores of all kinds and with sixteen doctors. She returned to New York with a load of wounded and was then dispatched to Puerto Rico. She is now returning to New York with two hundred and sixty sick and wounded soldiers.

The hospital ship *Olivette* went with the fifth army corps from Tampa, Florida, to Santiago and brought a load of wounded from that port to New York. She returned to Santiago with supplies, and is now *en route* to New York with two hundred patients.

Material.—Surgeon's field cases, 369; field operating cases, 328; medical and surgical chests, 1,204; litters, 2,250; litter slings, 7,600; cots and bedsteads, with bedding, 18,185; blankets, gray, 23,950; field desks, 440; quinine pills, 7,300,000; chloroform and ether, 13,220 bottles; gauze, sublimated (metal packages), 100,625; gauze bandages (3 sizes), 331,776.

Sick and Wounded.—At the present time, August 15th, we have a full record of 40,520 cases of sickness and wounds that occurred among a mean strength of 154,028 men during the months of May, June, and July.

As the average of the three months, probably six per cent. of the troops were constantly sick. Reports from commands not yet represented in the statistics are expected daily.

Medical Supplies.—When the troops were ordered from their respective posts into the field, each regiment was required to take with it medical and surgical chests, litters, and field supplies for three months. Afterward, medical supplies in ample quantities of all kinds were sent to Tampa for the fifth army corps, about to sail for Cuba, and supplies have subsequently been sent to the several camps that were formed, wants being anticipated as far as possible, and requisitions approved promptly on receipt. Supplies for the army have been furnished from three medical-supply depots:

New York, St. Louis, and San Francisco, the latter supplying very largely, by purchases on the Pacific coast, the troops that went to Manila. St. Louis depot supplied the camps and regiments in the Mississippi Valley and the West; and the New York depot the camps and expeditions fitted out from the Atlantic coast. In addition to general medical supplies in great variety, 1,204 medical and surgical chests have been issued, the surgical chests containing surgical instruments and dressings especially designed for the relief of wounded on the battlefield. The extent of the demands upon the medical-supply depots is indicated by the following figures, showing the issues of some of the more important articles: First-aid packets, 272,000; hospital-corps pouches, 5,797; orderly pouches, 509; pocket cases, 962.

Hospital Corps.—At the outbreak of the war the hospital corps consisted of 100 hospital stewards, 103 acting hospital stewards, and 520 privates, making a total of 723. The larger part of this number was ordered with the troops that left their respective stations to the camps of concentration and accompanied the regular regiments in the fifth army corps to Cuba. The smaller part were left behind at the various army posts, they being just enough to take care of the medical property. Enlistments were at once ordered throughout the country of suitable men for the hospital corps, special attention being paid to enlisting nurses, pharmacists, cooks, drivers, mechanics, etc. A good many medical students and young physicians were also accepted. By means of enlistments, and afterward by transfers from volunteer regiments to the hospital corps, a large number of men were obtained, and to-day there are in service by actual count 5,084. Probably 1,000 are in service whose enlistment and transfer is not yet reported. In addition to the members of the hospital corps enlisted for the purpose of taking care of our sick and wounded, we have employed 141 male and 386 female nurses under contract.

New York State Medical Association.—A preliminary announcement states that the regular annual meeting of this association will be held at 64 Madison Avenue, New York city, on October 18, 19, and 20, 1898. A large number of papers have been promised, and there will also be a discussion on intestinal obstruction, introduced by papers by Dr. Parker Syms, Dr. E. D. Ferguson, Dr. J. D. Bryant, Dr. J. W. S. Gouley, Dr. J. D. Rushmore, Dr. Leroy J. Brooks, Dr. John F. Erdmann, and Dr. Frederick Holme Wiggin.

The Sanitary Condition of Camp Merritt.—Major John A. Rafter, surgeon, Twentieth Regiment Kansas Infantry, U. S. V., writing to the *Kansas Medical Journal* for August 6th, in response to an editorial request, says:

"It did not seem to occur to whoever established this camp that sanitary conditions had any part in the health and well-being of unacclimated boys. In my opinion, no more unfavorable spot on this coast could have been selected for a camp. Where we are was formerly a swamp, filled in now with sand from the nearby ocean. We were until recently confined in an inclosure of about three acres and a half, and remained there seven weeks. Strangely enough, the sinks and cook kitchens were located within ten feet of each other, and more strange still, both sinks and cook kitchens were on higher ground than the tents in which the men slept. After two or three vigorous protests we were given more room, and to-morrow our regiment will be moved to the Presidio, a well-kept military reservation, where I hope we can materially reduce our sick list, and where we should have had quarters from the first.

"I do not wish you to understand that I am complaining of the treatment we have received from our government. I appreciate the fact that the war in which we are engaged was unexpected and unlooked for, and that many of the necessities required by the soldiers could not be obtained on short notice, and that some mistakes must necessarily arise and must be overlooked. Perhaps there is some good reason why we were not allowed to establish our camp at the Presidio, but at this time I do not know of it. This is not a technical paper, but a plain statement of our condition as you ask for it."

Medical Supplies for the Army.—The surgeon general of the army has issued the following circular, dated August 12th: Chief surgeons of army corps, of divisions, and of smaller independent commands are expected to make timely requisition for medical supplies. It must be remembered that some delay is often unavoidable in putting up supplies at the supply depots and in their transportation to the point at which they are needed. In an unexpected emergency telegraphic requisition must be made and supplies will be sent by express; but it must be remembered that this mode of transportation is very expensive and that failure to make requisition in advance of immediate needs entails unnecessary expense upon the government. Division and field hospitals in which typhoid fever and other serious cases are treated should be liberally supplied with all articles necessary for the treatment and comfort of the sick. The field supply table applies only to mobile commands and division hospitals to accompany them on short notice.

The Connection of Physicians with Quack Medicine Concerns.—According to the *Canadian Medical Review* for August, the Discipline Committee of the College of Physicians of Ontario in July had before them the cases of five physicians charged with unprofessional conduct in that they had lent themselves to the nefarious trading of quack medicine vendors. The name of Dr. A. W. Tovereen was erased from the register for being associated with the Kamma, Jr., Hindoo Remedy Company; Dr. John Kirkpatrick's name was not erased, as it was shown that he had not treated, but had simply diagnosed cases for the Munyon Company, and had, moreover, on being admonished, severed his connection with the trading concern, and thrown himself on the mercy of the court; the name of Dr. Bersey was struck off on the charge of advertising himself as the greatest Canadian specialist and appearing under a name other than his own; Dr. Richard Allen Clark's name was also erased for his connection with the Munyon Company; and that of Dr. George B. Gray for the same offence. In the latter case it is said to have been shown incidentally that money was received under false pretences by this company, for that "pellets were bought by the barrel, and quart bottles filled with fluid with some of these pellets constituted an extract, well shaken up, and furnished to patients by ignorant girls."

At the same meeting a communication was read from medical practitioners of Halton and district, praying that the name of Dr. S. A. Carter, of Halton, might be restored to the roll. Dr. Carter had always maintained his innocence of the charge for which he had been struck off, and he was held in high esteem where he lived. The matter was referred.

Original Communications.

BRAIN ANATOMY AND PSYCHOLOGY.*

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THE study of brain anatomy has been a most important factor in the development of psychology. Weber has said that every science passes through three stages: (1) Theological, (2) metaphysical, and (3) positive or scientific stage. It is proposed to review as briefly as possible some of the influences which have aided psychology in passing from its metaphysical into its scientific period, and to recall the fact that the impetus of the new psychology is largely due to the work of the brain anatomists. Reference will be made chiefly to the influence that the study of the structural conditions of the central nervous system has exerted in determining this development; but, as anatomy and physiology can never be entirely dissociated, attention must necessarily be directed to certain facts in mental physiology. Every student of psychology must be impressed by the force of the affirmation that "the aim of true philosophy should not be so much the discovery of new truths as the prevention of error." Unfortunately, the history of psychology has given little evidence that the workers in this field of science have appreciated this truth. Even to-day there are students of mental phenomena who ignore the source of that vital impulse which from the time of Thomas Willis has been a factor of increasing importance in the development of the "new psychology." Certain ungracious critics often refer to the present very limited knowledge of cerebral structure and function as bearing testimony to a lamentable poverty of facts. These persons forget that it was the work of years to destroy the old psychological ideals, the "stuff that dreams are made of," and they ignore the fact that this process was necessary before the psychological renaissance was possible. The history of the development of the new conceptions of the structure and function of the brain is not the story of the evolution of a specialty. Anatomists, physiologists, and clinicians have all contributed their share to the common store of facts. This is an important lesson. The investigator who to-day enters upon this field of research must not be blind to the advantages of Plato's four-sided man as compared with the individual who looks at psychology only through a high-power lens, or who, on the other hand and equally as bad, is willing to call himself one of the purely "introspective school." It should be very gratifying to the members of the medical profession to recall the fact that psychology developed under the care of the anatomists, physiologists, and clinicians who founded modern scientific medicine. For centuries the spirit which characterizes the new psychology gave little evidence of any vitality. Its reawakening was due to the same causes that resulted in the birth of the new learning. Descartes, as he conducted his friend to his dissecting room and showed him the work he was doing there, said "Here is my library," and thus indicated, as it were, the path along which psychology must travel to be at last assured a place among the sciences. It is impossible to fix the exact date of the psychological renaissance. Thomas Willis undoubtedly marks a new era in the study of mental phenomena. He has been called by some the "father" of the more rational methods of investigating the structure and function of the brain. It is about the time of Willis that the psychical functions of the brain were first definitely recognized, although centuries before Alcmæon had stated in a very indefinite way that the brain was the organ of mind. The Platonic trinity of heart, liver, and brain for centuries influenced all the conceptions regarding the structure and function of the central nervous system. This theory received its deathblow from Willis and his followers. The psychical importance of the cerebrum was recognized, and in the reaction of opinion against the Platonic theory the pendulum went too far to the other extreme, and all functions of the nervous system were said to be directly dependent upon cerebral activity. The accumulations of facts from various sources soon rendered this theory untenable. Investigations of the anatomists on anencephalic monsters, the consensus of opinion derived from countless experiments on animals, and the observations of clinicians, all tended to demonstrate the impossibility of adhering to this belief. Willis divided the functions of the soul into "vegetative" and "rational," and in doing this he removed psychology out of the grasp of the scholastics. From the results of imperfectly conducted experiments, Willis located the centre for the vegetative activities in the cerebellum. This error should not make any one forgetful of the real good Willis did by clearly and definitely insisting upon the fact that all functions of the nervous system were not directly dependent upon the cerebrum as a centre. He also demonstrated the possibility of applying the same methods to the investigation of psychical as were used in the study of physical phenomena. The new impetus given by Willis to the study of the brain aroused great interest among the anatomists and physiologists. It is impossible even to mention the names of those who followed in his footsteps. Haller improved the methods of research. He located sensation in the nerves and movement in the muscles, and in doing this Haller opened up a new field in the study of the functions of the nervous system. The domination of every "ism" in psychology, as in other sciences, has been unfortunate, and the rule of materialism established by the Haller school was no exception to the rule. The attempt to explain all forms of psychical activity by recourse to what might be called the coarser forms of materialism was a failure, and this must be kept in mind in considering the influence of Stahl and his pupils. Haller's attempt to account for the functions of the brain by a theory of inherent irritability was unsatisfactory. It was an effort to explain the differences between voluntary and involuntary motions. The Stahlian theory was accepted by many who were unwilling to entirely relinquish the old idea of the soul or *anima* as of great psychical importance. Little by little the anatomists had shown that this "mysterious metaphysical essence" was not to be found in the glandula pinealis or in any other of the various abodes assigned to it by the schoolmen. At last Zinn formulated the belief that the soul was not located in any one part of the brain: "*Anima sedem per omne cerebrum*." Until this time the brain had been considered the centre of all the functions of the nervous system. Although it is true that from the time of Galen various investigations had been carried on with a view to determining both the structure and function of the cord, these studies had in no way detracted from the supposed despotic sway of the cerebrum. Gradually observers realized that the spinal cord was the seat of independent centres. The medulla was also studied. Fracassati demonstrated that some of the cranial nerves had their origin here. This was the first of a series of investigations which showed the importance of the medulla as a nervous centre, and gave greater emphasis to the fact that the "rational" and "vegetative" functions of the nervous system were dependent upon the activity of different parts of the brain. The structural as well as the functional differences between the higher and lower brain centres were at last recognized.

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* Read before the Society of Alumni of Bellevue Hospital, May 4, 1898.

Although at first glance it appears as if Stahlism or animism was very far from being a scientific interpretation of mental phenomena, it must not be forgotten that the advocates of this belief aided considerably in the promulgation of the new doctrines. Neuberger has called attention to the fact that the Stahlian conceptions were modified by Robert Whytt in England and by Unzer in Germany, and these modified ideas were embodied in the newer and more rational interpretation of the cerebral structure and functions. Whytt said that his investigations led him to believe that the "anima" is nothing more or less than the "indefinite" force which represented the translation of sensation into motion, that this act was at times accompanied by a state of consciousness, while at others there was no conscious cerebration. Unzer recognized certain acts as conscious and others, due only to what he called "nervous forces," as unconscious. This was an important advance; but another step was necessary before the discoveries of Bell and Marshall Hall were possible. In the reaction against the teachings of Haller the idea of cerebral localization had been brought into discredit. For centuries the idea of associating certain functions with certain definite areas of the central nervous system had been looked upon as a favorite theme for the exercise of the speculative and imaginative powers of the schoolmen. In the fifth century Nemesios asserted that memory was located in the posterior, understanding in the middle, and imagination in the anterior ventricle. The work of the anatomists, aided by the observations of practising physicians and surgeons, finally demonstrated the absurdities of these views and the absolute impossibility of establishing any system of psychology which was not founded on a knowledge of the structure of the brain. It was not unnatural that the idea of cerebral localization should have been abandoned for the time by scientific investigators. The dialectic resources of the theologians and scholastics succeeded temporarily in hiding the real element of truth beneath an enormous mass of speculation. "But truth crushed to earth will rise again," and it is to the credit of the anatomists and the surgeons that they were able to give the impulse which was needed. The investigations of François Pourfour du Petit in anatomy and those of Sabourant in surgery were of incalculable value in stimulating research in this line of study. By their efforts the theory of cerebral localization was presented in a newer and more rational form. It was demonstrated that certain functions were localized in certain definite parts of the nervous system. Gall's well-known practical application of this idea need not be mentioned. Science should not forget that Gall was really the first to direct attention to the importance of the cerebral cortex in relation to psychical phenomena. The French surgeons of the eighteenth century made many valuable contributions which confirmed the work of the anatomists. Investigations in comparative anatomy had already resulted in many valuable contributions which confirmed the work of the anatomists. Sömmering concluded that "the soul power" varied in different animals and was, to a certain extent, dependent on the size of the brain. He also said (a view in which he was supported by Ebel) that "the size of the cerebrum in comparison with the size of the medulla was to a certain extent a measure of the mental capabilities." Investigators soon began to try to determine experimentally the relations of the cerebrum to the psychical process. Rolando, the Italian anatomist, called attention to the relation of the cerebrum to the intelligence, will power, and to the perception of sensation. When at last the principle contained in the idea of cerebral localization was firmly reestablished, the way was open for the great discoveries which marked the first half of the present century. It is impossible even now to form a correct judgment regarding the far-reaching consequences of the discovery of the motor and sensory nerves by Charles Bell and the theory of reflex action by Marshall Hall. The discovery of reflex action marks a new era in the history of psychology. It may be said that although this discovery threw no light upon the nature of mental phenomena, it was nevertheless of the greatest importance, as it removed one of the stumbling-blocks which for centuries had effectively checked the development of a rational psychology. In other words, this discovery simplified the problems which remained to be solved. The discovery of the nature of the reflex phenomena was based upon the results of a long series of anatomical investigations. At the same time the more rational methods of investigation were applied to the study of mental phenomena. It is not too much to say that the proper field of investigation for the psychologist was outlined for him by the anatomist. The advances that have been made in the study of the structure and the functions of the brain since the days of Bell and Hall have been due in the main to two factors: First, the introduction of the true scientific spirit into the study of the structure and function of the brain; and second, as a result of this, the improvement of the methods and technique of investigations. In 1833 Ehrenberg called attention to the fact that the organ of mind was composed "of countless small tubes." This was the first definite description of the nerve fibres. In the year 1838 Remak described the ganglion cells, and two years after this Hannover suggested that the cells and fibres were definitely related to each other. This fact was confirmed later by Helmholtz. From this time on the workers in this field have constantly increased in numbers, and in no other science has effort found a better reward. The advances of the last fifty years are, in a general way, known to all. Each new fact regarding the structure and functions of the brain has served to show the marvelous complexity of the central nervous system. This fact has emphasized the truth that the time has not yet come when any definite system of psychology can be deduced from the facts which are now known regarding the structure and function of the brain. Flechsig's investigations on the development of the fibres in the cord and brain mark a new era not only in the study of the brain anatomy, but in psychology as well. He has demonstrated anatomically that the child at birth is, as Virchow said, "a spinal thing," and, as the nerve centres in the cord and medulla at birth are alone capable of functioning, it may be said that the newborn infant is "a vegetative" but not "a rational" being. As the different nerve fibres in the various tracts receive their myeline sheaths, and connections are established between the higher and lower brain centres, a correlated increase of mental activity is noted as these new tracts develop. The psychologists of the future will undoubtedly make a valuable contribution to science when more systematic studies are made ragarding the correlation which exists between structure and function for all periods in the life of the individual. This structural and functional correlation is emphasized by referring to certain mental diseases which are characterized by definite changes in the brain. For example, the structural conditions which exist in the cortex of the child during the second year of life have many points in common with the lesions of the cortex to be seen in cases of dementia paralytica (Fig. 1).

The sparsity of the fibres, the relatively small number of both short and long association fibres, is characteristic of the cortex in both cases. Not only is the structural similarity apparent, but there is a marked functional correspondence. The child's limited power of associating ideas, the inability to fix its attention for any considerable time, are comparable to the chain of symptoms which is often observed in cases of paresis. This structural correspondence between the infantile and pathological conditions of the cortex should be more carefully studied.

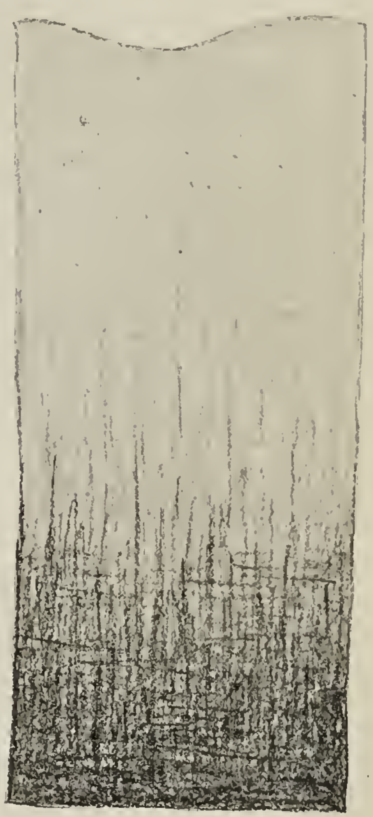

Fig. 1.—Anterior central convolution. Dementia paralytica. Drawn from a preparation in the writer's possession.

"Infant psychology," when studied in connection with the correlated structural changes of the brain, is undoubtedly one of the fundamental necessities upon which the future of psychiatry depends. As the power of associating ideas increases and the ability to concentrate the attention as well as the capacity for prolonged physical effort becomes more apparent, a correlated structural complexity in the higher brain centres is demonstrable. No better idea can be given of the purely theoretical basis upon which the old psychology rested than by recalling Kant's statement in reference to the psychical possibilities of the newborn infant: "The cry uttered by the child just after birth has not the intonation of fear, but that of irritation or anger"; and the philosopher adds, "No doubt, the child would like to move and feel its impotence as it might feel a change restricting its liberty." The anatomist has demonstrated the absurdity of this conception. That the cry has no psychical importance is easily demonstrable, for the structural conditions are such that psychical phenomena at birth are impossible. On the other hand, Preyer's statement that newborn infants during their first days may be pricked with fine needles deeply enough to draw blood, and yet the infant manifests no symptom of consciousness, is in accord with the deductions which can be made from the observations of Flechsig. From birth to the prime of life, as mental activity increases, the connections between the higher and lower brain centres multiply with astonishing rapidity. At the prime of life the cortex has reached its period of greatest complexity. The higher centres are more intimately connected with each other than ever before. When the individual has passed the prime of life and entered upon the period which is marked by the impairment of intellectual power, regressive, correlated structural changes exist. Many arguments may be deduced from the facts discovered by comparative anatomists which emphasize the correlation between structure and function. At birth, so far as functional activity is concerned, the brain of the infant is inferior to that of the trout. In the infant the elements of the cortex are present, but for all practical purposes they resemble the disconnected elements of an electric machine. In the trout the highest centres are incapable of functional activity because the trout's cortex consists only of epithelial cells without the presence of any nervous elements. But the fish has a decided advantage. The intermediate brain centres are capable of functional activity, and therefore the structural conditions of the trout's brain offer a much greater possibility for the association of the various impulses than is to be found in the brain of the newborn infant. Gradually the infant rises, as it were, in the animal scale. Its olfactory tract develops cortical connections. At this stage the infant's central nervous system is comparable functionally to that of the amphibians. Then the optic tract develops cortical connections and the infant has developed the structural changes which render a comparison with the bird possible. The development of the child's brain shows many correspondences structurally and functionally to the conditions which are seen in studying the different brains of the animal series. Comparative anatomy and comparative psychology have contributed many valuable facts to the knowledge of the structure and functions of the human brain, but it is unfortunate that a more persistent effort has not been made to bring together and assimilate the results of the investigations in ontogeny on the one hand with those of phylogeny on the other. Psychology has made few attempts to try to solve the simpler problems, and has directed much attention to the study of the functions of the brain only at a time when the structural conditions were the most complex. Much valuable information will undoubtedly be obtained by the structural and functional comparison of the human brain in the early stages of its development with the brain in the animal series to which, at a given period, it most nearly corresponds. One example is sufficient to suggest what is meant. It has been seen that the infant's brain at a certain period of development is comparable to the bird's brain, for only two of the sense areas have cortical connections—namely, those of smell and sight. The structural similarity having been noted, it would be interesting to see how far functional comparison is possible. The problem might be attacked in another way, and the observer might ask, How is the infant functionally inferior to the bird at the time when the olfactory and visual tracts have no cortical connections? The psychology of the future must be one which is based upon the knowledge of the structure of the organ of mind. It must study more carefully the correlation which exists between structure and function, and to accomplish this it must pay more attention to the solution of the simpler problems in comparative psychology. Brief mention has been made of the fibres which serve as the paths for conduction of impulses. A few words may be said about the elements which are related to the production of these impulses. It is needless to say that the mode of translation of sensory impulses into motor or physical phenomena, or *vice versa,* is not understood. Still, it may be asserted that the truth of Ribot's statement that "psychical phenomena can not be dissociated from their physical conditions" is an excellent "working hypothesis." Although nothing is known regarding the exact method by which the various impulses are produced, it is nevertheless of great importance to study the structural relations which exist between these elements and the various paths of conduction.

In 1854 Remak demonstrated that the ganglion cells of the cord gave rise to two kinds of processes, one of which, the axis-cylinder process, "could be followed into the nerves." Remak had been induced to prosecute the line of research which resulted in this discovery by the suggestions which Rudolph Wagener had made in 1850 regarding the nature of the cells in the electrical apparatus in certain fish. In 1865 Deiters demonstrated that what Remak had shown to exist for the ganglion cells in the cord was likewise true for the nerve cells in all parts of the central nervous system. From Deiters's time until the present day the ganglion cell has been the object of numerous investigations. It is unnecessary for the present purpose to refer to many of the facts that have been brought to light regarding the structure of the ganglion cell. Golgi's investigations inaugurated a new era in brain anatomy. His work has been supplemented by the researches of Ramon y Cajál and many others. It may be said without exaggeration that no work which has been done since the days of Bell and Marshall Hall has so revolutionized the ideas and opinions held regarding the structure and function of the nervous system as has the work of Golgi and his school. No one can doubt that these conceptions regarding the structural relations have profoundly modified many views previously held regarding not only the structure but the function of the various elements in the nervous system. Since Golgi began his researches in the early seventies, much light has been thrown upon the paths of conduction for the impulses after their origin in the cell. The anatomical relations of the different nervous centres to each other have also been studied, and inferences of practical importance have been drawn regarding the governing power of these centres. The great number of researches which have been made in later years, chiefly with the Golgi methods, seem to demonstrate that each nerve cell, with its protoplasmic branches and its axis cylinder process, was a structural unit, and that this unit was structurally independent of any other cell, as no continuity of the elements was demonstrated. The exact method by which an impulse is transmitted from one of these structural units to another is merely a matter of conjecture. No actual contact of the processes has ever been demonstrated by the Golgi or other methods. The investigations of Wiedersheim several years ago in some of the lower organisms suggested the possibility of the contraction and expansion of these processes. This idea was accepted by many as a possible means of explaining certain psychical phenomena, such as sleep and the varying degrees of consciousness, etc. During periods of "subconscious activity" it was thought the cell processes were retracted, and during the more active degrees of consciousness they were again extended. Van Gieson has been led to believe that the fibrillary structure of the cells and processes suggested contractile powers and had something to do with the supposed movements of the processes. These theories, if true, would doubtless aid in solving many psychical problems, but unfortunately as yet the facts do not warrant this deduction. One of the chief reasons for the writer's skeptical attitude in regard to this theory is that more recent investigations apparently indicate that the present "neuron conception" of the nervous system is not an established truth. It is impossible, when referring to the nature of the single elements which form the various nervous centres, not to refer to the investigations of Apáthy. If the results of his researches stand the subsequent tests which should be applied to them, different conceptions regarding not only the structure but the functions of the various elements of the nervous system will be essential. Apáthy's researches have been conducted with great care, and the results are published in detail.

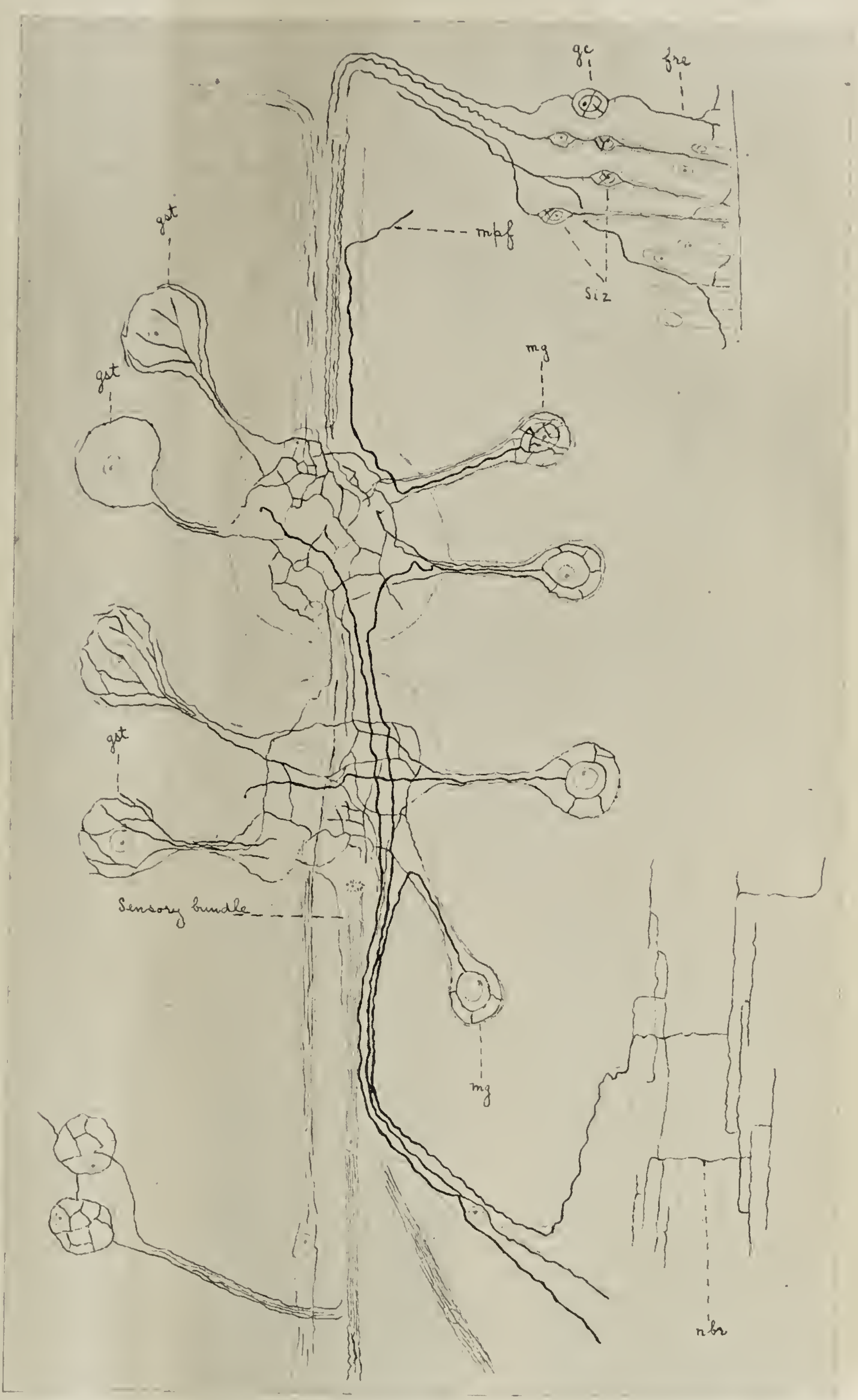

Fig. 2.—Diagrammatic representation of the course and connections of conducting tracts in transverse section of Hirudo somites. *mg*, motor ganglion cell; *gst*, connecting ganglion cell; *mpf*, motor primitive fibril; *fre*, "free end branch" in periphery; *gc*, ganglion cell; *nbr*, connecting bridge between muscle fibres, *siz*, sensory epithelial cell. (S. Apáthy.)

Although his investigations have been confined mostly to the invertebrates and some few of the lower orders of the vertebrates, the principle involved is very important. These studies have been so carefully made, the methods of research so plainly stated, and the results given with so little reference to purely theoretical conceptions that it is imperative that anatomists as well as the clinicians should endeavor to test the accuracy of these results. The main conclusions of Apáthy's investigations are as follows: In the first place he says there are two chief varieties of cells to be found in the nervous system. The one which he calls the *nerve cell* produces the conducting substance; the other cell, or *ganglion cell* proper, is the source of the impulse. All the elements which enter into the structure of the nervous system are said to be connected in unbroken structural continuity. Attention is called to the fact that at the very beginning, as soon as the cells are differentiated in the germ, various branching protoplasmic processes can be distinguished; but at first these processes consist only of masses of undifferentiated protoplasm.

Later in the development it is evident that small fibrils can be seen extending along the processes. These fibrils, which develop from the nerve cells and not from the ganglion cells, serve to connect the various elements. They unite not only groups of nerve cells and ganglion cells, but can often be traced into the peripheral sensory cells, so that, according to Apáthy, the nervous system is not made up of a series of disconnected units, but is structurally as well as functionally one (Fig. 2). A number of the small elementary fibrils unite to form other and larger fibrils, which Apáthy calls the primitive conducting fibrils. A primitive conducting fibril may eventually become split up into a fine network, sometimes inside of the various cells, at other times in the intervals between the cells. It is a curious fact that Apáthy's investigations are in a measure confirmatory of the theory advanced nearly fifty years ago by Gerlach; but, as Apáthy himself says, Gerlach believed in the existence of this "fine network of fibres" only from hypothetical reasons. For nearly half a century the presence of this network has never been actually demonstrated by any observer until the present series of investigations. Apáthy's experience as yet can neither be affirmed nor denied.

The student of brain anatomy should for the present absolutely refuse to construct elaborate theories upon the neurone or any other conceptions of the nervous system. It is far better to assume the spirit indicated in Pasteur's reply to a friend, who asked him what he thought about certain of Liebig's views. "I have no opinion," said the savant; "I will investigate."

Fig. 3.—Cortex of the anterior central convolution. Child one year and a quarter. (After Kaes.)

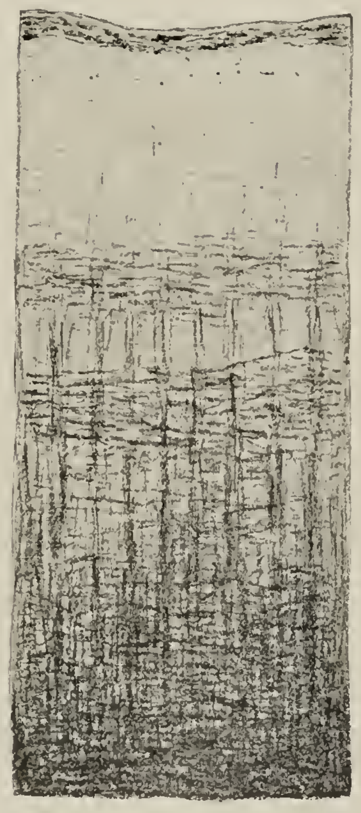

Fig. 4.—Cortex of the anterior central convolution, normal. About the thirty-sixth year. (After Kaes.)

One aim of the present paper has been to show the dependence of the new psychology and the new psychiatry upon a knowledge of cerebral structure. The past shows conclusively that no rational study of mind is possible which does not have for its chief end and aim the study of the correlation which exists between cerebral structure and function. Psychology as well as psychiatry should exhibit greater patience in criticising those who claim for the study of brain anatomy a more general recognition than it has yet obtained.

The classification of either normal or abnormal mental processes is as yet impossible. The attempt to study mental diseases only from the clinical side has failed as signally as has the effort of the introspective psychologist to establish his system for the study of mind. The beginnings of a more rational study of both the normal and abnormal workings of the mind have at last been established. But, unfortunately, the old spirit has not been deprived of all its vitality, and is so apparent in the writings and teachings of many psychologists and psychiatrists that the truth in the poet's exclamation—"How," she cried, "you love the metaphysics!"—may be considered as descriptive of the attitude of certain critics of the new psychology.

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EXTRA-UTERINE GESTATION OF THE INTERSTITIAL VARIETY

TERMINATING BY RUPTURE INTO THE UTERUS.

*RECOVERY.**

By ROBERT MacLEAN TAFT, M. D.

I take pleasure in presenting to you this evening the symptoms observed and the course taken in a case of extra-uterine pregnancy which came under my care some five months ago.

In doing so I will endeavor to be as brief as possible.

Mrs. A., American, aged thirty years, was married at the age of twenty-five. She has had two children—a girl, aged three years and six months, and a boy, aged a year and eight months. Both births were perfectly normal. She has had no miscarriages. She gives no history of previous uterine trouble. The patient began menstruating at the age of fourteen. Her menstrual periods had always been regular, very profuse, and painful until after marriage, when they became regular and profuse, but without pain. On December 16, 1898, I was first called to see this patient in regard to her general ill health and a profuse and troublesome discharge from the vagina.

She gave the following history of her present trouble: She had last menstruated in the latter part of October, 1897. Menstruation ceased about November 4th. There was nothing remarkable about it except that it was very profuse, somewhat painful, and accompanied by the expulsion of a few clots.

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* Read before the Society of Alumni of Bellevue Hospital, May 4, 1898.

About two weeks after this period she began to notice herself becoming nervous, irritable, and morose, with her mind prone to dwell upon morbid subjects.

She suffered from attacks of dizziness and was unable to fix her mind on any one thing.

For the past ten days she had been made miserable by severe pain in the back and dragging down pains in the pelvic region.

Since the latter part of November she had had a profuse leucorrhœal discharge, sometimes rusty in color. Her stomach had been in good condition, with no nausea or vomiting.

Her appetite had been fair and the bowels had been constipated. Since the latter part of November she had experienced severe cramps low down in the pelvis, the pain of which would sometimes make her stoop over and cry out.

At that time she was taking some kind of a "female regulator." At first the pains came at intervals of a day or two, but at this time, December 16th, were more constant. During all this time she had ridden her bicycle constantly, even during her last menstrual period.

She did not menstruate in the latter part of November, but the leucorrhœa was increased in quantity and was rust-colored. When I called to see her, December 18, 1897, her chief complaints were of her miserable nervous condition; cramps low down in the pelvis; dragging pain in the back, made worse by exercise or going up stairs, and the discharge from the vagina. Examination showed the uterus somewhat enlarged, very painful to the touch, and displaced backward, but not markedly so. After the birth of her last child the doctor had told her that her uterus had not properly undergone involution as the result of leaving her bed too soon and too quickly resuming her household duties. The uterus was not bound down by adhesions. Examination by speculum showed the cervix large, swollen, red, and œdematous. The results of an old laceration could be seen. The os was open and from it escaped a thin, rust-colored discharge. On examining the uterus per rectum I found it tender and displaced backward. She was sensitive on either side, but not markedly so.

On again examining with the speculum I found that from the manipulation a considerable amount of bright-red blood had appeared from the cervix.

I made up my mind that it was either an endometritis which had been associated with amenorrhœa or else an impending miscarriage.

I advised rest in bed, and decided to wait a few days for developments.

Temperature at the time, 98°; pulse, 75; respiration, 20. She had a few cramps the next day, and, not knowing what might take place, I introduced a tampon into the vagina.

On removing the tampon next morning I found it well saturated with blood, to all appearances that of menstruation. I introduced another tampon and advised perfect rest in bed.

She did get up, however, early next morning, and while at stool was seized with severe pain and the tampon was almost expelled. She removed it, and, after letting a stream of water flow over the gauze, started to throw it away, when she thought that it might be of use to me and saved what was left of it. On examining the gauze I found what appeared to be a small portion of decidual membrane.

She said that the gauze was covered with blood and that she passed some clots after it. She then flowed profusely for three days and stopped. I put it down as a probable miscarriage of three weeks or so, and, as her general health rapidly improved and the leucorrhœa diminished under antiseptic and astringent hot vaginal douches, I discharged her, much improved, with directions for continuing the treatment.

At that time I was in doubt whether or not to use the curette. The family were much opposed to it and, as her temperature and pulse remained normal, I believed it to be unnecessary.

January 29, 1898.—At this time the patient called at my office and said that the leucorrhœa had again become profuse and that she was feeling ill. At times there was a dull, grinding, aching pain low down in her pelvis, and her backache was almost constant. Her abdomen felt enlarged and hard to her. She complained of a throbbing sensation and of bearing-down pain in the pelvis, and tenderness on pressure over this region. Her nervous system was disordered. She was very morbid, with a tendency to weep, and a feeling of isolation and incapacity for mental work. Nausea and vomiting were entirely absent, nor was there any enlargement or sensitiveness of the breasts.

Examination showed the cervix enlarged and swollen, and from the wide-open os exuded a thin mucopurulent rust-colored discharge, the flow of which would be increased by manipulation of the uterus. On conjoined manipulation I found the body of the uterus much enlarged and very sensitive. I could not make out any irregularity in the tumor. The cervix pointed a little to the left.

The cervical canal being open and dilated, I cautiously introduced a probe and found the cavity enlarged and the organ tender and bleeding very readily, and, as I thought, empty.

A small curette being introduced and withdrawn, brought away a quantity of gelatinous fungoid tissue. My mind then dwelt on all the possibilities, and went through a process of exclusion, the details of which would take too much time to enumerate. I decided that it was a case of subinvolution and chronic endometritis, with a possible retention of secundines. I advised an anæsthetic for thorough examination of the condition and the operation of curettage, which was accepted by the patient.

Operation, February 3d.—Heart and lungs normal; no abnormal constituents in the urine. Anæsthetic, chloroform. Under anæsthesia the womb was found to be much enlarged, slightly retroverted, but I could not discover any marked irregularity of the tumor. I proceeded with the operation and removed a great quantity of degenerated and altered mucous membrane and fungoid vegetations, but nothing which seemed organized tissue.

I concluded the operation by thorough irrigation with a 1-to-10,000 bichloride solution and packed the cavity of the uterus with four yards of sterilized iodoform gauze strips.

After the operation the uterus was within two fingers' breadths of the umbilicus and prominent. The patient recovered rapidly from the effects of the chloroform and I left, trusting that in due course of time the organ would be relieved of its engorgement and overgrowth and return to its normal state.

For the next three days everything went along satisfactorily except for an occasional sharp pain referred to the right side. The temperature remained between 99° and 100° for forty-eight hours and then returned to normal.

The uterine gauze was removed on February 5th. She flowed profusely after removal of packing. On the night of February 6th I was hurriedly called on account of a hæmorrhage. The nurse showed me two large clots, and about twenty small ones, the size of walnuts.

When I arrived the hæmorrhage had ceased. In fact, it had stopped soon after the clots were expelled. With dressing forceps I tamponed the uterus, and left instructions to be followed if there should be signs of more hæmorrhage. The next morning the gauze was removed and no hæmorrhage followed. The discharge continued and was abundant and characteristic of endometritis. Until the 17th of February everything went along uneventfully, except for a feeling of weight and an occasional sharp pain in the suprapubic region.

On the 17th I examined the uterus, and found the organ much reduced in size, being four fingers' breadth below the umbilicus; but with the reduction in the size of the uterus a tumor had developed, or rather was distinguishable, on the right side.

The presentation of the growth might be appreciated if described as an orange placed one half outside and one half inside the uterus at or about the junction of the Falloppian tube, its outer half being palpable from the abdomen above, and giving more resistance to the right than to the left side of the cervix, through the vagina. The cervix was decidedly deflected to the left.

This evidence confirmed my suspicions that other conditions were present besides subinvolution and chronic endometritis.

On the 18th she reported another slight hæmorrhage, a little bright-red blood, but mostly clots.

Heretofore I had entertained the idea of extra-uterine gestation, but not seriously. Now it was uppermost in my mind.

I understood, of course, that other conditions might be present, such as a fibromyoma, a salpingitis, or a pregnancy in a one-horned or double uterus.

Realizing the possibility of an extra-uterine gestation, I brought my battery on the 18th of February with the idea of destroying the life of the fœtus, if there was one, and then proceeding on the advice of consultation. I applied both the faradaic and galvanic currents on the 18th and 19th of February. The patient complained once or twice of a sharp shooting pain, but could not locate it.

On the afternoon of February 19th the patient, being fond of the electrical current, thought she would apply some on her own account. She indulged in a long *séance* of about two hours.

During the night she suffered from sharp shooting pains and bearing-down cramps.

Early on the morning of the 20th I was called in a great hurry and received the following history:

Early in the morning the patient had been seized with a very severe bearing-down pain, and following this felt something coming from her. She supposed it to be a clot of blood, but on examining discovered a fœtus which was held by the cord to the mouth of the vagina.

I found the fœtus small for its presumable age, about two and a half to three months.

It was easily removed to a distance of about two inches from the vagina, but traction on the cord would not budge anything else.

There was some oozing of bright-red blood from the vagina. I introduced my hand into the vagina and passed the index finger through the cervix, following the cord as far as possible, but I was unable to reach the placenta, and did not know where it was situated.

As soon as I could procure a doctor to give chloroform, the patient was anæsthetized and held in the necessary position by a sheet passed under the knees and tied around the neck. Introducing my hand into the vagina, and two fingers through the cervix, by following the cord and bearing down from above I could reach the site of the placenta, high up on the right side and strongly adherent to the upper wall of a dilated pouch with very thin walls. On the left side of the uterus the muscular walls of that body were of natural thickness and contracted. The middle third of the uterus was as would be expected in a womb of that size—that is, the walls were about half an inch in thickness, while on the right side the tissues were dilated into a gourd-shaped pouch, with its walls, as it seemed to me, as thin as parchment. An attempt to loosen the attachment of the placenta brought on a contraction of the uterus, which shut off from access the cavity containing the secundines. Removal of my hand was followed by a gush of blood so serious as to necessitate immediate bimanual compression of the uterus, followed, after the hæmorrhage had been controlled, by the use of a hot douche and subsequent packing with gauze. The blood had simply spurted in all directions in the most alarming manner and, although the pulse stood it well, the general condition of the patient showed the loss of blood.

On removing the gauze the profuse flow of blood was seen to be checked, though there was considerable oozing.

There was no time to be lost, and realizing that the placenta must be removed without delay, and through the vagina if possible, I determined to go ahead and get it out.

The adhesions of the placenta to its unnatural wall were very firm and hard to reach, and any attempt to use instruments, without my fingers in the womb to plug the cervix and control bleeding, resulted in hæmorrhage.

To make a long story short, during the intervals between those measures used to control hæmorrhage, I succeeded in removing the placenta in about twenty small pieces and one large piece containing the membranes. I experienced no little difficulty in doing this, as I was without help except for the double and most valuable assistance rendered by the anæsthetizer.

The uterus was tightly packed with sterilized iodoform gauze and the patient put to bed in a fairly good condition, notwithstanding the serious loss of blood. I presume that during the operation of curettage I opened up a way through which the conception could be expelled into the uterus.

This event was brought about undoubtedly by the death of the fœtus, or the use of the electrical current brought around sufficient contractions to produce this desired result and unexpected termination.

The patient's pulse and temperature, though somewhat elevated, gave no trouble and her recovery was uneventful, save for a few pains in the central pelvic region and right side.

She was very sore and tender on right side and in median line. At the end of three weeks she could walk around with fair comfort, though any exertion, as raising her right arm above her head, would produce a dragging pain in the right side.

On examining her, four weeks after the last operative procedure, the uterus was much decreased in size, and on the right side I could only make out more resistance than on the left, and farther out toward the ovary a cord of about the size of a pencil. The region on right side was sensitive, but not painful.

A little over four weeks from the discharge of the fœtus the patient began to menstruate. The flow was painful, profuse, bloody, and accompanied with clots and membranous material. The flow continued for fourteen days, and then stopped for three days, but reappeared at intervals during the next week, and finally ceased altogether.

I examined her about April 10th and found the uterus small and movable and somewhat displaced backward. There was only a feeling of discomfort on the right side and nothing definite could be made out. On April 15th her menstrual period returned. This time it was almost free from pain, lasted four days, and was perfectly normal, being accompanied with little or no disturbance. Under the use of tonics and restoratives she gained rapidly in strength, and is at the present time in an excellent condition of physical and mental health.

371 West End Avenue.

AN OPERATING TABLE AND CHAIR

DESIGNED FOR USE IN AN OFFICE OR HOSPITAL.*

By ROBERT M. TAFT, M. D.

A year ago I presented before this society an operating chair which I had designed for use in Bellevue Hospital. The chair was introduced at Bellevue in September, 1896, and since that time has seen constant service in the minor surgical room. Many thousands of cases have been dressed upon it. This chair, though well adapted for the uses of a crowded dressing room, was heavy, bulky, elaborate in mechanism, and expensive in construction. I realized that a simpler, less expensive apparatus would better meet the demands of a private office or outside surgical cases, and still be of practically the same value in hospital work. It is such a table as this that I take pleasure in exhibiting to you this evening. The chair, as can be seen by the accompanying illustration, is constructed of a light but strong steel framework, upon which rest thin plates of steel. It is enameled white, with nickel trimmings. A shelf of glass (*E*) is so placed as to add strength to the superstructure, and provide a convenient resting place for instruments, dressings, and solutions. The mechanism is simple in construction and easily cleaned. There is no upholstery upon the table, so a shower of water can be played upon it without injury. Thus it can be kept perfectly clean and aseptic. It is, I think, built on graceful lines, and is both light and strong. Without the glass plate it weighs about twenty-five pounds. If necessary for use in an operation, I have found that it was easily transported to the house of the patient. It can be sent by an express wagon without fear of injury, or can be taken in a cab. According to the manipulations of the head and foot pieces (*B* and *C*), it can be made as required into a chair, a small table, a table for abdominal operations, or a short table for perineal work. If a gynæcological operation is contemplated, the stirrup attachment is easily applied. In this position it can be used for either examination or operation. If a case is to be dressed and a hand happens to be the injured member, it can rest on the central plate (*A*, Fig. 1), the patient standing by the table or sitting on a chair. A Kelly pad may now be placed under the hand, and by slightly raising the lower section (*C*) you have provided an inclined plane along which the drainage flows into a receptacle on the floor. This support and drainage leaves both hands of the surgeon free, and enables him to do better and more rapid work, and with far less fatigue to himself. All the necessary instruments and dressings can be placed on the glass shelf out of the sight of the patient. An injury to the arm, head, or face can

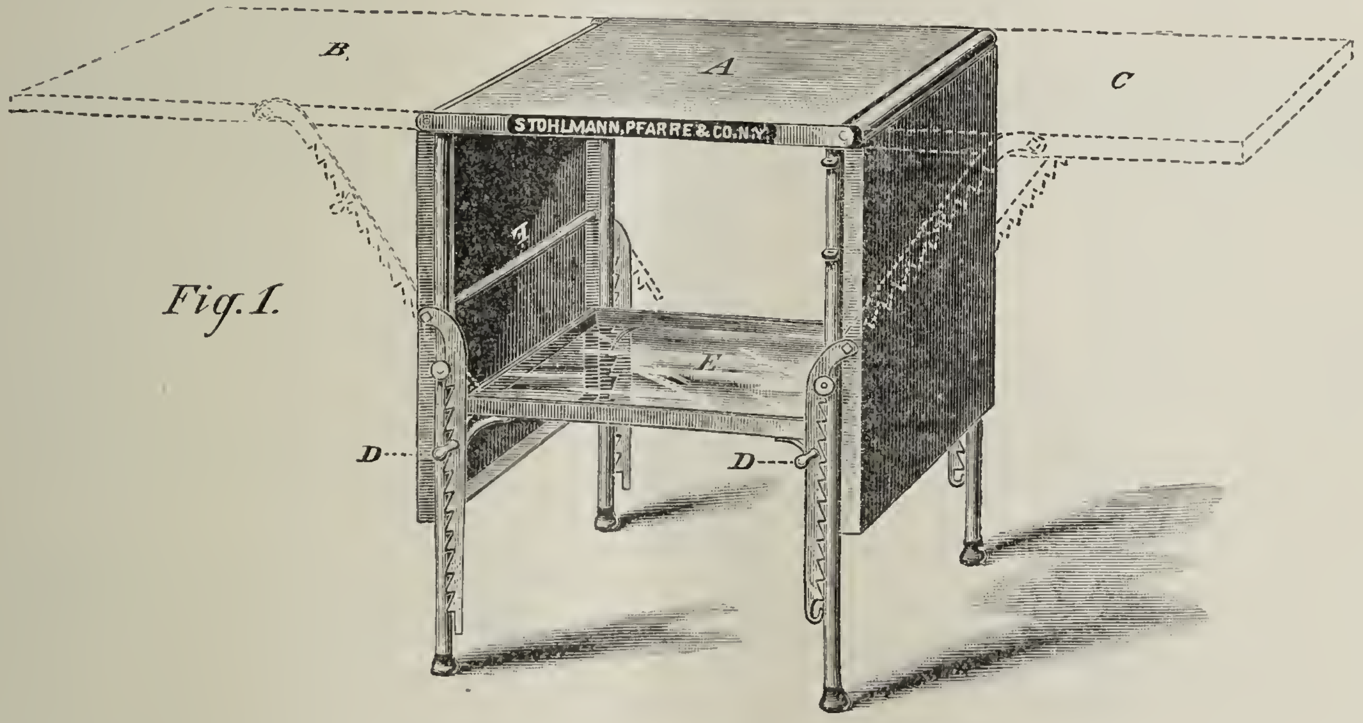

Fig. 1.

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* Read before the Society of Alumni of Bellevue Hospital, May 4, 1898.

be conveniently treated in a like manner. A wound of the foot or leg is more handily attended by converting the apparatus into a chair, and the foot piece (*C*) inclined to that degree which best suits the case. A plaster-of-Paris boot is readily applied with the table in this position. The chair is easily converted into a table adapted to almost any surgical procedure. This is done by raising the two outer sections (*B* and *C*). These sections are held in their different positions by a notched steel brace on either side. These braces are connected by a rod (*F*), and consequently work in unison when the power is applied to the knob (*D*). The sides are thus easily lowered or raised. In operations about the perinæum an excellent short table can be formed by lowering the foot piece, as in Fig. 2. It is not then necessary to drag the patient to the foot of the table after ether has produced its effects. The leg holders (*G*, *G*) can be used instead of a Clover crutch. The table is admirably adapted to gynæcological work, either for examination or operation. Where used in these cases, a Kelly pad is placed under the patient, and several practical demonstrations have proved to me that the drainage is perfect, and not a drop of solution reaches the floor, it all being collected in the pan under the table. In special work about the eye, ear, nose, or throat the chair can be adjusted so that the operator will find it convenient to reach any part of the face or neck. To facilitate this work it would be well to have a simple head piece attached to the back section. At the junction of the central piece (*A*) and the foot piece (*C*) is a nickel-plated roller which allows the patient to get on and off the chair with ease. Leather or rubber cushions could be provided if the operator so wished. The apparatus seems to meet the demands of general surgical work. It is not an expensive chair to make, and the mechanism being simple in construction, needs little or no repairing. It is made by George Tiemann & Co., and is sold complete for twenty-five dollars.

May 4, 1898.

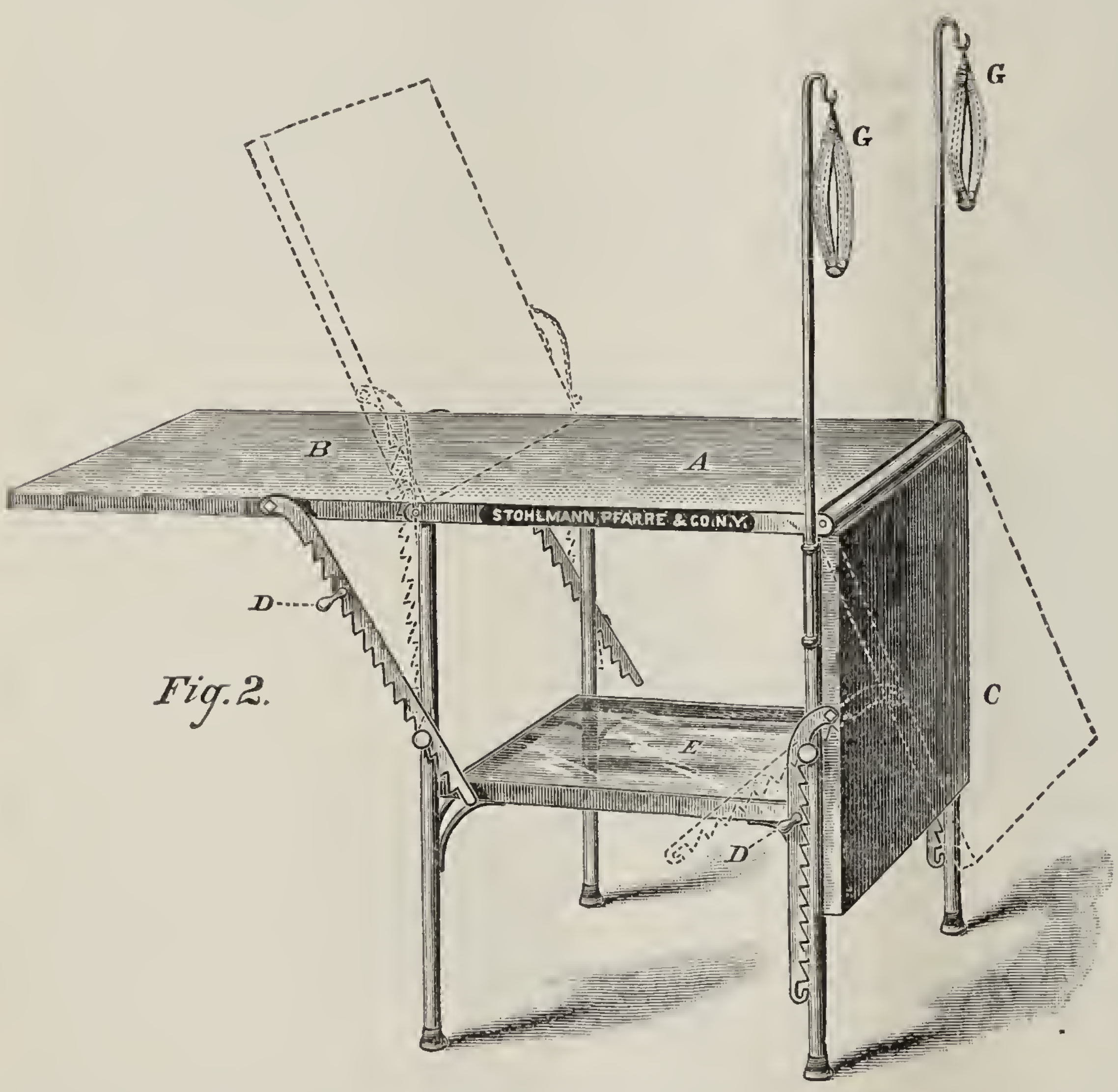

Fig. 2.

THE TREATMENT OF

FRACTURES OF THE PATELLA BY THE PURSE-STRING SUTURE.*

By IRVING S. HAYNES, Ph. B., M. D.,
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In this paper no attempt will be made to give even a summary of the many operations and procedures which at one time or another have been advocated for the treatment of fractures of the patella.

My purpose is rather to review the principles by which we should be guided in the selection of the form of treatment best suited to a given case. Then, if operation be deemed necessary, to place before you the details of the purse-string method, with my reasons for favoring it, and the results obtained in several cases in which it has been used.

The treatment of fractures of the patella depends upon the kind of fracture present, the nature of the complications, if any, and whether one is satisfied with ligamentous or strives for bony union. The principles of treatment are then derived as logical deductions from the pathology of the fracture. It will be necessary, therefore, to briefly review the conditions present in such fractures. The pathology is modified according as the fracture is produced by direct or indirect violence.

Fractures by direct violence may or may not be compound. The patella may be broken in any direction and there may be several lines of fracture and fragments. There will be very little separation of these fragments, if any, unless the line of fracture should be directed transversely, as there is very little concurrent laceration of the fibroperiosteal covering and ligamentous structure surrounding the patella.

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* Read before the Society of Alumni of Bellevue Hospital, April 6, 1898.

The effusion into the joint will be small in amount, as a rule, with few blood clots, the condition being more like a synovitis from traumatism without fracture.

The fragments in such a fracture will easily come together, as there is nothing between them to prevent; they can be maintained in close apposition, and bony union is the rule.

Fractures by Indirect Violence or Muscular Action.—The mechanism of the production of this form of fracture is this. In partial flexion of the knee the rounded under surface of the patella is brought against the convex condyles of the femur; its lower end is fixed by the ligamentum patellæ, its upper edge by the quadriceps extensor tendon. This muscle suddenly and violently contracts, usually in some effort to preserve the equilibrium; the patella, being spongy bone and weaker than the ligaments attached to it breaks. Whether the break is the result of this cross strain on the patella pulled against the femur as a fulcrum, or whether it is fractured by the direct pull of the muscles and gives way in its weakest part, are questions not at all vital to the present discussion.

The fact is that the patella breaks. Not only this, but the capsular ligament of the knee with the fibrous expansion of the quadriceps extensor and fascia lata are also torn to a greater or less extent at the sides of the patella in a direction upward and backward, even into the substance of the quadriceps muscle itself. The fibrous covering of the front of the knee may be torn then to a distance of from one to three inches from the patella. The point of fracture of the patella is usually just at or below the middle of the bone; the line of fracture is ordinarily transverse, though it may be slightly oblique. The plane of fracture is directed from above downward and forward. The upper fragment, therefore, presents a sharp, shelving edge. It is by this sharp edge that the fibroperiosteum of the bone is cut or torn through; the level of this tear in the soft parts is lower than the line of fracture in the bone, but continuous with the lacerations in the ligaments at the side of the patella. As the muscle and fibrous tissue contract, this fibroperiosteal flap is firmly drawn over the face of the upper fragment and soon becomes adherent to it.

This fibroperiosteal cap may vary in thickness from less than an eighth to a quarter of an inch, and in width up to half an inch. There are also many shreds of the torn tissue intervening between the fragments. The joint will be filled with blood clots, the synovial membrane injected, and its fringes swollen. The fragments will be separated to all degrees up to two inches, and the degree of separation depends upon four factors: the contraction of the quadriceps extensor muscle, the extent of the laceration of the tissues at the side of the patella, the shortening of the ligamentum patellæ, and the amount of effusion and blood clots in the joint. The fragments are not only displaced longitudinally but also rotated, so that the fractured surface of the lower fragment looks forward and upward, that of the upper fragment downward and backward. This feature of rotation becomes a serious complication in operating upon old fractured patellæ.

The external symptoms and individual circumstances which influence us in determining the kind of treatment are mainly these:

First, all fractures produced by direct violence, not compound, as a rule, do not require operation, because there is not the separation of the fragments nor the interposition of soft tissue between them, neither is there the quantity of effusion present, nor the difficulty of bringing the fragments together and maintaining them in apposition from the very first.

Again, transverse fractures, whether produced by direct or indirect force, and not compound, in which there is less than a fourth of an inch separation of the fragments. Where there is no deep sulcus on either side of the patella, indicating a minimum amount of laceration in the lateral ligaments. Where the fragments easily come together, and when together give a sharp crepitus, showing that there is no tissue between them, and can easily be retained in close apposition.

With such a case it will be perfectly safe; not only safe, but also the best plan to treat the fracture by some form of external dressing combined with the modern addition of massage.

In such cases you will secure fibrous union, to be sure, but of a minimum length and with the functional result almost perfect.

On the other hand, given a compound fracture of the patella by either direct or indirect force, or given a case constituting one of the great majority of the ordinary fractures by muscular action, where the knee is distended with effused blood and serum, where the fragments are separated any distance from each other—from half an inch or more—when they can not be brought together without great force or not at all, and as soon as the fragments are released, they retract to their former position. If you find a soft crepitus on rubbing the fragments together, showing the interposition of tissue; if your fingers sink into a gap on each side of the patella, indicating that the fibrous structures are badly torn—then, in such cases, you must perform the open operation if you wish to give your patient the best treatment, unless there is some contraindication besides the nature of the injury itself, as Bright's disease, old age, etc.

The treatment of fractures of the patella will then naturally be divided into the non-operative and the operative.

By non-operative treatment is meant any plan for bringing together the fragments not attended with puncture or incision into the skin. I shall not attempt to mention the many forms of non-operative measures. They all seek to draw together and retain in position the fragments by some forms of splints, strapping, rubber bands or cords with almost innumerable modifications and combinations.

This treatment, before the advent of Listerism the only one seriously considered, is adapted to certain cases at all times, and to all but compound cases at certain times and under certain conditions.

The cases chosen for this plan of treatment would be those already described as fractures by direct and indirect violence, presenting the minimum degree of separation of the fragments with a reasonable certainty that there is no, or at least very little, tissue between the fragments.

Considerations of the position in life held by the patient may also properly enter into the decision, as those in comfortable circumstances who can lead a life of comparatively little physical exertion are also fit subjects for the milder measures and less satisfactory results. The union in these cases will be by fibrous tissue, and if of the minimum amount, the functional result will be very good.

The above class of cases recommended for non-operative treatment are by far in the minority, yet, as they exist, it would be very unwise to insist that they accept the more thorough plan of treatment.

The Principles Underlying the Treatment of Fractures of the Patella by Operation.—The aim of the treatment of a fractured bone is to secure union by bone, not by fibrous tissue.

If the functional disabilities following a fibrous union of the patella were as disastrous as in the long bones of the body, such, for instance, as the femur, we should have our indications more sharply drawn than at present. In the long bones nothing short of bony union is accepted, even if the case demands repeated operation. In the patella the same hard-and-fast rule does not pertain, because a person can get along very well with fibrous union up to a certain degree. Still, the rule holds good that the aim of the surgeon is to secure bony union. How to secure this is the next problem.

Under operative measures I place all forms of treatment attended with puncturing or incising the skin.

The methods for securing union by instruments which puncture the skin, as Malgaigne's hooks, and all the modifications derived from them; by all forms of transverse pins, or sutures, fastened together on the outside of the skin; by sutures placed subcutaneously around the fragments antero-posteriorly, or through several subcutaneous punctures—all these forms and others akin to them are only mentioned to be protested against, because they do not accomplish the object of removing the cause which prevents bony union—that is, the substances between the fragments. Further, they constitute a source of real danger in that about all these punctured holes, where the hooks or pins are left in place, suppuration is sure to follow, and can and has extended to the interior of the joint. There is, then, no logical and practical ground between the old forms of strapping and the open method.

By the open method alone can the joint be freed from blood clot, the fibrous cap covering the upper fragment dissected away, the strands of torn tissue removed, the fragments themselves cleaned and brought into perfect alignment and then fastened together so that this condition will be maintained.

There is another vital reason for the operation besides the immediate conditions in the joint which preclude the possibility of a bony union. It is a condition on which little stress is laid, but one which in itself justifies an operation—namely, to prevent the development of conditions which lead to a weak knee and a refracture of the patella.

Given the last case, as above described, treat it with the best of non-operative measures, and the patient recovers with a fibrous union varying from a half to an inch or more. The lower fragment will be drawn to a considerable distance toward the tubercle of the tibia by the contraction of the ligamentum patellæ. The upper fragment rests upon the front of the condyles of the femur and is nearly immovable vertically and laterally, and is retained in this position by the contraction and consolidation of the lateral expansions of the fibrous hood, together with the cicatricial shortening of the scar tissue which fills in the gap between.

Voluntary and passive flexion of the knee is arrested by the inability of the upper fragment to descend over the rounded condyles of the femur, owing to the contractured tissues at its sides. Forcible flexion carried beyond this limit, either accidental or with intent, will tear through the ligamentous union between the two fragments before the contractured tissues by which the motion is arrested will yield.

If refracture thus does not occur early, the upper fragment seldom descends, but motion is gained by a lengthening of the fibrous union. This elongation may reach the considerable length of four inches. A knee joint, then, with fibrous union sufficiently long between the fragments of the patella to permit of the non-descent of the upper fragment constitutes a constant source of weakness and possesses within itself the predisposing cause for a refracture. To prevent these results would alone justify opening the knee joint.

After this somewhat lengthy review of the principles underlying the treatment of fractures of the patella, and the reasons, pathological and logical, which not only justify, but in the majority of cases demand the open method of treatment for such cases, I will submit to you a brief account of the purse-string suture as used in the patients presented here this evening.

As a rule, patients are not operated upon until about a week has elapsed, during which time the knee is bandaged, lead and opium and an ice bag applied, and the limb fixed to a posterior splint.

The leg is prepared the night preceding the operation. An aseptic operation is performed, no antiseptics being used except in the preliminary scrubbing of the patient, operator, and assistants. Sterilized decinormal salt solution is the only fluid used without and within the knee during the operation. A vertical incision is used by preference, as it is not open to the objection that belongs to the transverse one—viz., that if a refracture occur with a transverse incision the fracture is apt to be compound. As the scar is adherent to the deeper tissues, the incision varies in length from three to five inches, depending upon the conditions present.

The superficial tissues are cut through, the fragments and the quadriceps extensor tendon and the ligamentum patellæ exposed, and dissected up at the sides to lay bare the entire extent of the tear in the lateral fibrous tissues. All blood clots are carefully and thoroughly removed by irrigation, all frayed edges and damaged tissue trimmed away, especially along the torn edges of the capsule.

Attention is now directed to the patella. The fibro-periosteal cap covering the upper fragment is cut away, the surfaces of the fracture lightly but thoroughly curetted until they bleed freely. Oozing is checked by hot irrigating and pressure. The rents in the fibrous tissues at the side of the patella are sutured with catgut or silk. The purse-string suture is now inserted. The suture is of strong braided silk, usually No. 10, capable of standing a heavy strain, so as not to break in tying. This silk has been freshly sterilized preceding the operation. Two pieces of silk are used, each about eighteen inches long, threaded into long half-curved surgical needles. The surgical needle is used in preference to the Hagedorn, as it passes through the dense fibrous tissues with greater ease. Before using the sutures the operator should wash his hands and irrigate the joint. The upper fragment is first semi-encircled. The needle is entered in the midst of the tissues close to the fractured edge of the patella, carried upward, with its point closely hugging the bone, and brought out at the lateral and superior angle; it is reinserted close to the hole of emergence and carried through the tendon of the quadriceps extensor, always close to the bone, then brought out at the other lateral and superior angle; again it is pushed through the tissues and made to emerge at the side of the fractured edge opposite to that of entrance. The lower fragment is similarly semi-encircled by the other strand of silk which hugs the bone and transfixes transversely the ligamentum patellæ. The joint is washed out for the last time, the two sutures tied with a square knot simultaneously, as much force being used as the silk will stand so as to firmly crowd together the fragments. The knot and cut ends of the silk lie between the torn capsule and are out of the way. The skin is closed with cat or silkworm gut, sealed with an aristo-collodion dressing, and a plaster-of-Paris splint applied over a lint bandage. In seven to ten days the splint should be opened and the sutures, if non-absorbable, removed. A second light splint is applied and worn for two weeks more. This is now taken off daily and passive and voluntary motion instituted, combined with hot- and cold-water douches and massage. Usually there will be ten degrees of motion obtained when the joint is first tested.

The purse-string suture has many points of superiority over the usual method by wiring. The chief one is that the former secures absolute coaptation of the fragments. No matter how carefully one drills the holes for the wire, it is almost an impossibility to get them exactly opposite, and if not opposite, the surfaces of the fragments can not come into direct apposition. For this reason many operators saw off the fractured edges so as to better command a flat surface. With the silk suture this is not necessary, for the encircling suture crowds together the fragments whether there are two or more, and all the little inequalities of surface are brought into accurate apposition and the patella thus united presents a remarkably fine coaptation.

Another objection to wire, as usually applied, is that it is passed through the anterior half of the bone, the posterior surfaces have nothing to hold them together, and there is apt to be a tipping of the fragments and an angular displacement between them. The silk, on the other hand, is applied at the middle of the periphery of the bone and the force holds the fragments evenly balanced.

The amount of bone which can be included within the wire is limited, especially with a small lower fragment, or if there be more than two fragments. If the line of fracture is oblique, then wiring becomes difficult and unsatisfactory. With the purse-string suture it matters not how many fractures there are, or in what direction run the lines of fracture, or whether a fragment is very small, or how irregular the fractured face may be, you will find that as soon as you tie the sutures the fragments accurately come together; there is neither lateral nor antero-posterior displacement, and the patella resumes its normal shape.

In the tissues the silk is better disposed for permanent resistance than is the wire. It is buried deeply within tendinous structures and remains there without causing any secondary symptoms.

On the other hand, a wire in front of the patella often ulcerates through and has to be removed.

There is no operation which gives the appearance of completely fulfilling all the requirements as this one does.

The objections to the operation here described are the objections to all open operations.

These are the opening of the joint and the possibility of infection. I do not wish to belittle the effects of suppuration in the knee joint. It is most serious, resulting eventually in either ankylosis, amputation, or possibly death from septicæmia.

But I think the dangers of infection are too much exaggerated. The fact that in one of our charity hospitals, where there is only one small operating room in which all sorts of cases must be treated, suppuration has not followed in a single case of fractured patella subjected to operation shows that with careful attention to all details of asepsis we can secure union without infection. In a private house the risks are much less.

Therefore, while the danger of septic infection exists, it is no more potent for cases of fracture of the patella than in any case of operation primarily aseptic. An objection which might be urged against this method itself is the dissection of the subcutaneous structures laterally to the full limit of the tears in the capsule of the knee. I do not think this objection can hold. Because if the joint is to be opened at all it is necessary to do the operation thoroughly, and a smaller opening does not admit of this. To me an important part of the operation is the removal of all the torn shreds of tissue, the damaged muscle, and the close suturing of the rents in the soft parts; the conversion, in other words, of a lacerated wound into an incised one.

There is one precaution, however, to be observed—namely, to handle the tissues as little as possible, and then with instruments in preference to the fingers, and most of all to do the handling yourself.

Summary.—Males, three; females, two. Cause, indirect violence in all. Location of fracture: middle, one; middle and lower thirds, three; middle and upper thirds, one. Line of fracture, transverse or slightly oblique. Fibroperiosteal hood present in all. In addition there were fibrous strands between the fragments. Ligamentous structures at the side of the patella torn from one to three inches. Union in skin primary in all; one had a small gap of half an inch, due to infolding of skin, this healed promptly. Union in fragments of patella by bone in four, by fibrous tissue in one. Angle of motion: least, ninety-eight degrees; greatest, a hundred and twenty-five degrees; average in five, a hundred and fourteen degrees and two fifths. Time in hospital, three to four weeks. Average time since operation, a year and seven months.

Case I.—John C., aged fifty-three years; United States, expressman; February 20, 1896.

History.—Fell while loading a wagon and struck his left knee against the tailboard, fracturing the patella transversely at its middle. Brought to Harlem Hospital.

Treatment.—Lead and opium, posterior splint.

February 25th.—Dr. Haubold, then on duty, wired the fragments through a median incision. Periosteal hood found covering face of upper fragment. One silver wire used. No irrigation, the entire operation being conducted after the dry method. Catgut sutures in capsule and skin.

Result: Union primary. Patient discharged at end of three weeks.

May 11th (two months and a half later).—Patient had so far recovered as to have resumed regular work; flexion beyond a right angle; exact amount not known. On this day slipped and fell, refracturing the same patella; lead and opium applied.

18th.—The knee was opened a second time by a vertical incision alongside of the first one. The wire was found broken at the twist; line of fracture at same place as before; fragments covered by thick layer of new connective tissue. On this account the hood hanging over upper fragment was very thick and long. Joint irrigated with saline solution; all blood clots cleaned out; strands of frayed tissue removed; torn capsule sutured up to patella on both sides; surfaces of fragments curetted and encircled by the silk suture close to the bone, but well buried within the tissues. This suture was in a single piece. On tying it it broke from the strain necessary to bring the fragments well together. A second strand had to be passed; this held. In the later operations the suture was used in two pieces and did not break. After tying the knot it was tucked in between the edges of the torn capsule; skin closed with silkworm-gut sutures; aristol-collodion dressing; plaster-of-Paris splint; wound healed by primary union.

June 8th.—Patient discharged wearing a removable splint and using a crutch. Flexion, five degrees.

July.—Twenty degrees of flexion noted.

March 13, 1898.—Patella fragments united by solid union; no motion between them; evidently bone. The patella is freely movable vertically and laterally; angle of voluntary flexion, ninety-eight degrees; has worn a bandage around the knee for fear of another accident, and this has interfered with free motion; told to discard the bandage and work at flexing his leg forcibly every day; has no pain in joint; is working at his business as expressman.

Case II.—Mary S., married; about thirty-five years of age; September 5, 1897.

History.—Coming down stairs, tripped on next to last step and in the effort to save herself fractured the patella on the left side.

Examination.—Transverse fracture of left patella below middle of bone; joint distended with fluid; fragments separated by wide interval.

Treatment.—Posterior splint and ice bag.

September 6th.—After opening the joint a large amount of clotted blood escaped. The capsule was torn backward and upward on both sides of the patella for between two and three inches into the substance of the vasti muscles. There were many shreds of fibrous tissue presenting between the fragments and a fibroperiosteal hood half an inch wide covering the upper fragment. The usual operation of trimming up the capsule, curetting faces of fractured bone, irrigating joint, introduction of purse-string suture, suturing of torn capsule done. Fragments came evenly together.

Result: Primary union.

October.—On removal of plaster splint patient at once flexed leg to an angle of about sixty-seven degrees; no pain; patient has done housework for last two weeks without trouble; fragments solid; anterior surface of patella level.

March, 1898.—Angle of motion, a hundred and twenty-five degrees; fragments separated three eighths of an inch; ligamentous union; patella freely movable, however, and flexion normal; has pain in joint preceding bad weather; has had rheumatism in ankle and this knee preceding the injury.

Case III.—Abram B., aged thirty-one years; May 7, 1896.

History.—While maintaining his equilibrium, as the hospital history reads, he fractured his left patella.

Examination.—Simple transverse fracture of patella below middle; joint swollen; amount of separation of fragments not noted.

Treatment.—Lead and opium and posterior splint for six days.

Operation, May 12th.—Joint opened by vertical incision; large blood clot turned out; the periosteum and fibrous tissue covered over upper fragment, effectually preventing contact of fragments; purse-string double suture used; fragments came together closely; skin incision sutured and sealed without drainage.

23d.—Redressed; wound closed; dermatitis caused by green-soap poultice present; healed under dry dressing.

June 11th.—Discharged.

29th.—Five degrees of motion in joint.

July.—Fifteen degrees of motion present.

March 24, 1898.—Angle of flexion, a hundred and twelve degrees; solid bony union of fracture; patella freely movable.

Case IV.—Daniel O'K., twenty-eight years old; letter carrier; December 4, 1896.

History.—While making his rounds slipped and fell on stairs. States that the bone broke before he struck the steps. Brought to Harlem Hospital by ambulance.

Examination.—Joint fully distended by effusion; transverse fracture of left patella in middle and lower thirds; fragments separated fully an inch; posterior splint and ice cap. When swelling had somewhat subsided, an attempt was made to bring the fragments together by adhesive strapping, but without success.

December 10th.—Operated on according to the method described. Joint contained a large blood clot; line of fracture was oblique downward and inward. There was an extensive laceration of the lateral ligaments extending into the internal and external vasti muscles; fibroperiosteal hood firmly drawn over edge of upper fragment; shreds trimmed off, rents sutured, surfaces of patella scraped, fragments sutured by two strong braided-silk sutures, and fragments firmly brought into perfect coaptation when tied; dressing and plaster splint.

December 23d.—Wound healed by primary union; silkworm-gut sutures in skin removed; posterior splint applied.

January 3, 1897.—Splint removed; some motion in joint, about five degrees. Discharged from hospital.

July, 1897.—Flexion to forty-five degrees; extension normal; no mobility of fragments.

Angle of voluntary flexion, February 28, 1898, a hundred and twenty degrees; patella freely movable vertically and laterally; union by bone; works full time as letter carrier.

Case V.—Emma B., aged twenty-six years; housework; September 7, 1897.

History.—Four years ago fractured right patella; today slipped down two steps and fractured left one. Brought to hospital.

Examination.—The right patella shows an old fracture at the upper and middle thirds of the bone, with ligamentous union of half an inch; normal range of motion in joint; left knee swollen and a transverse fracture of the patella at its upper and middle thirds found; fragments could be brought together, but crepitus was too soft to show that the bony surfaces came in contact; ice cap applied and posterior splint.

Operation, September 9th, by the vertical incision. Joint contained moderate amount of clotted blood in dark-colored fluid; plane of fracture oblique from behind and above downward and forward; capsule and deep fascial covering not torn more than an inch laterally; fibroperiosteal hood covering upper fragment; all blood clots cleaned out by saline irrigation; rent in capsule closed; surfaces of fragments cleaned; fragments encircled by strong braided-silk ligature in two pieces, close to the bone and buried within the tissues; ligatures tied simultaneously; fragments came into perfect apposition; skin closed with silkworm gut and aristol collodion; plaster-of-Paris splint.

September 16th.—Plaster and sutures removed; union primary, except for a distance of half an inch.

November 8th.—Plaster removed; union throughout; fragments do not show independent mobility; flexion to forty-five degrees. Angle of voluntary flexion, February 25, 1898, a hundred and seventeen degrees; patella freely movable laterally and vertically; fragments firmly united; apparently bony union.

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THE EARLY DIAGNOSIS OF DEMENTIA PARALYTICA.

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In considering the question of the early diagnosis of dementia paralytica it is essential that the views of the two opposing schools in reference to the ætiology should be kept in mind. One school whose views have lately been presented by Hirschl (1) and Möbius (2) asserts that this disease is simply a late form of syphilis. The other school, which represents the majority of clinicians, declares that there are other important ætiological factors. The views of the second school have been stated by Naecke (3). While admitting that syphilis is a most important ætiological factor in a great many cases, he asserts that a hereditary predisposition is absolutely essential for the production of this disease. Naecke says the paretic is quasi-natus paralyticus, and asserts that syphilitic infection without the addition of the hereditary factor will not produce paresis. In addition to the specific element, Naecke emphasizes the importance of alcoholism, trauma, lead, prolonged mental as well as physical strain, etc. He confidently asserts that a conjunction of the hereditary with one or more of the other factors is absolutely essential for the development of this disease. Although in the majority of cases there is a definite history of syphilitic infection, it is evident from a review of the literature that the last word has not been said on the question of ætiology, in spite of the work of Hirschl, Möbius, Fournier, Krafft-Ebing, and others. Recent observations have shown that the juvenile form of the disease is not as uncommon as was once supposed (4), and, on the other hand, the investigations of Alzheimer in cases of supposed dementia senilis demonstrate that not infrequently dementia paralytica appears at a very advanced age. Alzheimer shows very clearly that in the cases of dementia paralytica which occur late in life the anatomical as well as the clinical distinction from senile dementia may be very difficult. The consideration of these two forms of the disease, one occurring early and the other late in life, must be omitted from the present article, and attention will simply be directed to the diagnosis of dementia paralytica occurring in the fourth and fifth decades of life, at which time it is undoubtedly most frequent. The truth contained in Heine's remark that "only a philosopher can diagnosticate insanity" may be applied in reference to the early diagnosis of dementia paralytica. The fact that the prodromal period may extend over a very considerable number of years adds greatly in many cases to the difficulty of the diagnosis. The symptoms of this as well as of the other periods of the disease are undoubtedly modified by many factors which are as yet little understood. We may instance race, climate, environment, etc. It is not improbable that the clinical picture of the more common forms of the disease, which are typical in Europe, will be found to present on closer study many variations in this country.

The different clinical pictures of the disease in the southern, as compared with the northern, countries in Europe have been noted by several observers. This question of variation has not yet been sufficiently studied in the United States. The great variety of forms in which the disease first manifests itself may be suggested by simply mentioning Arnaud's classification (6) of the clinical types. He distinguishes: 1. *Forme demente,* a class of cases which are characterized by absence of delirium. 2. *Forme ambitieuse,* or "expansive form." 3. The melancholic form. 4. A mixed type. 5. Circulatory or alternating form. 6. The spinal type, and 7, the epileptic type. The simple reference to these various recognized types demonstrates the multiplicity of the forms under which the disease may first make its appearance. No definite law can be laid down regarding the development of the psychical symptoms. Undoubtedly too great importance has been given in textbooks to what are improperly called "the classical forms" of the disease, and not enough stress has been laid upon the protean character of the early manifestations of the mental disturbances. The assumption that a certain definite train of psychical symptoms is characteristic of the prodromal period of this disease may be the source of a very great error in diagnosis. It is also necessary to keep in mind the fact that the local symptoms may develop long before the psychical. This was well illustrated by the case of a patient in the Johns Hopkins Dispensary who had well-marked spinal symptoms for at least a year and a half before the appearance of any mental disturbance. Such cases are not of infrequent occurrence. Each case of dementia paralytica should be studied by itself and should not be taken as a type. The changes in the ethical and moral status of the patient have been studied by many observers. They have been treated at some length by von Krafft-Ebing in his monograph (7). These very early changes are more often evident to the immediate friends and relatives of the patient than they are to the physician, and they may be easily overlooked or ignored. Another important class of cases are the cases of dementia paralytica which begin with a long period of neurasthenic symptoms. Binswanger (8) has very recently called attention to this class of patients. These cases are often characterized by impairment of memory, inability to concentrate the attention, or to make any prolonged intellectual effort. In addition, there is often irritability of temper and sleeplessness. At first there may be a complete absence of somatic symptoms. When these symptoms occur in men between the ages of forty and fifty, and persist in spite of prolonged treatment, one may be suspicious of paresis, although the possibility of the existence of other lesions of the brain must not be forgotten. The changes of the sexual functions have been so popularized that their diagnostic importance need not be insisted on again except to emphasize the fact that the period of diminution or loss of sexual activity is often preceded by a period of increased sexual excitability.

One can not emphasize sufficiently the importance of not attaching too great significance to the idea that dementia paralytica, especially in its early stage, is characterized by a certain definite set of psychical symptoms. A great majority of cases undoubtedly exhibit certain mental disturbances characterized by deficiency of judgment and the critical faculty, inability to fix the attention, a certain amount of self-complacency and egotism, and a lack of systematization in connection with some or all of the cerebral processes. Cotard (9) has laid great stress upon this last symptom in distinguishing the melancholic form of dementia paralytica from true melancholia. As a rule, in the former the lack of system in the mental symptoms is strikingly contrasted with the system of the "*délire de négation,*" the "*délire d'immortalité et d'énormité*" of the melancholic. In the absence of physical symptoms very great care should always be exhibited in diagnosticating any case as one of dementia paralytica.

The ocular symptoms are, as a rule, the first of the local disturbances to be noted. These symptoms have been studied by a great many observers. Ballet (10) has recently collected and classified the results of a large number of observations of cases in Paris. He lays stress upon the inequality and the unevenness of the pupils, a symptom described as long ago as 1850 by Baillarger. Ballet also calls attention to the great frequency of ophthalmoplegia, both external and internal, as one of the early symptoms. On the other hand, Siemerling and Bödeker (11) say that paralysis of the eye muscles is of infrequent occurrence in dementia paralytica. Ballet states that in the majority of cases which he has examined the pupillary paresis for light is accompanied by a diminution or loss of accommodation reflex. He refers to this as an important point in distinguishing the early stages of this disease from tabes. No one has as yet confirmed the truth of the statement, and the point is of little importance in view of the statements of many pathologists concerning the identity of the two processes. In the majority of the cases which have been studied in the dispensary of the Johns Hopkins Hospital, the Argyll-Robertson pupil has been noted in only a very small percentage of the cases. On the other hand, the sluggishness of the reactions both for light and accommodation has been noted as one of the most constant symptoms of the early period of the disease.

Siemerling (12) has shown that in nine thousand one hundred and sixty cases of mental disease observed by him, the light reflex was absent in ninety-two per cent. of the cases of dementia paralytica, while in the other diseases it was noted in a very much smaller percentage of the cases. The absence of the consensual reflex often occurs very early in the disease, but more exact statistics on this point are needed.

Uhthoff's statistics (13) regarding the pathological conditions seen with the aid of the ophthalmoscope are suggestive, but none of the changes are pathognomonic. Changes were observed in fifty per cent. of the cases of dementia paralytica, in forty per cent. of the cases of alcoholism, in twelve per cent. of cases of epilepsy, and in ten per cent. of the cases of functional mental diseases. Klein (14) has described a "retinitis paralytica" eighteen times in forty-two cases of dementia paralytica —a condition which Klein says is characterized by the senile appearance of the retina and of the optic nerve, and by the "sudden increase" in the size of the vessels, the arteries being more commonly affected than the veins. Optic atrophy has not been noted in the prodromal period. In the majority of cases the deep reflexes are increased or exaggerated in the early stages of the disease; in a much smaller percentage of the cases they are diminished or even absent. The examination of the superficial reflexes needs more investigation. If the tendon reflexes are absent or greatly diminished, and at the same time there exists slight disturbance of the motor as well as of the psychical functions, it is well to examine the urine carefully for sugar. The presence of sugar in such cases is referred to by Laudenheimer in an excellent article on pseudo-paresis of diabetic origin (15).

The motor symptoms are very important, as they may occur early in the disease, and may be overlooked in a superficial examination. These symptoms are characteristic, since they do not suggest the loss of muscular action, but rather the inhibition or suspension of the voluntary impulse. These affections may be monoplegic, hemiplegic, or diplegic in type. The more complete muscular paralyses are due to complications, such as hæmorrhage, etc. In the spinal type, paralysis may follow changes in the ganglion cells of the anterior horn, and certain cases have been reported which may for a time resemble the muscular atrophies (16). The motor disturbances are, as a rule, transitory and retrogressive, almost never progressive, and are generally preceded by apoplectoid or by epileptoid attacks. Muratoff (17) has recently studied the character as well as the pathogenesis of these attacks. Undoubtedly many of the cases of so-called cerebral hæmorrhage characterized by very slight motor disturbances, but with excessive and disproportionate psychical derangement ending in dementia, are really not cases of hæmorrhage followed by softening, but are cases of dementia paralytica. The tremor of the facial muscles and extremities appears early in the disease in the great majority of cases. Considerable diagnostic importance should be attached to the tremor of the facial muscles, most marked, as a rule, in the region of the zygomatic. This tremor may or may not be accompanied with speech disturbances. The speech disturbances depend upon two elements: the one cortical and the other bulbar. The early speech disturbances are always cortical in origin. In a great many cases bulbar symptoms may be absent. The psychical speech disturbance is characterized by difficulties in the proper association of tones as well as the association of syllables and words. The disturbances in writing are similar. This has been aptly epitomized by a French author, who says *"le style c'est l'homme."* The defects of speech and writing are, as a rule, marked by a general incoordination not only in the formation of words and sentences, but in the expression of ideas as well. This incoordination is an exceedingly important point in the diagnosis. The formation of single sounds and syllables is correct, but the connection of syllables in the formation of words and sentences is defective. Although the patient often has aphasic symptoms, it may be said that complete aphasia never occurs unless due to some complication.

From the number of lesions reported as occurring in the sensory tracts of the spinal cord, in a large percentage of the cases, it would seem to indicate that the disturbances of sensation are not as infrequent as is commonly believed, but that, owing to the mental disturbance of the patient, they may be overlooked. The sensation has not been sufficiently investigated in the early stages. Biernacki's ulnar symptom can not be said to be pathognomonic. The ulnar analgesia has been observed in many other conditions.

Reference must be made to the diagnostic importance of the cases which begin with epileptoid attacks. Functional epilepsy very rarely develops after the twenty-fifth or thirtieth year. It is, as Voisin (18) says, a disease of youth and adolescence. Epileptoid attacks which occur in patients only after they have passed this period of life should be sufficient to arouse the suspicions of the physician as to the possibility of the seizures being the early symptoms of dementia paralytica. This is particularly the case if the attacks are characterized by only slight lapses of consciousness, and if in the interval between the attacks there should exist the slightest disturbance of the normal psychical processes.

Hoche's reference (19) in his excellent monograph to the significance to be attached to the history of attacks of migraine, as among the more constant of the symptoms of the prodromal period, does not coincide with the observations made either in the neurological dispensary of the Johns Hopkins Hospital nor in the cases observed at Bay View Asylum.

The diagnosis of dementia paralytica in the early stages is always difficult, but nevertheless it can be made with certainty in many cases. It is always well to remember the suggestion implied in Voisin's statement, that a diagnosis of dementia paralytica *may be* made in the majority of cases after they have been under observation for *three months.* No symptom is pathognomonic, but the conjunction of certain symptoms is characteristic of dementia paralytica. As Arnaud has said, the psychical disturbances and the general and progressive tendency toward dementia, taken in conjunction with the oculo-pupillary symptoms and the psycho-motor ataxia, may be considered veritable "stigmata paralytica." The early diagnosis of this condition is not made more difficult by a refusal to accept as proved the propositions either that dementia paralytica is a distinct and definite disease, or that it is merely a generic term for a group of diseases, or even a symptom-complex. The diagnosis can never be made with certainty from the psychical symptoms alone, but these must be considered in their relation to the physical or local. Hoche's suggestion that the term local should be substituted for the terms physical or organic should receive more general recognition. If it is true that the study of mental diseases is finally to emerge from its metaphysical era, and is at last to enter upon the positive or scientific period in its development, it must take heed to Huxley's warning: "With a view to the progress of science, the materialistic terminology is in every way to be preferred."

I avail myself of this opportunity to thank Dr. Henry M. Thomas for the facilities extended by him to me for observing the cases in the neurological clinic of the Johns Hopkins Hospital.

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8. *Congrès des aliénistes et neurologistes,* Toulouse, 1897.
9. *Psychoses et affections nerveuses,* Paris, 1897.
10. *Arch. f. Psych. u. Nervenkrankh.,* Bd. xxix, pp. 420 and 716.
11. *Berliner klin. Wochenschr.,* 1896, No. 44.
12. *Bericht. der ophthalmolog. Gesellschaft zu Heidelberg.*
13. *Wiener medic. Presse,* 1897, No. 3.
14. *Arch. f. Psych. u. Nervenkrankh.,* Bd. xxix, Heft 2.
15. Schaffer. *Monatsschr. f. Psy. u. Neurol.,* Bd. iii, Heft 1, p. 64.
16. *Monatsschr. f. Psy. u. Neurol.,* Bd. iii, Heft 1, p. 40.
17. *L'épilepsie,* Paris, 1897.
18. *Die Frühdiagnose der progress. Paralyse.*
19. *Congrès des aliénistes et neurol.,* Toulouse, 1897.

Therapeutical Notes.

Anæsthesia of the Membrana Tympani.—Dr. Bonnain (*Revue hebdomadaire de laryngologie, d'otologie et de rhinologie,* July 16th) recommends the following to be applied for from three to five minutes prior to surgical intervention:

℞ Carbolic acid,
Hydrochloride of cocaine,
Menthol, } of each... 30 grains.
M.

It produces rapid anæsthesia without much caustic effect.

Creosote in Ozæna.—Ferreri (*Archivio italiano di otologia, rinologia e laringologia,* 1897, 4th fasciculus; *Annales des maladies de l'oreille, du larynx, du nez et du pharynx,* July, 1898) uses two solutions, a strong and a weak one, as follows:

Strong solution:
℞ Creosote,
Glycerin, } .... equal parts.
M.

Weak solution:

℞ Creosote	75 grains;
Alcohol at 70°................	150 "
Glycerin	600 "

M.

According to the severity of the complaint, he makes applications of one or other of these solutions every day or on alternate days. When indicated, he completes the treatment by the galvano-cautery.

Thymol as a Tæniafuge.—Unna Campi (*Journal de médecine de Pâris,* July 26th) has employed thymol with success against *Ankylostoma duodenale.* He recommends the following method of administration:

1. Administer in the evening, some time after the last repast, two hundred and twenty-five grains (about half an ounce) of castor oil.

2. Next morning administer first one hundred and twenty grains of broken thymol, divided into twelve doses, one to be taken every quarter of an hour.

Follow with a second dose of castor oil.

In order to combat the depressing influence of the drug, the author counsels the administration therewith of some stimulant. He asserts its curative action to be infallible.

The Treatment of Congestion of the Liver.—Monin (cited in the *Indépendance médicale* for June 29th) gives the following formulæ:

1. ℞ Sodium bicarbonate, Sodium sulphate,	each..... 6 parts;
Sodium phosphate............	4 "
Sodium benzoate..............	2 "

M. A teaspoonful, in half a glass of warm water, to be taken daily.

2. ℞ Powdered ignatia, Powdered squill,	each...... 1½ grain;
Sparteine sulphate, Amorphous quassin,	each.... ¾ "
Theobromine	3¾ grains.

M. Two such cachets to be taken daily.

3. ℞ Glycerin	200 parts;
Tincture of boldo...........	100 "
Lactic acid.................	15 "

M. A teaspoonful, in half a glass of water, to be taken after each meal.

The Treatment of Overproduction of Hydrochloric Acid in the Stomach.—Boas (*Diagnostik und Therapie der Magenkrankheiten; Gazette hebdomadaire de médecine et de chirurgie,* May 15th) commends Wolff's mixture, made according to the following formula:

℞ Sodium sulphate...............	30 parts;
Potassium sulphate............	5 "
Sodium chlorate...............	30 "
Sodium carbonate..............	25 "
Borax	10 "

M. S. Half a teaspoonful, dissolved in half a glass of warm water, to be taken three times a day, before breakfast and two hours before luncheon and dinner.

Treatment of Loss of Hair.—Barie (*Journal de médecine de Paris,* July 31st) recommends the following application, which he says seems to arrest the falling of the hair:

℞ Hydrochloric acid	75 drops;
Alcohol	5 ounces.

M. The scalp to be rubbed with it every night.

Astringent Application for the Vaginal Mucous Membrane.—The *Journal de médecine de Paris* for July 31st recommends the following for a relaxed condition of the vaginal mucous membrane:

℞ White vaseline	450 grains;
Extract of rhatany	60 "
Tincture of roses, Tincture of vanilla,	of each.. 75 drops;
Tincture of capsicum	7 "

M.

Solution to Vaporize in the Chamber of Phthisical Patients.—The *Riforma medica* for August 4th recommends the following:

℞ Solution of formalin, forty per cent.	600 minims;
Beechwood creosote	150 "
Turpentine	375 "
Menthol	60 grains.

Twenty to thirty drops to be heated on a metal platter.

Treatment of Oxyurides in Children.—Monti (*Gazette médicale de Paris,* July 30th) recommends the following:

℞ Senna pods, Leaves and dried flowers of tansy,	of each 180 grains;
Water, enough to make, after boiling fifteen minutes, a decoction of	2½ ounces.
Add:	
Sulphate of magnesium .	30 to 45 grains;
Syrup of manna	300 "

Half this amount to be taken at one time, and the other half next morning.

Treatment of Metritis. — The *Louisville Medical Monthly* for August says that in cases of metritis, more particularly catarrhal endometritis, and in certain affections of the uterine appendages, such as salpingitis and pelvic exudation, Dr. I. N. Grammatikati, professor of obstetrics and gynæcology at the medical faculty of Tomsk, has obtained remarkably favorable results from intra-uterine injections of the following mixture:

℞ Alumnol	37½ grains;
Tincture of iodine, Rectified spirits,	of each.... 375 "

M. For external use.

These injections are administered daily after disinfection of the vulva and vagina. When the internal orifice of the cervix is closed, it is dilated somewhat by the aid of Hegar's dilators. The quantity of mixture usually injected is one cubic centimetre (fifteen minims). When the oviducts are dilated in the form of tumors, as much as two cubic centimetres may be introduced without hesitation, as in such cases the uterine orifices of the tubes are usually obliterated. Daily intra-uterine injections of this mixture of alumnol and iodine invariably determine amenorrhœa, lasting from two to four months, which appears to play an important part in the success of the treatment. About forty injections are the average employed in the course of the treatment, and this is usually sufficient to cure catarrhal endometritis. With regard to lesions of the annexa, the results vary according to the nature and duration of the affection in each case, being very favorable in cases of acute perimetric exudation, whereas the treatment is only partially successful when one has to do with large, old-standing pyosalpingitis. The treatment in question is usually well borne, rarely determining pain, which soon disappears as a result of rest. In a few cases, however, it was necessary, in order to alleviate the pain, to have recourse to application to the abdomen of ice bags or to the introduction of morphine suppositories.

For Irritable Bladder.—In the *Louisville Medical Monthly* for August the following is recommended:

℞ Salol, Tincture of hyoscyamus,	of each 2 drachms;
Infusion of buchu, enough to make	6 ounces.

M. Sig.: One tablespoonful three times daily.

Iodide of Potassium Pills.—The *Clinica moderna* for August 3d recommends:

℞ Iodide of potassium	150 grains;
Sugar of milk	75 "
Lanolin	45 "

To make fifty pills.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, SEPTEMBER 3, 1898.

THE MISMANAGEMENT IN CUBA AND ITS LESSONS.

The pitiful breakdown of the commissariat and transport arrangements in Cuba is brought out with terrible accuracy in all its painful details in a letter by Dr. Frank Donaldson, dated Siboney, July 8, 1898, and published in the *Medical News* for August 6th. Careful perusal thereof shows that there does not appear to have been one single item in the long chain of disasters which was not absolutely preventable. The American people will insist, therefore, that the full responsibility for all these brutalities shall be fixed where it belongs. There was no lack of medical supplies themselves. Everything that could be needed had been requisitioned with a forethought that would have done credit to the medical staff of an army far more perfect in its standing organization and administration through times of peace than that of the United States. Transport alone was what broke down, and for that the transport department is alone answerable. It is no answer to say that there were unexpected obstacles, that the beach was difficult of landing, or that the absence of roads and the presence of underbrush were an almost insurmountable difficulty on land. The foreknowing and overcoming of these and other kindred difficulties are the very points that constitute the science of warfare as distinguished from mere "scrapping," whether of mobs or armies. It was the first duty of the transport department to obtain all necessary information, and adapt their proposed measures to the country they had to operate in. The medical department, though quite as inexperienced in foreign warfare as the transport department, had provided amply for all its needs, and the fact of its supplies not being forthcoming when wanted is no more to be laid to its charge than the non-arrival of a letter in San Francisco could be laid to that of the person who duly deposited it correctly and clearly addressed in the post office in New York.

Had the medical department been in possession of transport and commissary arrangements of its own, distinct from and in no wise subservient to those of the army military authorities, as they should have been, all these terrible scenes would have been avoided.

And here lies one of the great arguments in favor of the definite military, as distinguished from medical, training, and the distinct military recognition of the army medical officer. From this cause it arises that a most excellent civil practitioner is by no means necessarily of much use as a military medical officer; hence the failure oftentimes, not in technical skill, courage, or willingness, but in administrative capacity, of the "contract surgeon." The administrative medical officer needs to know as much of the military side of tactics as the "combatant" officer, for he must be fully acquainted with the military probabilities of all kinds before he can make adequate arrangements for the medical work in the field. He, in fact, is or should be in command of a cooperating army, and should be able to take in every military situation and necessity on the instant with as much accuracy as the military commander in chief, so that he may adapt his measures accordingly with promptitude and skill. But to do this, he needs transport and commissary officers with all their *matériel* on his staff and exclusively under his own control, to carry out what he ordains without reference to any external authority. Only by such means can even an army which is well organized and administered on a standing establishment in time of peace be properly served in the field as regards the special aid contributed to the military success of the army by the medical corps. For it must not be forgotten that the medical staff exists not only for the benefit of the individuals in the army, whether officers or men, but it is first, and before all, a great factor in the successful conduct of the military campaign itself. A general can only do his best work when his troops are kept in good fighting and marching trim; and when once the engagement is begun, the medical staff contributes vastly to his chances of success in proportion as it keeps the front continuously disembarrassed of the wounded and disabled.

During the Venezuelan tension there was much talk about the rapidity with which an enormous army could be organized and poured into Canada all along the line. Our present experience has shown that the boasted speed would have been slow enough to enable Great Britain to amply garrison Canada in all its strategic points; while, notwithstanding the marvelous fighting qualities which our soldiers have so splendidly shown, it might well have been that the superior organization in matters of commissariat, transport, and military medical service, regarded in its general aspect as an auxiliary measure of warfare and not merely as a means of individual aid to the wounded, would have given a very different showing to the success that has fortunately attended the American arms in the present instance, in spite of the inefficiency of the war department.

Fortunately, it is daily more and more probable, and may it long continue to be so, that if ever British and American forces meet henceforth, it will be as allies, not as antagonists. With any other European power it is scarcely likely, for geographical reasons, that warfare would be waged upon the soil of this continent. Any such future war will almost inevitably be naval. But the most laudable course, as we have pointed out before, would be to establish the nucleus of our departmental organizations on such a model that they can be expanded to any size by a mere increment of *personnel* and *matériel* without any structural alteration.

THE KINEMATOGRAPH IN MEDICINE.

A French writer whom we have frequently taken occasion to cite, M. Marcel Baudouin, the chief editor of the *Gazette médicale de Paris,* contributes to the issue of that journal for July 30th an article in which he hints at some of the uses the kinematograph may be put to in the study and practice of medicine and surgery. He says that the idea of putting the instrument to such uses occurred to him when it was first seen on the Paris boulevards and in the music halls. He contends that it is essentially French in its origin, being founded on researches by Marey, Lumière, and others, but adds that it has been brought marvelously near perfection by the Americans, under the name of the biograph. He thinks it will prove of as much importance as the Röntgen-ray apparatus. He points to its probable utility in such physiological studies as that of the gait in animals and in man; in medical and surgical diagnosis, especially in cases of disease characterized by abnormity of movement, such as ataxia, congenital luxation of the hip, etc., whether the fundamental disease affects the nervous, the muscular, or the osseous system; and, moreover, in teaching operative surgery. Of this last item he makes a capital point.

M. Baudouin says that ever since the beginning of the year 1897 he has been intending to employ the apparatus in Professor Terrier's laboratory at the Paris School of Medicine, at first for registering the successive steps in operative procedures, with the particular purpose in view, especially in operations involving the viscera, of demonstrating how far current practice is at variance with what is taught theoretically in the books. He was then going to employ it in the study of operations called rapid. Unfortunately for all these excellent purposes, however, it was found that the fund available for the laboratory, being absolutely laughable (*dérisoire*), did not allow of those first trials. For lack of money—the sinews of all scientific research as of unholy war—for lack of guns of sufficient calibre (we are rendering his words almost literally), M. Baudouin was forced to give up the fight. There will come after him, however, he does not doubt, others who will turn his hints to account, but at least it is of interest to have it on record that thus early these medical applications of the kinematograph have been pointed out in France, a country in which, as he sadly remarks, there seem to be no Rockefellers. He is obliged to say that he still has no funds available for his purposes, and he laments that the instrument has the one fault of being too costly for ordinary individuals.

M. Baudouin's melancholy conclusion is that a great number of original ideas proceeding from France are destined to germinate elsewhere, thanks to the spirit of disparagement, to the jealousy of cliques, and to the lack of organization in scientific teaching and laboratory research that are so characteristic of that country.

MINOR PARAGRAPHS.

"IMMUNES" AND YELLOW FEVER.

In a leading article on The United States Marine-Hospital Service and Yellow Fever in our issue for August 20th we stated that we were somewhat skeptical as to one attack of yellow fever always insuring immunity against a further attack of the disease. We quoted, moreover, two cases—one of a British army medical officer who contracted the disease a second time on returning from a visit to Europe, the other of an American who was attacked by the disease three times. We further prophesied that light would be shed upon the reputed value of this immunity by the regiment of "immunes." The issue of the *Medical News* for the same date says that the fact that a number of men, who had survived an attack of yellow fever, enlisted and went to the front with the full assurance that they could face the dread disease with impunity, have been attacked with yellow fever, and some of them even died from it, has put a new phase upon the significance of the word immune. This journal further states that it is quite possible that life in a northern climate so renovates the system after an attack of yellow fever as to interfere with the proper balance between the toxines and antitoxines, and so destroys the security against a second attack. This was mentioned by us as being the case with the British officer referred to. We have no doubt that relative immunity in some degree is conferred by one attack of yellow fever; but we assert once more that it is only relative, and we can not but emphasize our exception to the universality of Surgeon Murray's assertion, in the government monograph on *Yellow Fever,* that "one attack always insures the afflicted one that he is hereafter immune."

COMPULSORY VACCINATION IN ENGLAND.

We learn from the *Lancet* for July 23d that Parliament is likely to pass an amendment to the vaccination law providing that, "if within four months of the birth of the child he [the parent or other person in charge of a child] satisfies two justices in petty sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child, and within seven days thereafter delivers to the vaccination officer for the district a certificate by such justices of such conscientious objection," he shall not be subject to any penalty. "For all practical purposes," says our contemporary, "compulsion has therefore gone by the board." We think this legislation is to be commended, for we have no doubt that it will result in diminished opposition to vaccination, so great is Anglo-Saxon repugnance to coercion.

THE ACTION OF POEHL'S SPERMINE.

ACCORDING to the *Klinisch-therapeutische Wochenschrift* for July 17th, the last year's experience has left no doubt of the therapeutic value of spermine. Although it exerts no specific action upon any particular disease, it regulates intraorganic oxidation and metabolism, and favors the elimination of accumulated waste products, thus relieving the nervous system of a burden and giving the *vis medicatrix naturæ* unrestricted scope. All this appears particularly from a communication by Hirsch, and is supported by such well-known clinical observers as Senator, Benedict, Eulenburg, Ewald, Fürbringer, and Mendel.

THE SAGITTAL FONTANELLE.

AT a recent meeting of the Obstetrical Society of London (*Lancet*, July 16th) Dr. Arnold Lea read a paper on this subject. Several abnormal fontanelles had been described, such as the naso-frontal, the cerebellar, and the medio-frontal; but the most interesting one to obstetricians, he said, was the sagittal, situated a little in front of the posterior fontanelle, in a line drawn from one parietal eminence to the other. It might be as large as the anterior fontanelle or it might be developed on one side only. He had found it in nearly four and a half per cent. of his cases, five hundred in number. In four instances it had extended to the parietal eminence on each side.

THE SIDEROSCOPE AS A DIAGNOSTIC INSTRUMENT.

ASMUS has made several contributions to medical journals, chiefly ophthalmological, on the diagnostic value of the sideroscope, especially in detecting fragments of iron and steel within the eye and beneath the skin. These he has collected in a little book, *Das Sideroskop und seine Anwendung*, published by J. F. Bergmann, of Wiesbaden, in which he describes the apparatus and the method of using it. The *Wiener klinische Wochenschrift* for July 21st assures its readers that they will find an ample account of the sideroscope and its employment in this little book.

THE ASSIMILATION OF IRON FROM CEREALS.

PROFESSOR BUNGE, of Basel (*Zeitschrift für physiologische Chemie*, xxv, 1, 2; *Wiener klinische Wochenschrift*, August 11, 1898), finds that the iron of cereal grains is contained mostly in the bran. To ascertain the assimilability of this bran iron, he fed four young rats with white bread and four others with bran bread. The experiment was continued for two months, two rats being killed and examined at various intervals. The smallest amount of hæmoglobin found in the blood of the bran-fed rats was always greater than the largest amount in the blood of the other rats. Moreover, the bran-fed rats grew faster than the others.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 27, 1898:

DISEASES.	Week ending Aug. 20.		Week ending Aug. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	94	18	180	41
Scarlet fever	64	5	69	6
Cerebro-spinal meningitis	0	0	0	7
Measles	59	6	30	2
Diphtheria	98	13	96	14
Croup	0	0	1	2
Tuberculosis	166	132	149	156

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending August 27, 1898:

Small-pox—United States.

Mobile, Ala.	Aug. 3–17	5 cases.	
Albuquerque, New Mexico.	Aug. 13	15 "	

Small-pox—Foreign.

Sydney, Australia	July 9–16		1 death.
Liege, Belgium	July 23–30		1 "
Nantes, France	July 1–31		1 "
Paris, France	July 31–Aug. 6		1 "
Tegucigalpa, Honduras	July 16–23	1 case.	
Calcutta, India	July 9–16		1 "
Madras, India	July 9–16		1 "
Odessa, Russia	July 23–30	3 cases.	
St. Petersburg, Russia	July 23–30	5 "	2 deaths.
Warsaw, Russia	Aug. 1–8		6 "
Christiania, Sweden.	July 23–30	1 case.	
Montevideo, Uruguay	July 8–16	2 cases.	

Yellow Fever—United States.

Tortugas Quarantine, Fla.	Aug. 18	1 case.	
South Atlantic Quarantine, Ga	Aug. 21	1 " on Revenue-Cutter *Woodbury*.	
Franklin, La	Aug. 23	1 case.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 1–8	29 cases,	20 deaths
Cartagena, Colombia	July 1–31	5 "	4 "
Tampico, Mexico	Aug. 7–14	3 "	17 "
Vera Cruz, Mexico	Aug. 16		1 death.
San Salvador, San Salvador.	July 10–16	8 "	2 deaths.
San Salvador, San Salvador.	July 17–23	4 "	1 death.

Plague.

Bombay, India	July 19–26		69 deaths.
Calcutta, India	July 8–16		12 "

Cholera—Foreign.

Bombay, India	July 19–26		4 deaths.
Calcutta, India	July 9–16		6 "
Madras, India	July 9		13 "
Madras, India	July 16–23		16 "

The Surgeon General of the Army and the American National Red Cross.—Surgeon-General Sternberg has sent out the following statement:

"Owing to the pressure of my official duties I have not heretofore felt justified in taking the time to make an explanation with reference to my attitude toward the American National Red Cross.

"It has been repeatedly charged in the newspapers that I am hostile to this organization and have refused to accept its assistance in the care of our sick and wounded soldiers, and that as a result of this refusal there has been unnecessary suffering.

"These charges are without foundation, except in so far as I have objected to the sending of female nurses with troops in the field engaged in active operations. We have a Red Cross Hospital Corps in the army, of enlisted men, whose duty it is to render first aid to the wounded upon the field of battle and to care for the sick in our division field hospitals, and I have been of the opinion that female nurses would be an incumbrance to troops during active operations; but so soon as serious sickness developed in our camps and it became necessary to treat typhoid fever cases in our field hospitals, I gladly accepted the services of trained female nurses for the division field hospitals, and in our general hospitals we have employed them from the first. The general testimony from the surgeons in charge of these hospitals has been that their services have been of great value. Very many of these trained nurses have been obtained through the kind assistance of the Red Cross Society for Maintenance of Trained Nurses, Auxiliary No. 3, and I desire to express my high appreciation of the valuable services rendered to the medical department of the army by this organization.

"My attitude toward relief organizations is shown by an indorsement, dated May 5th, upon a letter addressed by the Rev. Henry C. McCook, of Philadelphia, to the President and referred to for remark:

"'May 5, 1898. Respectfully returned to the Adjutant General of the army.

"'The plan proposed for the organization of a relief association appears to have been well considered and the object in view will commend itself to every patriotic citizen. But it is a question whether the President should give special privileges to any particular organization. Other prominent individuals in different parts of the country may be organizing for the same purpose. One such proposition has come to me from Chicago. While I approve in a general way of organization for the relief work proposed, it appears to me that it will be best not to give, in advance, exclusive privileges to any one particular organization. In case of need, assistance should be accepted from any organization prepared to give it.'

"This has been my guiding principle throughout, that relief when needed should be promptly accepted without reference to the source from which it comes. The relief afforded by the National Red Cross at Siboney was promptly accepted by the surgeons on the spot, but it is evident that it was entirely inadequate to meet the emergency.

"A committee of the American National Red Cross Association called upon me in my office in Washington some time in advance of the landing of our troops in Santiago, making an offer of assistance. I received them most courteously and advised them to use their resources in fitting up a hospital ship, telling them that a hospital ship was now being fitted up for the use of the medical department, but that it was not at all improbable that an emergency would arise which would overtax our resources, and that in such an event a hospital ship properly equipped, having on board a corps of doctors and nurses, would be a most valuable auxiliary.

"Furthermore, the American National Red Cross Association has had full authority to send agents and supplies to all our camps since June 9, 1898, and if there has been suffering for want of needed supplies they must share the responsibility with the medical department of the army for such suffering.

"The following letter was sent by me to every chief surgeon of a department or independent army in the field on June 9, 1898:

"'The secretary of war has approved of the following proposition made by the American National Red Cross Association, and the chief surgeons of army corps and divisions will cooperate with the authorized agents of this association for the purposes indicated.

"'We can put any desired amount of hospital supplies—ice, malted milk, condensed milk, Mellin's food, etc.—into any of the volunteer camps in a few hours. Will you be kind enough to bring this letter to the attention of Secretary Alger and ask him if there is any objection to our appointing a Red Cross representative to report to the commanding officer and the chief surgeons in every camp, confer with them as to their immediate needs, and if anything of any kind is wanting, open there a Red Cross station and send in the supplies. We can do this, not in a few weeks or a few days, but in a few hours, and can furnish any quantity of any desired luxury or delicacy for hospital use. We hereby tender our aid and put our organization at the war departments service for cooperation in this field.'

"To show my cordial relations with the National Red Cross Relief Committee I venture to quote from a letter of August 11th received by me from Mr. Cleveland H. Dodge, chairman of the supply committee. Mr. Dodge says:

"'I want again to assure you personally, and on behalf of our committee, of our earnest desire to assist you in every possible way and to thank you for calling upon us so frankly.'

"In a recent letter from Mrs. Winthrop Cowdin, vice-president of the Red Cross Society for Maintenance of Trained Nurses, she says:

"'We greatly appreciate your courtesy to us and feel most grateful to have been permitted to serve you in any way.'"

Thiersch's Solution.—We refer a correspondent from Staunton, Virginia, to our issue for July 30th, page 171, for an answer to his question.

Notice to Candidates for Appointment in the Marine-Hospital Service.—The surgeon general has issued the following notice: A board of officers will be convened at Washington, Wednesday, November 9, 1898, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital Service. It is desired that applications for this examination be made before November 1st. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten percentum in addition to the regular salary for every five years' service up to forty percentum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information or for invitation to appear before the board of examiners, address: Supervising Surgeon General, United States Marine-Hospital Service, Washington, D. C.

An Unusual Courtesy.—The firm f R. W. Gardner, pharmaceutical chemists, of New York, have sent us the following courteous letter dated August 22d, which speaks for itself. They say:

"We regret that, through an inadvertence, we have mailed you literature which was not fully stamped, upon which we fear that you have been called upon to pay extra postage. We hasten to inclose this explanation, and to return the amount you have been called upon to pay. Trusting that you will overlook the unfortunate error, sincerely yours, R. W. Gardner."

We quote this letter in the hope that some of our many correspondents who commit the same error without apology may be induced to mend their ways, and so save us not only petty expenses, but great annoyance.

The Government Monograph on Yellow Fever.—In reply to several correspondents inquiring whence the monograph referred to in a leading article in our issue for August 20th can be obtained, we would say that it is published at the office of the supervising surgeon general, Marine-Hospital Service, Washington, D. C.

The Rank of Medical Officers in the Navy.—We understand that the inclosed short bill to amend the existing regulations as to the rank of naval medical officers is to be presented to Congress. It would seem for the analogy of the army medical service, quoted subsequently, that there is much to be said in favor of the reform contemplated by the bill.

An act to make assistant and passed assistant surgeons of the navy correspond in rank with assistant surgeons of the army:

Be it enacted by the Senate and House of Representatives of the United States in Congress assembled:

That assistant surgeons of the United States navy, shall, from the date of their entrance into the service, rank with lieutenants (junior grade) of the line.

After five years from date of appointment as assistant surgeons they shall be examined by a board of medical officers (now existing), and upon the successful completion of such examination, they are to be promoted to the grade of passed assistant surgeons, with the rank of lieutenants (senior grade) of the line.

That the higher grades are to take the rank of lieutenant commander, commander, captain, and commodore respectively.

That all benefits derived from existing laws relative to the pay of medical officers is to continue the same, except in the case of assistant and passed assistant surgeons ranking with lieutenants (junior and senior grade) provided for in this bill, whose pay is to correspond with that of lieutenants (junior or senior grade) of the line.

The argument in favor of this reform will be seen when it is considered that medical men enter the army between the ages of twenty-one and twenty-eight years and take the rank of first lieutenant of cavalry, which corresponds to a junior lieutenant in the navy.

Five years from date of entrance into the army they are by law promoted to the rank of captain of cavalry, which corresponds to that of a senior lieutenant of the navy. After this grade they are promoted to surgeon, with the rank of major, which is equivalent to that of lieutenant commander of the navy.

Correction.—In Dr. Elfstrom's article On Experiments with Heated Blood, published in our issue for August 27th, page 308, lines 4 and 3 from the bottom, it is stated that he decided upon 176° F. as the temperature to which the blood should be subjected. This should have been 142° F., not 176° F.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 18 to August 30, 1898:*

AMES, AZEL, Acting Assistant Surgeon, United States Army, will proceed to New York for transportation to Ponce, Porto Rico.

AMES, E. W., First Lieutenant and Assistant Surgeon, Fifth Illinois Volunteer Infantry, is relieved from duty and will report to the adjutant general of the army for orders.

BOOTH, A. R., Acting Assistant Surgeon, United States Army, will proceed to Washington for instructions.

CLENDENIN, PAUL, Major and Brigade Surgeon, United States Volunteers, is granted leave of absence for one month.

DODGE, JOHN P., Major and Brigade Surgeon, United States Volunteers, will proceed to Montauk Point, Long Island, N. Y., for duty.

DONALDSON, FRANK, Acting Assistant Surgeon, United States Army, will proceed to Montauk Point, Long Island, N. Y., for duty.

GANDY, CHARLES M., Major and Brigade Surgeon, United States Volunteers, will proceed to Fort Monroe, Virginia, for duty.

GRANT, JOHN H., Acting Assistant Surgeon, United States Army, will proceed to Fort McPherson, Georgia, for duty.

GREENEWALT, JOHN C., Acting Assistant Surgeon, United States Army, will proceed to Chickamauga Park, Georgia, for duty.

HUSTON, HERBERT M., Acting Assistant Surgeon, United States Army, will proceed to Chicamauga Park, Georgia, for duty.

JARVIS, NATHAN S., Major and Brigade Surgeon, United States Volunteers, is detailed as a member of the examining board convened at New York, *vice* HALL, JOHN D., Major and Surgeon.

MINTZER, LEONIDAS H., Acting Assistant Surgeon, United States Army, is granted leave of absence for one month.

MUNSON, EDWARD L., Captain and Assistant Surgeon, will proceed to Washington for duty.

NORRIS, MILTON D., Acting Assistant Surgeon, United States Army, will proceed to Chickamauga Park, Georgia, for duty.

O'REILLY, ROBERT M., Lieutenant Colonel and Chief Surgeon, United States Volunteers, is relieved from duty at Tampa, Florida, and will proceed to Huntsville, Alabama, for duty.

PERCIVAL, FRANCIS R., Acting Assistant Surgeon, United States Army, will proceed to Camp Alger, Falls Church, Virginia, for duty.

PEYTON, DAVID C., Major and Brigade Surgeon, United States Volunteers, will proceed to Camp Meade, Middletown, Pennsylvania, for duty.

POPE, BENJAMIN F., Lieutenant Colonel and Chief Surgeon, United States Volunteers, is relieved from duty with the Fifth Army Corps, and will proceed by first transport from Santiago de Cuba to Washington for instructions.

SENN, NICHOLAS, Lieutenant Colonel and Chief Surgeon, is relieved from duty at Washington, and will proceed to Montauk Point, Long Island, N. Y., for duty.

VAUGHAN, VICTOR C., Major and Surgeon, Thirty-third Michigan Volunteers, is honorably discharged as surgeon of the above-named regiment.

WINTER, FRANCIS A., Captain and Assistant Surgeon, will proceed to Montauk Point, Long Island, N. Y., for duty.

WOODBRIDGE, JOHN E., Major and Brigade Surgeon, United States Volunteers, will report to DAVIS, WILLIAM B., Major and Surgeon, United States Army, in charge of the United States Hospital, Fort Myer, Virginia, for duty.

WORTH, DUNCAN S., Acting Assistant Surgeon, will proceed to Chickamauga Park, Georgia, for duty.

The following brigade surgeons, United States Volunteers, will report to the commanding general, Camp Wikoff, Montauk Point, Long Island, N. Y., for assignment to duty: BROWN, IRA C., Major; KELLEY, SAMUEL W., Major; and KRAMER, SIMON P., Major.

The following brigade surgeons, United States Volunteers, will proceed to Santiago de Cuba for duty: ARCHINARD, JOHN J., Major, and DAVIS, JOHN G., Major.

The following brigade surgeons, United States Volunteers, will report to the commanding general, Third Army Corps, Chickamauga Park, Georgia, for duty: ADAMS, CHARLES, Major; BRADBURY, BIAL T., Major; LEE, HENRY H., Major; MACUMBER, JOHN L., Major; and LE SEURE, OSCAR, Major.

Society Meetings for the Coming Week:

MONDAY, *September 5th:* New York Academy of Sciences (Section in Biology); Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *September 6th:* Idaho State Medical Society (first day—Moscow); Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Franklin (quarterly), Herkimer (semiannual), and Niagara (quarterly, Lockport), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *September 7th:* Idaho State Medical Society (second day); New York Academy of Medicine (Section in Public Health); Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Bridgeport, Connecticut, Medical Association.

THURSDAY, *September 8th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Societies of the Counties of Cayuga and Cortland (quarterly), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *September 9th:* Yorkville Medical Association, New York (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Births, Marriages, and Deaths.

Born.

CAIRE.—In New Orleans, on Thursday, August 18th, to Dr. and Mrs. Arthur Caire, a daughter.

POLLOCK.—In New Orleans, on Sunday, August 21st, to Dr. and Mrs. Ernest E. C. Pollock, a daughter.

TURCK.—In Chicago, on Thursday, May 12th, to Dr. and Mrs. Fenton B. Turck, a daughter.

Married.

AIMAR—JACQUES.—In Charleston, South Carolina, on Monday, August 15th, Dr. Charles P. Aimar, Jr., and Miss Leonarda A. Jacques.

TULLEY—PETTINGILL.—In St. Louis, on Thursday, August 25th, Dr. Frederick E. Tulley, of Granite City, Illinois, and Miss Emma L. Pettingill.

Died.

MORSE.—In San Francisco, on Sunday, August 21st, Dr. John Frederick Morse.

Letters to the Editor.

THE SO-CALLED PHYSIOLOGY TAUGHT IN THE PUBLIC SCHOOLS.

August 22, 1898.

To the Editor of the New York Medical Journal:

SIR: I have read with interest your editorial in the issue of August 13th on The Teaching of Physiology in the Public Schools, as I am one of the authors of school physiologies who stood out against the demands of the W. C. T. U. as to the kind of temperance teaching that must go into text-books. I tried also with the aid of well-known physicians to produce a book that would be correct and represent fairly the views of the majority of the medical profession in regard to the effects of alcohol and narcotics on the human system. Fortunately for the cause of truth, the publishers of this text-book for "colleges, schools, and general readers" have upheld me, and would not agree to any intemperate temperance teaching. Of course, this stand has lessened the sale of the book, though it has for years held its own fairly well among the great mass of text-books on physiology and hygiene extant.

The fate of another text-book of mine for primary classes has been different. This book was prepared also with great care as to subject matter and temperance teaching, and was recognized by the W. C. T. U. as one of the best books published. But I was told in a visit from one of their gifted and indefatigable workers that I must change the character and amount of the temperance teaching if the book was to have the support of the union. I was also told that if I did not have that support my work would have little sale, as that support would come from branches of the union in towns, villages, and cities everywhere. I could not conscientiously change the temperance teaching. It was then suggested that I allow the union to change it. I could not agree to this, though many of my friends thought that I was foolish in standing out for a principle when there was such a good chance for money. As I understand, all of the authors and publishers of physiological text-books for schools were seen, and most of them succumbed to the almighty dollar. I sold out my little text-book to the publishers, for soon after my interview with the agent of the union the firm published a little text-book written by some member of the union, and I could not compete.

AUTHOR.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of April 6, 1898.

The President, Dr. ROBERT J. CARLISLE, in the Chair.

(*Concluded from page 209.*)

The Treatment of Fracture of the Patella by the Purse-string Suture.—Dr. IRVING S. HAYNES read a paper on this subject (see page 334), and presented five patients illustrating the subject. In only one of these patients had he failed to get bony union.

Dr. CRARY protested against the name "purse-string suture," because the latter had become identified in men's minds with a *subcutaneous* purse-string suture described by Dr. Stimson. The objection given in the paper to the use of the transverse incision seemed to him theoretical. The adhesion of the skin to the underlying structures could be readily avoided by making the transverse incision a little to one side. If a longitudinal incision was used, and an attempt was then made to reach the lateral edges of the lacerated aponeurosis, it would necessitate a considerable undermining of the skin. It seemed to him that the results obtained by Dr. Haynes had been largely due to the methods adopted by him preceding the introduction of the suture—namely, the removal of the clots and of the fibrous portions between the fragments of bone. Whether the suture was applied through the bone or around it seemed immaterial. The suture material was of importance. As regarded the apposition of the bone, it made no difference whether an absorbable or a permanent suture was used; if the fragments could be kept in apposition for a few days, or even for a few hours, until a permanent dressing could be applied, the suture would do in that time all that it could accomplish. For this reason he preferred catgut to any so-called permanent suture. In a comminuted fracture undoubtedly the purse-string suture would be better than the direct suture by drilling of the bones, but he could not see that it possessed special advantages in other cases. The objection made that the silver suture usually passed only through the anterior portion, and that consequently there was a tendency to tilting, did not seem well founded. When it was applied by experienced surgeons the entire surfaces were well approximated. Of course, infection of the knee joint must be seriously considered; it was far more dangerous to the life of the individual and to his usefulness than infection of the peritonæum. Infection of the latter, unless of a specially virulent type, was usually shut off and localized by adhesions. Infection of the knee joint on the other hand, always resulted seriously—in ankylosis of the knee joint, amputation, or death. In this connection one should bear in mind the advantages of wearing rubber gloves in operating. These gloves could be absolutely sterilized, as had been proved by Dr. McBurney, and with them any amount of manipulation could be practised without causing infection—in fact, these gloves were practically instruments. With the rubber gloves a simple rinsing of the hands with sterile salt solution rendered the hands absolutely and surgically clean.

Dr. PARKER SYMS said that the practice of treating fractured patellæ by suture had been introduced into this city in 1883. It had given ideal results at that time in many instances, but disastrous results had occurred in a sufficient number of cases to bring most of the operators to a standstill. In considering this question we should do so from the standpoint of the patient. The operation described in the paper seemed to him a most perfect one, and the results, when satisfactory, were certainly ideal; but it must not be forgotten that a review of all the cases of suture of the patella since the introduction of careful antiseptic or aseptic work would show many failures with loss of limb, loss of function, or even loss of life. It seemed to him that this was a matter which should be left for the patient to decide. The reader of the paper had advised waiting about a week to allow of partial recovery from the effects of the traumatism. It was a well-known fact that primary operations on injured joints were very dangerous as compared with operations on joints not thus involved. The indications for operation had been well stated in the paper. It was a mistake to suppose that the silk suture did not give trouble subsequently; it not infrequently required removal even three or four years after operation. As had been said by the last speaker, all that was necessary was to use a suture which would secure apposition for a few days. The invention of the subcutaneous purse-string suture should be credited to one of the house surgeons of the New York Hospital, whose cases had been reported and favorably commented upon by Dr. Stimson.

Dr. HAYNES said that he had been unable to find out to whom credit rightly belonged for the operation. He personally claimed no special originality, but the idea had occurred to him to elaborate the operation recommended by Dr. Stimson. He could not agree with those who thought that the suture material was of little importance. We knew that new bone did not form for three or four weeks; the tissue before that time was a granulation tissue which would yield to strain. He felt very confident that the patient having ligamentous union probably had this form of union because of the giving way of a suture. He heartily agreed to all that had been said about the dangers of infecting the knee joint; nevertheless, it should be remembered that many cases treated by the non-operative method yielded most unsatisfactory results. It seemed to him that a careful comparison of the two methods would show that it was justifiable, and even advisable, to operate, provided always that the proper aseptic precautions were observed.

Meeting of May 4, 1898.

The President, ROBERT J. CARLISLE, M. D., in the Chair.

Cholecystotomy for Occlusion of the Ductus Communis Choledochus; Removal of a Stone.—Dr. JOHN F. ERDMANN reported such a case. The common and cystic ducts had been occluded by a stone, half an inch in diameter, lodging at the junction of the cystic and hepatic ducts. The patient, Mrs. S., thirty-three years of age, was of robust physique, and had an excellent family history. With the exception of a few days in bed after a birth a few years ago, she had not had a day's confinement to the house as a result of illness until the present trouble, which had begun on January 17, 1898, by an attack of rather moderate pain located in the epigastric region, and accompanied by nausea. This had disappeared in four days under some mild treatment. Then she had enjoyed perfect health until the 1st of March, on which day her family physician, Dr. V. Piatti, of Greenwich, had been called in, and had found her suffering with the same symptoms as before, and with pain under the left scapula and in the region of the spleen. Two days later she had shown evidences of jaundice, and this had gradually deepened to a mahogany color. On March 9th, or the ninth day of the disease, she had a temperature of 103° F., without any previous chill, and a pulse of 132, and had become nervous and restless. When seen by the speaker on the following day, at 11 A. M., she had a temperature of 99° F. and a pulse of 108, and, in addition to this change for the better, her attendant, a woman of considerable intelligence, said that she had observed that the patient was not so dark as she had been in the earlier part of the illness. As a result, it had been thought best to keep her under observation for a few days before operating, although up to that time there had been no evidence by the stools of bile entering the intestine. On the following day the temperature suddenly rose to 105° F. and the pulse to 132, and she had chills the entire day. When she was seen again, on March 12th, the temperature was 103° and the pulse 140 to 150, and there was no diminution in the discoloration or evidence of bile in the stools. Immediate operation was decided upon and, with the patient under ether, an incision was made in the outer border of the right rectus muscle. There was no difficulty in finding the empty and contracted gall bladder, but numerous bands and a mass of adhesions had to be torn through before the lesser omentum and the opening of Winslow were reached. When this had been done, a mass of about the size of an English walnut could be felt. This was suspected to be inflammatory rather than malignant. Careful and prolonged search in this mass failed to detect a stone, and consequently the obstruction was considered to be the result of causes external to the duct—*i. e.*, the mass of tissue. As it seemed advisable to relieve the pressure as much as possible, and as there was not enough working space, an incision was made at a right angle to the primary one, cutting through the rectus on the right side and partially through that of the left. A careful search then revealed a hard body, at the intestinal end of the mass previously found. This proved to be a stone situated at the beginning of the common duct and at the terminus of the cystic and hepatic ducts. By the use of considerable force the stone was dislodged upward through the cystic duct into the gall bladder. Owing to the patient's condition and the difficulty in bringing the gall bladder to the parietal peritonæum, it was decided to simply incise the gall bladder after first packing the area about it with protective gauze. After this had been done, the stone was easily removed. A forceps was attached to one of the edges of the incision in the gall bladder, and then gauze was packed under the handles of the forceps so as to bring the gall bladder as near as possible to the parietal peritonæum. A small drain was put in the gall bladder and the wounds were sewed up. Within two minutes following the removal of the stone there was quite a flow of bile and mucus from the opening in the gall bladder. The patient was in very poor condition at the close of the operation, having a pulse of 200 and evidences of pulmonary œdema. She responded to strychnine hypodermically, and upon the following day her temperature was normal and her pulse 120. The discharge of bile was so profuse that frequent dressings were necessary throughout the day. On the second day following the operation the stools were found to have bile in them, and on the fourth day the forceps and the drains were removed, but an abdominal drain was introduced. From this time there was no evidence of bile by the stools for three weeks, but an exceptionally large amount came through the opening in the abdomen. This obstruction to the ducts was finally ascribed to the drain, as it was suspected by the family physician that he had been putting the gauze in rather tight. This proved to be the cause, for, after placing a small drain in the opening, bile was again found in the stools. Within a few days the drain had been dispensed with, and this had been followed by a rapid closing of the fistula, so that the entire wound was healed on April 18th. The skin discoloration disappeared in five weeks, and the patient had been allowed to go about since April 20th.

Dr. A. B. JOHNSON said that the difficulties of these operations were often very great in cases where there were many adhesions and the stone was situated far down in the common duct. The subsequent treatment of the wound in the duct was frequently troublesome on account of the difficulty of applying the sutures, which often tore out repeatedly. The speaker said that he had presented to the society last year a case in which, after the removal of the stone, he had been able to sew up the wound in the duct so as to prevent all leakage, but such cases were the exception rather than the rule.

A method had been devised and used with success in several cases by Dr. Charles McBurney. When the stone was situated far down in the common duct and could not be displaced, the descending portion of the duodenum was incised vertically in front, the papillæ were found, the orifice of the duct was dilated or cut, and the stone was extracted. The opening in the anterior wall of the duodenum was then closed with sutures. The method had given good results.

Dr. J. W. S. Gouley remarked that it was not very many years ago that persons afflicted in this way were simply allowed to die. The celebrated Dr. Granville Sharp Pattison, at one time the professor of anatomy in the New York University, died from the effects of an impacted stone in the ductus communis choledochus. The diagnosis was not made until after death.

Extra-uterine Pregnancy of the Interstitial Variety, terminating by Rupture into the Uterus; Recovery.—Dr. Robert MacLean Taft presented a detailed report of this unusual case. (See page 330.)

Dr. Johnson expressed his admiration for the way in which this trying case had been treated and brought to a successful issue.

Specimen of Osteosarcoma of the Lung. — Dr. Hotchkiss presented a specimen of osteosarcoma of the lung which had been taken from a colored boy, aged seven, on whom he had performed an amputation at the hip joint for a large, rapidly growing osteosarcoma of the femur several weeks previously.

When the case was first seen, on January 28th, the child had a large, soft, fluctuating tumor which occupied the anterior and lateral aspects of the lower third of the right femur. The mother said she had noticed a small lump about a month previously in the same situation, which lump was not at first painful, but which had lately become so, and had increased very rapidly in size. She said that the boy had been injured by a blow or fall on the affected side. On admission to Bellevue Hospital, January 28th, the swelling presented so many of the signs of an inflammatory condition that, in spite of a tentative diagnosis of sarcoma, an incision was made, as an acute osteomyelitis could not be excluded on account of the pain, tenderness, fluctuation, and irregular temperature. The incision, however, revealed the presence of a large amount of fluid blood and clot, and a considerable amount of very soft material was scooped out, in which were felt very fine trabeculæ of bone. Some of this soft tissue was sent to a competent pathologist, who reported it to be probably sarcoma, but who later said the growth was probably not sarcomatous and advised delay, asking for further specimens. The growth, however, had rapidly assumed all the clinical features of a rapidly growing sarcoma, and the pain, fever, and emaciation increased markedly. In the mean time the pathologist had examined a second specimen, which had been submitted to him, and reported it to be an osteosarcoma.

On March 7th, at the parents' request, an amputation at the hip joint had been done. Wyeth's pins were used and the hæmorrhage was perfectly controlled. The operation was rapidly done and the patient put to bed in good condition. The child had been free from pain since the amputation and had been able to sit up in the ward. His wound had healed except at the inner end, where infection had occurred from soiling of the dressings with fæces. After about three weeks he had been attacked with bronchitis, at first quite acute, and begun to suffer from dyspnœa. He died about a month after the operation from exhaustion and in a condition of extreme emaciation. The post-mortem revealed osteosarcoma of both lungs. The diaphragm had been converted into a bony arch, which was osteosarcoma. The pleura showed the same changes and was adherent to the ribs, which were in places eroded. There was a distinct bony bar at the transverse arch of the aorta. The heart was uninvolved, as were the other organs. The specimen was presented as showing very beautifully a typical osteosarcoma of the lung which seemed to reproduce perfectly all the gross features of the primary growth on the femur.

Dr. Reginald H. Sayre presented in connection with this case a Röntgen picture of an osteosarcoma of the shaft of the tibia. It was a spindle-cell sarcoma of very slow growth. He had not seen the child until it was seven years of age, and the history of the growth apparently dated back about six years.

An Improved Surgical Operating Chair.—Dr. Robert M. Taft gave a description of a chair of this kind which he had devised and found useful. (See page 333.)

A Foreign Body in the Hand.—Dr. Frederick Holme Wiggin' presented two Röntgen pictures of a lady's hand in which a needle had lodged three years previously. One was taken with the palmar surface in position and the other with the dorsal, the result showing plainly that the needle was nearest the palmar surface, where it was afterward found by means of an incision made along the inner side of the dorsal surface of the first metacarpal bone, followed by a separation of the muscular fibres. The wound healed primarily; the mobility of the thumb was in no degree impaired.

A Convenient Retractor for the Abdominal Wall.—Dr. Wiggin exhibited a pair of large retractors which he had found very useful in retracting the abdominal wall during laparotomy. The instrument, which bore some resemblance to the old duck-bill speculum, was of such a size and shape that the whole thickness of the abdominal parietes was firmly held in its grasp. The instrument was presented because the surgeons in this city did not seem to be acquainted with it.

Brain Anatomy and Psychology.—Dr. Stewart Paton, of Johns Hopkins University, presented a paper on this subject. (See page 325.)

Dr. Ira Van Gieson said that this most charming discourse gave evidence of most profound reading. It showed among other things that modern scientific research was creating gaps between the different departments, which contained more profound and valuable truths than the individual sciences themselves. Dr. Paton had this evening been bridging over the gap between psychology and cerebral anatomy, and it was precisely in this gap that great generalizations were to be found. There was a class of people who garnered the facts and stopped there; they looked through the microscope and described the swelling of granules and the shrinking of cells, but they gave no answer to the question of the meaning of these things. Another class of people was represented by those who were able to systematize these facts and present them in the form of laws and gneralizations. It was a mistaken notion to believe that science was alone concerned with collecting facts, and not in weaving theories. Medicine, the speaker said, had great need of psychology, for the neurologist had not the means with which to attack his problems without psychology. Psychiatry was hardly a science; it was simply an art. The psychiatrist was like a squirrel traveling around in a cage, and not making any headway, and the reason was to be found in the absence of all methods of investigation—it was a pretense. The term "psychiatry" should be replaced by the words "pathological psychology." Possibly the psychiatrist had been held apart from the brain anatomist by the fear of falling into the pitfall of materialism, because, after all, it must be remembered that if we possessed the ultimate knowledge of molecules of the ganglion cells, and the most perfect knowledge of all their connections, it would not help us to postulate the phenomena of consciousness, because thought could not be weighed or measured. Thought was not the equivalent of ganglion-cell activity; the brain did not secrete ideas, as the kidney secreted urine. It was Huxley, he thought, who had brought out the idea that the phenomena of consciousness lay parallel with these activities of the ganglion cells; but we could not say that one was the equivalent of the other. Psychology was the science of consciousness, but we could not define consciousness. Although the science of the geometer dealt with the relations of space, he was unable to define space; but that did not prevent him from ascertaining the properties of spatial relations. So it was with the psychologist; he could not define consciousness, but he could study its phenomena. The crowning glory of the psychology of the present day was its entire emancipation from metaphysics. It had been shown that the human mind could be studied by the same methods as those employed in studying the distant stars, or a tiny organism, or any other phenomena in the physical world. Dr. Paton had shown how the brain consisted of a relatively small part communicating with the outer world, and a very large part, which did not come in contact with the outside world, but which took the impressions coming from the smaller part and correlated them. This was the last attainment in man's evolution—these supreme centres which had to do with self-control and self-consciousness. Perhaps the two greatest factors in dissipating the mysteries of the abnormal phenomena of consciousness were this conception of Flechsig's plan and the retraction of the ganglion cell. Dr. Van Gieson said that, to his mind, this subject could be very graphically presented by a comparison with an octopus. Like that animal, the ganglion cell had a number of tentacles on one side, and on the other side exceedingly long arms which conveyed an impression from one distant part to another. Like the octopus, it assimilated food from the vessels, and was able to retract and expand its tentacles. The education of some of our lower centres had been going on through such long periods of time—for instance, the centre of respiration and circulation—that the channel had become ingrown; the nerve cells had positively grown together. There was no thought of retraction in such of the elementary portions of the nervous system as those of circulation and respiration, and it would be a very dangerous thing if the nerve-cell octopus were to withdraw its arms from the systems concerned in the control of respiration and circulation; it would be a constant menace to life. Those centres which were developed first in the nervous system, and which had been working for millions of years, had been educated through these ages until they had made connections so stable that they had actually grown together. But in the higher centres the ganglion cells were not grown together; with these cells, which were the basis of human intelligence, the condition was different. The neurones were constantly shifting, and it seemed absolutely impossible to explain in any rational way all the mysterious phenomena of loss of consciousness, the curious phenomena of hysteria, and such things as double consciousness. For instance, we knew that in hysteria the anæsthesia or hemiplegia might be absolute while it lasted, and yet the hemianæsthesia might disappear very rapidly. That could only be explained, he thought, by retraction or expansion of the nerve-cell octopus. What happened when the arms of the nerve-cell octopus were withdrawn? The entire current was broken, and, moreover, it was a signal of fatigue in the higher centres. The lower centres never rested, except in a rhythmical way. It was a pity that some Darwin did not come into medicine and weave the scattered facts of pathology into a theory like his grand one of selection and the survival of the fittest. Whatever in Darwinism applied to the body at large must apply to the cells themselves. Apáthy's studies were in the leech, which had no nervous system beyond that attending to the vegetative functions, and hence it was quite natural that such a chain of these nerve-cell octopuses should be absolutely stable—so stable as to be ingrown; but in the higher or association spheres of the brain it seemed to him entirely incompatible with the doctrine of concrescences. The associations would become ingrown and grooved, and would always travel in one channel.

In conclusion, Dr. Van Gieson said that to attempt to add to the charming discourse of the evening seemed very much like bringing "coals to Newcastle."

Dr. Edward D. Fisher said that he could only echo what had been said by the last speaker regarding the immense grasp of the subject that had been displayed by the author of the paper. In the investigation of psychology and anatomy there were unfortunately three sets of investigators, all working with only a partial knowledge—*i. e.*, the pathologist, who frequently had no clinical knowledge, the psychologist, who certainly had none, and the clinician, who usually had very little advanced knowledge and very little opportunity to make the necessary investigations in the laboratory. He was glad to say that Dr. Paton apparently represented a happy combination of the pathologist and the clinician. He did not believe we should ever find the cells which represented thought, although we might find cells which probably had little or nothing to do with thought. He could not believe that we could go at it in the easy way described by Dr. Van Gieson, as in the study of the stars—indeed, such a method would hardly give us much help.

As to the comparison of the brain of a child to the brain of a paretic, it must be admitted that there were certain striking resemblances. For instance, in both there was the absence of association; in paretics the association fibres were destroyed; in infants they were not developed. This was a fortunate provision, because ideas were simply impressions from external sensation, which were repeated until they became fixed in the brain, and if the association fibres were developed at birth, the child would act with great muscular violence, because it would not have the experience of a lifetime to guide it.

Regarding the matter of consciousness, he said that a distinction should be made between consciousness and self-consciousness. The first was a mere function of the cell itself, and was represented by the simple activity of the cells. It was entirely different from self-consciousness, which represented the experience of a lifetime. He did not believe it possible to think of an hysterical babe—in other words, self-consciousness had not yet been established.

On motion of Dr. S. Alexander, the society unanimously tendered a vote of thanks to Dr. Paton for the trouble he had taken in coming to New York, and for the very interesting discourse he had given the society on the occasion of its one hundredth meeting.

Book Notices.

Burdett's Hospitals and Charities, 1898. Being the Yearbook of Philanthropy and the Hospital Annual. Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year. By Sir Henry Burdett, K. C. B., Editor of *The Hospital*, etc. London: The Scientific Press, Limited. New York: Charles C. Scribner's Sons, 1898. Pp. 1071.

In this volume the author has compiled, at considerable labor, data that prove that the charitable revenues of the principal voluntary institutions of Great Britain were greatly increased during the jubilee year, and he considered that the voluntary principle of support for such establishments had achieved a lasting triumph. The evidence he collected proved further that the theory that there was a sum that represented the maximum yield of charitable contributions from all sections of the public each year was not based upon fact.

The out-patient problem has been investigated independently, and without reference to each other, by three different bodies. These agree, virtually, that each hospital should have a registration officer, or almoner, whose duty it should be to inquire into the means of the persons applying for free treatment in the out-patient departments. Sir Henry Burdett considers that "the hospitals of London have nothing to thank the Charity Organization Society for, but rather the contrary," so he believes each hospital should undertake its own investigations.

A brief review is given of the different hospitals constructed during 1897, of the cost of hospital management, and of in- and out-patients' maintenance, of home and foreign missions, of hospital finance, and of the results of the Hospital Sunday and the Hospital Saturday funds. The author states that the highest cost for each patient *per diem* at a general hospital in the United States is that at the Presbyterian Hospital, New York, where the amount was $2.21, and the lowest was the Kansas City Hospital, 36 cents; in Canada, at the Montreal General Hospital the *per diem* cost was highest, $1.21, and the lowest was the Hamilton City Hospital, 60 cents. In England the cost varied from $1.69 to 68 cents in London, and from 95 to 58 cents in the provincial hospitals. It is curious to an American reader to learn that the patients in certain London hospitals have to provide their tea, butter, sugar, linen, or some other articles.

There is the usual list of medical colleges, schools, hospitals, and dispensaries in England, Scotland, Ireland, the British Colonies, and the United States.

This volume sustains the reputation of its predecessors, and it is an invaluable handbook to everybody interested in hospital administration or associated with it.

BOOKS, ETC., RECEIVED.

A Text-book upon the Pathogenic Bacteria. For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology in the Medico-chirurgical College, Philadelphia, etc. With One Hundred and Thirty-four Illustrations. Second Edition, revised and enlarged. W. B. Saunders, 1898. Pp. 9 to 497.

A Guide to the Clinical Examination of the Blood. For Diagnostic Purposes. By Richard C. Cabot, M. D. With Colored Plates and Engravings. Third Revised Edition. New York: William Wood & Co., 1898. Pp. xxiii–4 to 440.

Laboratory Work in Physiological Chemistry. By Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiology Chemistry, University of Michigan. Second Edition, revised and enlarged. With Frontispiece and Twenty-four Illustrations. Ann Arbor: George Wahr, 1898. Pp. 7 to 326.

Principles of Medicine. Designed for Use as a Textbook in Medical Colleges, and for Consideration by Practitioners Generally. By Charles S. Mack, M. D., One of the Professors of Materia Medica and Therapeutics in the Hahnemann Medical College and Hospital, Chicago. Chicago: Chicago Medical Book Company, 1898. Pp. iv–133.

Ueber Spermatocystitis Gonorrhoiea. Von Dr. Walter Collan, Assistent der dermatologischen Klinik in Helsingfors. Mit einer chromolithographischen und einer Lichtdruck-Tafel. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 73.

Pietro Chimienti. Il Capo dello Stato e il Gabinetto. Studio di Dritto e di Politica Costituzionale. Roma: Ermanno Loescher, 1898. Pp. 156.

La Fièvre typhoïde, la tuberculose et la malaria devant l'hygiène. Par le Docteur Sôlomon, Médecin aide-majeur de la première classe à l'hôpital militaire de Guelma. Paris: A. Maloine, 1898. Pp. 19.

Filtration of Sewage. Report on the Bacteriological Examination of London Crude Sewage by Dr. Frank Clowes, Chemist to the London County Council.

Contributions to the Physiological Laboratory of the Medico-chirurgical College, for 1897. By Isaac Ott, M. D., Professor of Physiology. Part XIV of Ott's Contributions to the Physiology and Pathology of the Nervous System.

Some Points in the Diagnosis of Morphine Addiction. By Stephen Lett, M. D., of Guelph, Ontario. [Reprinted from the *Canada Lancet.*]

Infant Feeding. By Luther S. Harvey, M. D., of Crescent City, Florida. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Irregular Menstruation in Young Women due to Anæmic Conditions. By H. Edwin Lewis, M. D., of Burlington, Vermont. [Reprinted from the *Vermont Medical Monthly.*]

How does the Cause of Disease Produce Disease? A New Interpretation of Operative Principles. By W. R. Dunham, M. D., of Keene, New Hampshire. [Reprinted from the *Journal of the American Medical Association.*]

The Essential of the Art of Medicine. By J. H. Musser, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

The Diagnostic Importance of Fever in Late Syphilis. By J. H. Musser. [Reprinted from the *Philadelphia Medical Journal.*]

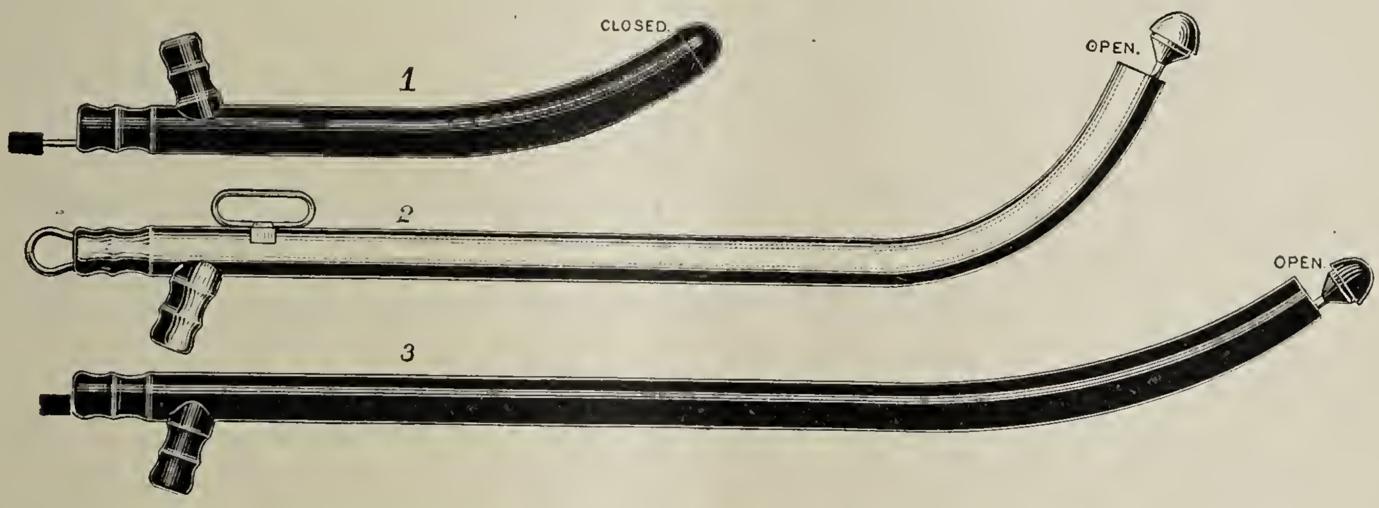
New Inventions, etc.

CATHETERS AND CYSTITIS.

By R. N. Mayfield, M. D.,
NEW YORK,
FORMERLY PRESIDENT OF THE COLORADO STATE BOARD OF MEDICAL EXAMINERS AND LECTURER IN PATHOLOGY AND CLINICAL MEDICINE, UNIVERSITY OF COLORADO, ETC.

It is well known that when it is necessary to use a catheter of usual construction—that is, with the ordinary fine perforations as an inlet thereunto—it does not work readily or satisfactorily, or subserve fully the results expected from it.

Examples of such unsatisfactory operations are seen where there is a good deal of mucus present in the bladder, such mucus being apt to surround or lie upon the end of the catheter, clogging or stopping the apertures thereof and preventing the ingress of fluids to be drawn off; again, when sediment or calcareous matter is present, it clogs, even sometimes filling in part or completely the apertures, with consequent failure of the catheter to fully perform its functions. Such failures are especially apt to happen in nearly, if not quite, all forms of chronic diseases of the bladder, and notably so in cystitis.



My object, therefore, is to present a catheter that is reliable and efficient in operation when the use of a catheter is indicated in all conditions and diseases of the bladder. In this instrument the danger of clogging or failure to perform its functions is obviated, and its interior may be readily made aseptic, and bits of mucus that usually clog an ordinary catheter may be readily drawn off.

This catheter is of very simple construction, being tubular, with the curve of an ordinary instrument, and opened at the end for an inlet. For the closure of this open end, and for the easy insertion of the catheter, as well as for other purposes, a bulbous or rounded head is used, preferably solid, and attached to one end of a wire, passing through the body or tube and projecting at its rear or outlet end.

This construction forms a very efficient catheter having an area of opening so large as to greatly obviate the danger of clogging, for, if mucus should lodge against the open end, the working of the head back and forth upon its seat would cut away the obstructing bits of mucus and permit them to pass through the tube.

With this instrument there should be no hesitancy in using nitrate of silver, iodine, corrosive sublimate, carbolic acid, or hydrogen solutions in the bladder, as any of these solutions can be readily drawn off or neutralized, thus preventing poisoning from absorption, or preventing rupture from gases that form in the bladder.

Regarding the treatment of cystitis with the employment of this catheter, presuming that we have a typical case, with ropy, viscid, and tenacious mucus, the membrane thickened and possibly ulcerated, and in deep folds—"ribbed," as it were—we begin the treatment as follows:

1. Inject a quarter of a grain of cocaine dissolved in a drachm of water into the membranous portion of the urethra.

2. Anoint the largest hard-rubber catheter that can be well passed into the bladder, and increase the size one number each week until the urethra is normal in size.

3. Begin with dilute hydrogen solutions—preferably hydrozone—one part to twenty of lukewarm water, using this solution freely, especially when employing the large size catheter. If the small size is used at the beginning, I recommend the use of only two or three ounces at a time until removed by the return flow. This can be repeated until the return flow is clear and not "foaming," which indicates that the bladder is aseptic.

4. Partly fill the bladder with the following solution: tincture of iodine compound, two drachms; chlorate of potassium, half a drachm; chloride of sodium, two drachms; warm water, eight ounces. Let it remain a minute or so and then remove. This treatment should be used once or twice a day.

Where I suspect extensive ulceration I recommend once a week the use of from ten to twenty grains of nitrate of silver to the ounce, and neutralize with chloride-of-sodium solutions.

This treatment carried out carefully will be satisfactory, as there is no remedy that will destroy bacteria, fœtid mucus, or sacculated calcareous deposits like hydrogen.

Miscellany.

Physical Degeneration in India.—Dr. B. L. Dhingra (*Indian Lancet*, July 16th), in an inquiry into the causes and remedies for the physical deterioration said to be going on among the native races in India, suggests the following measures as some of the great wants which it seems to us might with advantage receive a little careful attention in other places besides India: 1. Children should not be sent to school under seven years of age. This is really good for them in the long run; partly because there would be a better preparation for a healthy physique, which is of so great a service in after life, and partly because the mental evolution will proceed in a healthy and more satisfactory manner. 2. In childhood and youth the mental work should not be much, and great attention should be paid to food and physical exercise in the open air. 3. Some educational reforms should be introduced, with the object of reducing the cramming system to a minimum, and encouraging the organization of knowledge and the love for study. 4. Early and improvident marriages should be prevented. And need I say anything in favor of female education? Its necessity is known to everybody. 5. And, lastly, smoking and drinking—which are decidedly injurious to the growing children—should be prevented, so far as it lies in the power of teachers and fathers.

The Porro Operation versus Total Hysterectomy.—Dr. Hermann J. Boldt (*American Journal of Surgery and Gynæcology,* August) concludes a paper on the foregoing subject as follows: Total hysterectomy possesses the following advantages over the Porro operation: (*a*) It involves less danger of infection; (*b*) there is practically no danger from secondary hæmorrhage; (*c*) there is less danger of intestinal obstruction; (*d*) convalescence is more rapid; (*e*) ventral hernia is less likely to follow.

The conclusions reached are as follows:

1. Total hysterectomy should be performed in preference to supravaginal hysterectomy with extraperitoneal treatment of the pedicle. 2. The indications for the operation are similar to those of Cæsarean section. 3. Total hysterectomy requires but little more time than the Porro operation. 4. In cases in which the child is dead *in utero*, the uterus should not be opened, but removed intact. 5. In cases in which abdominal section is indicated on account of rupture of the uterus, suture of the uterine wound is unsafe, and total hysterectomy should be performed.

What is Literature and what Journalism?—In a non-medical sense, says the *Philadelphia Medical Journal* for August 20th, literature is that printed record which secures immortality by its form rather than by its matter. However valuable the matter may be (except subordinately and partially in historic work), it will surely in time acquire new modifications and relations, and be incorporated in other literary monuments, so that, purely as material, the particular work will lose its interest and value. The world's greatest historian, after a hundred years, still lives for us, not so much by what he actually told us of Rome's decline and fall, as by the manner in which he did it. Journalism is the history of the world's day told without a thought of form or artistic effect, and, we were about to say, without a thought of truth. Perhaps that were a little too harsh. At any rate, its life is but for the day, and it is dead when the to-morrow's child is born. Medical writing differs from all this in several ways. Form is almost wholly ignored, and yet medical literary work is literature in the sense that it is of permanent use. No printed record of medical thought and labor is without possible use to the profession. Hence the pitiableness of our neglect of medical libraries. Most precious things are daily going to waste. Every member of the profession should arouse every other to put an end to the incomprehensible neglect.

The Origin of Spectacles.—Dr. E. P. Daviss (*South Western Medical Record,* August) says that it is to Charles II, of England, that the world owes the discovery of lenses as an aid to vision. After his escape to France, and after his father was beheaded, he became a pensioner of the great Louis XIV, and while living his indolent and dissolute life in Cologne he met an expert artisan in glass, and, accidentally looking through a small lens belonging to this workman, he found that it greatly benefited his very imperfect vision. He at once bought *all* his lenses and took the artisan into his own employ.

The young prince, born with myopic astigmatism (irregular near sight), by mathematical calculation based upon these crude lenses, thus accidentally discovered perfection in the glasses he is said to have worn, and by which his vision was raised from one half of normal sight up to perfect vision. These glasses are now in the British Museum and were the first spectacles ever made for visual purposes.

When Charles was recalled to England and crowned Charles II, he took his French artisan and about twenty others with him, and it is said that as many as six thousand lenses were made before he got what he wished, and what finally gave him perfect vision. These glasses, when perfected, had cost the prince over £100,000.

The good, accidentally it would seem, that followed Charles's exile to France has been worth many times over to mankind the loss of his father's head, the fear of the same fate having been his incentive to flight. The Duke of Monmouth, Charles II's favorite son, also nearsighted, had but one eye, hence the origin of the "monocle." His father's artisans improved his vision with a single lens worn over his better eye.

A Difficult Problem in the Ethics of Professional Secrecy.—The *Lancet* for August 6th relates the following occurrence which took place in France, which shows that a right decision is not always easy to arrive at: A practitioner having been sent for to a family whose regular attendant he was, became a witness of a violent scene between husband and wife terminating in acts of cruelty. He withdrew without giving any professional advice or any prescription. Subsequently he was summoned to give evidence in a court of law in connection with a demand for legal separation of the husband and wife, but refused, claiming that he was bound to professional secrecy, which, it must be remembered, is more obligatory, from a legal point of view, in France than in this country. The court, however, did not admit the plea and fined him ten francs. In view of an appeal against this he asked for the opinion of his professional brethren as to his action. Different views were expressed, some holding that what he saw was not a secret confided to him as a medical adviser, for in fact he was not acting in a professional capacity at all, and therefore could only have been an ordinary witness, while others thought that having been for a long time the family professional confidant, and having been sent for as a medical man, he was bound not to divulge what he knew, especially as he might have been pressed in the witness box to mention circumstances which had come under his notice in previous visits which had been strictly professional. Doubtless, too, it was urged, it would create a bad precedent if it were established that one of two disputants might send for a medical man simply for the purpose of insuring the presence of a witness to some *fracas*, for this would be a degrading position for a medical man, whose work is certainly not that of a professional witness. The case, as a matter of fact, came to no definite conclusion, being withdrawn by the parties themselves.

The Need of Watching Children's Associates.—This important but much-neglected matter is strongly emphasized by statements made by Dr. J. W. Hauxhurst (*Medical Record*, August 13th), in a paper on Venereal Diseases: their Relation to the Public Health, to Society, and to the Physician. Dr. Hauxhurst says: A girl of twelve years, whose father and mother are respectable but heedlessly indulgent with their children, was brought to my office with a vaginal discharge. The case read gonorrhœa in every particular. Several days from the time I first saw this girl a fine little boy of six years came with his mother to my office to be inspected for a discharge from his penis. A Christian woman, devoted to her children to the verge of self-sacrifice, the mother was at first disposed to regard my statement that her boy had gonorrhœa as an insult to her. It was true, and the disease was obstinate to treat. The boy's home is only a block from where the girl I was treating lives, so I sought to relate them by tracing association between the two. I could not, nor could the mother with all her cunning. Within a day or two from this second discovery I attended a woman in labor, living two blocks from the boy. I was informed on this occasion that her little girl of ten years complained of a discharge which made her sore. Here was gonorrhœa again, and under circumstances which aroused me to a determination to find how it came in this neighborhood, and why it should be with such young persons. I conferred with the little boy's mother, and she had no trouble to get his simple story of the immodest behavior of this second girl with him. I returned to the first girl on a new tack for the history of her infection, and traced it to a girl of eighteen years, whose reputation for depravity went unchallenged and whose diseased condition at the time was a theme for raillery with her companions. She lived but a block from these two young girls, and, as if to attain the culmination of her wickedness or to grasp an opportunity to avenge the loss of her own chastity, she enticed them together to her room and there taught them in their youthful innocence their first lesson in immorality; and with her instructions she communicated to them a disease of more consequence to be rid of than mumps or whooping-cough, one having qualities which render it more dangerous to the public health and society than chicken-pox or measles, one which every respectable physician thinks of with disgust, and examines with greater dread than he does either typhoid fever or consumption.

The Ethics of Patenting.—Under this heading the *Philadelphia Medical Journal* for August 13th has the following apposite remarks:

While profoundly deploring the application of Behring for a patent to create a monopoly in serotherapy, it must be recognized that the grounds of the logical objection are, first, that as a medical man he should be actuated by nobler and more unselfish motives than money-making; and, second, that he has no right to his claim of unique or first discoverer. It is a professional disgrace to have a member of our guild thus proclaim pure selfishness as his motive, and to seek to deprive other discoverers and workers of their just honor. All of which, being clear, should not beget in our minds any foolish notions as to the criminality or even any real inethicality upon the part of non-medical men in securing patents. Some of the reasons may be easily formulated:

1. The great principle of giving inventors and discoverers a patent or monopoly, for a limited time, for the manufacture and sale of a product, is too well established, conduces too certainly to the progress of civilization, to be questioned. But even then, while the law holds out reward, it recognizes that this reward must be of limited duration, and in some cases when the common good is clearly hindered, it may confiscate the monopoly it permits in general. The law commands selfishness to be just, but it does not command or even commend altruism. That is left for the choice of men—or as the theologians would say, it is a question of "grace." It is this position of altruism and grace that the medical profession has adopted as regards any monopoly pertaining to their art. We are all the better, both as a community and as a guild, that it is left for us to choose the nobler way; if government should command it, the progress of humanity would be slower and the enforced obedience would be less than is at present obtained by spontaneous preference. In some cases it may be doubted if the monopoly has been sufficiently absolute and extended—if, *e. g.*, the trade-mark abuse is not the result of a monopoly held to be too short in duration. Certainly, processes and discoveries have been kept secret, not even trademarked, in the hope that profits would be greater than by patenting or trade-marking. In general law it is plain that it is absolutely impossible to exclude inventions and discoveries of therapeutic use from the list of patentable articles, and for the following reason:

2. No line can be drawn between things therapeutic, health-promoting, or disease-preventing and things that have no relation to health. There are a thousand intermediate grades between the simplest invention of no conceivable influence physiologically at the time, and a drug only used by the physician in disease. Food, clothing, etc., for instance, of numberless kinds, are examples that it is wholly out of the question to attempt classification of.

3. There is no patentable article or invention that does not have a possible therapeutic or physiologic application, and that does not in some way influence health or disease.

4. There are thousands of legitimate and excellent patented articles directly devised for the purposes of promoting health or preventing disease, such as water-closets, plumbing, sewage disposal, water supply, etc., which have had their influence on the death-rate, extending the average length of life, and the reward of the inventors was the condition of spurring the ingenuity.

5. We, like all human beings, are prone to magnify our office, and not seldom is the claim for the influence of drugs and the function of the physician somewhat exaggerated when viewed in the large daylight of general human progress. Medical Pharisaism is not wholly unknown.

6. Carried to the logical extreme, the professional scorner of patents, as *per se* detestable, should take no professional fees for his services beyond the small amount required for the barest necessities of life. Personal vanity makes it easy for each one to recognize that his own superior ability is in the nature of a mo-

nopoly, the patent expiring in twenty or thirty years instead of the seventeen allotted by government.

Wherefore, let us be reasonable, unpharisaic, and even modest in our professional egotism.

Even granting, what is not true, that a line of division could be drawn between therapeutic articles and those classifiable as not such, there remain the facts that we can have no appreciable degree of prohibitive influence on laymen in the matter, and that our energy expended in hatred of patents is doubly misdirected. We should, it is true, protect the world from such attempts as this of Behring, because no patent is due to him, and if he should succeed in holding his legal claim, and serotherapy finally prove of the great service we believe, then we should for the general welfare legally declare his patent at an end. But we should above all things abrogate the system, infinitely more detestable than patenting, whereby secrets are copyrighted, thus obtaining what is the same (though really worse) in effect as an endless patent. It is strange that some people who seem to hate patents have little or nothing to say against the more vicious and trebly harmful copyrighting of nostrums. This is the evil we should fight until we conquer and end it. It would be far better if copyrighting secrets were to be wholly replaced by the patenting of non-secrets.

Rare Cause of Death in Diphtheria.—Flesch (*Wiener klinische Wochenschrift,* 1898, p. 353; *Gazette hebdomadaire de médecine et de chirurgie,* August 7th) has reported a case of diphtheria in which death was due to multiple embolism of the lung. The starting point was a thrombus of the jugular vein due to the presence of an ulceration in the throat. Before death the child showed œdema of the submaxillary region.

Alkaline Injections in Diabetic Coma.—M. A. Berson (*Journal des sciences médicales de Lille,* August 6th) thus sums up the results of observations on the treatment of diabetic coma by subcutaneous or intravenous injections of bicarbonate of sodium and chloride of sodium: 1. In diabetic coma, Minkowski reports a unique case of complete cure. Amelioration varying from two hours to twenty-four hours has been effected in all the other cases, although death ultimately supervened. 2. In the premonitory period of diabetic coma, Lépine has a very remarkable amelioration (his fourth recorded case). The observation of twenty-three cases shows that very appreciable results have been obtained by alkaline injections. They have been only transitory, it is true, but none the less real, when it is considered that the disease was diabetic coma against which therapeutics are so far impotent. From which it may be concluded: 1. Alkaline injections have given incontestable results in diabetic coma. 2. These injections are best intravenous, the subcutaneous method being too slow. 3. If possible, intervention should precede coma, as Lépine points out. When the patient shows progressive aggravation, a feeble pulse, lowered urine, slow respiration, with increasing dyspnœa, nausea, and vomiting, an intravenous alkaline infusion of from three hundred to three hundred and seventy-five grains of bicarbonate of sodium with a hundred and twelve grains and a half of chloride of sodium to a thousand parts of water is indicated.

Hyporespiration and Hyperrespiration in Tuberculosis.—Under this heading, Dr. Playter (*Canadian Medical Review,* August) discusses, in a paper read before the Ontario Medical Association, the predisposing causes and the therapeusis of tuberculosis:

Who are they, he asks, who fall victims to phthisis? Almost invariably, if not solely, those who have been exposed, from some one or other cause, to a decrease, to less than the needs of the system, in this most important function of respiration; to a too-limited, or an inefficient supply of oxygen for the needs of the vital functions. We have the hereditary small chest and lungs, overtaxed at length by some change of life, perhaps overstudy, or it may be overphysical activity in the greater responsibilities and duties of adolescence. Or we have the sedentary, probably stooping, occupation and shallow breathing indoors, culminating at length in the consequences of a want of a certain indispensable supply of oxygen to the blood and tissues. Fairly or even well-developed lungs may have been gradually reduced to an inability to provide this indispensable oxygen supply. Or again, we may have lungs so clogged up with the products of a continued "cold," or a congestion from measles, or an attack of pneumonia, that they can not fulfill their function proportionately to the needs of the organism. And yet again, this condition of the air cells, or of the respiratory lung-membrane, may be the result of dust-breathing.

From the almost invariably small respiratory capacity in the early stage of phthisis, we must infer that a measure or degree of this condition had existed for some length of time, and prior to actual symptoms of the disease. Only through time, many months, at least, could such a condition have been brought about.

The author calls attention to Farquharson's statement in his work on *Ptomaines* that every arrest or diminution of the respiratory functions is necessarily followed by the retention of toxic physiological *débris* in the body, and points out that the so-called pretuberculous symptoms are such as might be expected from self-intoxication, caused by imperfect respiration. If that is the case, then the application of oxygen in proper measure and to the blood and tissues is the proper treatment.

In the earlier stage, he says, constant deep breathing of cool outdoor air may suffice; in later stages we must provide the oxygen in some modified or less natural way. And a judicious use of ozonized oxygen appears to give the best results.

As in complete asphyxia oxygen will, as it were, restore life, so, if we can apply it properly, it will restore life in considerably advanced phthisis. He is convinced that it holds out to our anxious, yearning search the best and most natural remedy.

Is this So?—The *Medical Council* quotes the following from an unacknowledged source:

The severity of the Russian climate is the reason, perhaps, why nearly every Russian name ends with a koff.

Strophanthus in Urticaria.—According to the *Medical Sentinel* for August, Ord has found strophanthus, in five-drop doses, almost a specific in the chronic forms of urticaria. It is particularly indicated, according to him, in the anæmia of young women, especially if there is accompanying cardiac weakness with palpitation.

Dr. Love on Babies.—We quote *in extenso* from the *Indian Lancet* for July 16th a response to the toast of "The Babies" by Dr. I. N. Love at a banquet at St. Louis, April 30, 1898. Dr. Love's forcible eloquence is well known, but widespread as has been the publication of his words in the medical journals of this country, their appearance in the Orient will be a source of gratification to his admirers. Dr. Love said:

Mr. Toastmaster (I had almost said "Roastmaster"), no subject could have been presented to me which in itself would have furnished greater inspiration to me to talk. Surely no topic could more appropriately follow the last one presented, "Our Absent Wives." As a matter of fact, our absent wives may be even now detained attending to the wants of the babies, God bless them, and so it is generally.

We fathers too often desert the field and leave our wives alone to look after our babies—and this is wrong. I claim, as a matter of fact, that the father is more closely related to the baby than he realizes, is indeed, *particeps criminis*, in other words, equally responsible with the mother, but in the majority of instances we shirk our duty and throw the burden upon the shoulders of the one already weary in well-doing.

There is no power that could make the mother waver in her performance of duty to her child. She will follow it to the gallows—to hell, itself. It is not always so with the father, but it should be.

I find that I am disposed to consider this subject seriously, and, Mr. Toastmaster and gentlemen, I trust you will pardon me if I fail to treat it in any other way. The truth of the matter is, no more serious question confronts us than "the babies," and there is no question that should command a greater part of our best thought. We should remember that the baby is shot into this cold and cruel world without having been consulted either as to whether he wanted to come, what particular place he would like, what special kind of environment, or what individual equipment he would desire. Indeed, he is not consulted at all as to the coming, but oftentimes after arriving here he is consulted more than he should be as to his own proper management.

The preceding proposition being true, surely the physical authors of the "babies" being, should appreciate the fearful responsibility they have assumed. They should determine to make it the business of their lives to develop their child in the right direction, physically, mentally, and morally.

I am of the opinion that the most important advantage that could be given to a baby in advance of his coming would be to permit him to select his father; but, since he has no voice, the father who is selected should strive day and night to meet the responsibility. The baby surely has the right to be well born, and having been well born, in addition he has the right to be well bred, but babies can not be well bred who are permitted to "jist grow," as did Topsy.

In the early part of the baby's existence he is largely a "vegetable"; he then becomes "animal," and later the spiritual begins to develop. The fullest opportunity should be furnished for the most complete vegetable and animal development possible, and to this end the rules of hygiene and health are of vital importance. The baby that is properly fed, and the mother usually takes care of this part of it, thrives, but the father should remember that during this period he, himself, should assume more than his usual share of the burdens. He should realize that the, to him, sweetest object on earth, the mother of his child, has a dual nature; that she has intellectual and fruit-bearing functions; that during the period when she is engaged as a fruit-bearer and doing her duty to her child, she should be relieved of the mental burdens that otherwise might fall to her, and receive more petting, fondling, coddling than usually falls to her lot.

Yes, I am treating this matter seriously. I could not be facetious or funny when handling this subject if I would, and I would not if I could. There is very little to me that is related to early child life that is amusing, for I see so much that suggests almost the tragical—so many neglected wives with their babes, neglected not as to their physical necessities, but neglected in that which is most essential to their well being.

The trouble is, fathers are too often so completely absorbed in money getting that they neglect to get acquainted with their babies. It has been said that it is a wise child that knows its own father, but I think, indeed, it is a wise father that knows his own baby and continues to know him from the time that he comes into the world until either the one or the other leaves it.

Some of the sentiments that have preceded the one assigned to me come to my mind and they seem to me to be appropriate, to be discussed in the same connection; "Friendship" is one. How few fathers cultivate the right kind of friendship between their children and themselves! Let us really make our babies feel and know that we are their best friend, next to their mother, on earth, and if we make them believe this we shall have in our children our best friends. Let us treat our baby friend the same as any other friend, respectfully, considerately, courteously, tenderly, generously, and, when principles of right are involved, firmly, stubbornly even, and bend them in the right direction—and bend them early. Let us help the mother to realize that all the coercion a physical nature ever needed with a baby is before it is two years of age. The most important lesson a baby can learn is obedience. A puppy dog five days old can be taught to obey through physical punishment, and a baby need not be very old to be taught in the same way. Severity is never necessary, but a gentle firmness, a consistent stubbornness upon the part of the parent to secure absolute obedience as a regular habit of life, is essential.

There are various sizes and ages of babies, either in arms or babies of a larger growth, and the baby is just like ourselves—he doesn't want to do a thing that is unpleasant unless he has to.

Another sentiment that has been presented to-night should be early applied to the life of the baby—that of "reciprocity." We should teach our baby first of all by example to be just, to be kind, to be honest, to be sincere, to be polite, to be considerate of others, to be truthful. We should teach him, too, that reciprocity—the new golden rule—"Be good to all who are good to you," is essential to salvation in this life. We can early saturate the child with the full knowledge, a complete grasp of the meaning of the word reciprocity. Teach him that it isn't honest, that it isn't manly to accept favors from others selfishly, and not reciprocate them to the fullest. With this thought in mind the child will feel and know that the kindness, the fostering care given him by his father, must be returned, and it will be returned with interest.

The father who neglects his child is putting a mortgage upon the latter years of his own life and that of his child, and frequently foreclosure will come when least expected, and when he is least prepared to meet the burden involved.

Let us prize more highly the good opinion of our child and its mother than that of any other creature this side of heaven. Yes, gentlemen, let us feel that it is more dishonorable to neglect the coupons that have come to us from our matrimonial bonds than to neglect any business obligation on earth. I admire the man highly who has the courage to face the wide, wide world with the thought that he proposes to capture everything in sight within the limits of right, even though misunderstood, condemned, disliked, and yet who, when he faces his family, his babies, faces those who know that he is the dearest, best, most faithful, just, and generous creature underneath the stars.

Business pursuits and professional duties become seriously absorbing at times and prompt us to neglect the loved ones near us in a manner that we little dream of. We must determine, then, we big babies, to go hand in hand with our little ones all along the valley, up the hill and down the hill again, and as we make the journey, if we do our share we shall be cheered and comforted when we approach the setting sun.

Then here's to us all, babies as we are. Yes, we come into this world puling, puking infants, naked and bare; we go through the world puling, puking infants, each with his own share of sorrow, trouble, and care. We go out of it puling, whimpering, helpless infants, faint, feeble, tottering, God in his infinite, omnipotent wisdom only knows where, but all along the road, if we are thoroughbreds here, we shall be thoroughbreds there!

The Limitations of "Suggestion."—Dr. W. H. Bartholomew (*Louisville Medical Monthly*, August), in Some Observations on the Doctrines of Science, says:

Too much is said of and claimed for the motor force of suggested ideas. Hypnotism is the one phenomenon in which it is asserted that the full potentiality of these ideas is made manifest. But in hypnotism the converse of this claim is clearly shown. Ideas are suggested to the mind, but that is all. The mind (will) heeds them or not, just as it pleases. Nothing dominates the mind, it is free to use this idea or that. The mind (will) is royal, and to its sceptre must all ideas bow. If the energy exercised in impressing upon the minds of students the potentiality, or motor force, of such ideas was expended in developing a strong and pure will, the world would rejoice in the possession, year by year, of men and women conscious of the power to be good and to do good, and invulnerable to resist evil. Nothing on earth can take possession of the human mind, except it voluntarily yields to its influences, and such is true of "suggested ideas."

A few years since a test was made, and the sequel will show that the claim for the motor force of such ideas is wholly groundless. A young lady of pure speech, bright mind and upright character, and a young man of pronounced temperate habits were chosen as the subjects to be hypnotized. Several slang phrases were suggested to the young lady while in the hypnotic state, but she persistently refused to give expression to any of them. As soon, however, as any pure word, or statement, was suggested she hastened to repeat it. The young man was given a glass of water which he was told was whisky, and he immediately dashed it upon the floor. He was given a second glass, but with a similar result. Then he was given a glass of water, and, being assured that it was water, he drank it. This experiment shows that the will is still free, even under such adverse circumstances, and that the motor force of suggested ideas must bow to the royal mandates of the will. *Hypnotism may, however, bring to light pretensions to be what one is not.* Let us pray that the teachers of the youth of this generation will develop character (power of will) which will serve them in every exigency of human life.

The Stages and Forms of Syphilis.—Adami (*Canadian Practitioner*, August) thus concludes an interesting paper:

I have, I believe, mentioned the main manifestations of syphilis as they occur in the infant and in the adult, and it will be seen:

1. In the first place that the lesions, occurring in the congenital and the acquired disease, are identical, and are brought about by the same process or processes.

2. That, whether we have to deal with the disease in the secondary or in the tertiary stage, the same processes are at work. That, if we accept those cases as truly tertiary in which we have to deal merely with the fibroid remains of obsolete gummata, and again those cases in which there is perihepatitis (which perihepatitis appears to be a complication rather than the genuine and direct result of syphilis), then we are bound to admit that the study of the liver alone would indicate that no sharp boundary line can be made out between secondary and tertiary syphilis. No more can we make out such a boundary between secondary and tertiary tuberculosis.

While I and all others must admit the utility of recognizing these two stages, from an anatomical and histological standpoint one is forced to acknowledge that progressive syphilis is characterized by the same succession of phenomena whether it is studied but a few months or long years after the primary infection. Anatomically and histologically there is no valid distinction to be drawn between secondary and tertiary syphilis.

It may be asked whether such a conclusion is not wholly at variance with clinical opinion and experience? Upon the face of it, it is—but, if the subject is looked into carefully, I think that such a view will reconcile a few of the divergences existing among syphilologists. We have those (and they are the majority) who state that tertiary syphilis is non-infectious, and those who bring forward clear examples of the production of infection five or ten years after primary inoculation of the disease. This difference can be reconciled if we agree upon the following points:

1. That nowadays, under proper treatment, syphilis, if not a self-limiting disease, is at least a disease which can be healed, so that many of the lesions recognized as being tertiary syphilis are truly the indications of the old healed syphilis, and not signs of progressive or latent disease.

2. If the disease has not completely died out, and remains latent, the resistance of the tissues of the organism is such that in the majority of cases, if it does not tend to light up again, there is so considerable a local reaction that the infection and consequently the spread of the process tend to remain strictly localized, and the germs (which are probably of bacillary nature) do not become disseminated through the blood. Thus neither the blood nor the secretions contain the virus.

3. In a very small number of cases the reaction on the part of the tissues may be so lessened, and the virus retain or gain so high a virulence, that either it causes ulceration, or in other ways becomes disseminated and capable of causing infection even late in the tertiary stage.

Original Communications.

THE PRESIDENT'S ADDRESS

DELIVERED BEFORE THE

AMERICAN LARYNGOLOGICAL ASSOCIATION

AT ITS TWENTIETH ANNUAL CONGRESS.

By THOMAS R. FRENCH, M. D.,
BROOKLYN.

Fellows of the American Laryngological Association: In the name of Brooklyn, on behalf of its medical profession and personally as your presiding officer, I extend to you a most cordial welcome, and at the same time I congratulate you on the opening of this the twentieth annual meeting of the association.

As I was not permitted to be present at our last meeting, I desire now to express to you my deep appreciation of the high honor you paid me at that time, in selecting me to administer the affairs of the association for the year which has passed. Feeling as I do that there is no honor which can be conferred upon a laryngologist in America higher than to be made the chief executive officer of this body, my appreciation of your having selected me to act as your president must be understood.

The fact that we have met to-day to celebrate the twentieth annual meeting of this society gives us food for thought, and calls to mind a long retrospect of achievements and successes which have placed this body on the highest plane of scientific activity. Though I was not a member at the time of the organization of this association, I am aware that some of those participating in it were of the opinion that the establishment of such a society was something of the nature of an experiment, and consequently especially earnest work was done in its early years, which placed it squarely on its feet, determined its standard, and thus enabled it to continue through these twenty years in uninterrupted success. With the advance of years has come an advance in knowledge, and the association is as active and successful to-day as it has been at any stage in its existence.

Our association was born at the daybreak of modern medicine. Though the part played by micro-organisms in disease was known in the laboratories to some extent several years before that time, the revelation of the new light to the profession at large was only just beginning to be made known through medical literature. Mainly as the result of the immortal work of Pasteur, Lister, and Koch, a new pathology has been made. The foundation of a medical education to-day is normal histology and pathology; but at the time that this association was formed, such knowledge was not easily obtained, and but comparatively few sought it, as it was only beginning to be required in the curricula of our best medical colleges. Since then the searchlights of biological and bacteriological research have revealed fields for study which are only now beginning to be fully cultivated, and in the twentieth century many of the truths which are being so ardently sought after will doubtless be disclosed.

We are living in an age in which great advances are being made, and no earnest seeker after a field for fruitful effort need fail to find one. From biological researches must come the enlargement of our knowledge of the causes of disease, and from the further study of the life histories of bacteria must come a better understanding of the means by which the destructive varieties may be controlled. While our dependence upon the microscope in diagnosticating disease is growing with each year, a proper conservatism in regard to its findings must be observed, for the useless loss of important structures may result from the not infrequent simulation of elements of simple inflammatory tissue for those of conditions requiring thorough eradication. We have all seen instances in which the diagnostic instinct acquired from clinical study outweighed the supposed revelations of the microscope. While a large physiologico-pathological groundwork is essential for the attainment of the best results in the treatment of disease, it must not be forgotten that an acuteness of observation, derived from diligent study in clinical work, is of equal value.

The history of the association, which corresponds to the largest part of the history of laryngology and almost all of rhinology, was presented in a masterly and exhaustive address by Dr. Delavan, the presiding officer, in 1894, to which it would seem that nothing particularly new could be added at this time. The thoughts that I would, therefore, express to you to-day are mainly in regard to specialism and the progress of laryngology and rhinology in the past twenty years.

The mind becomes confused in taking a retrospective glance through the past two decades, because of the improved conditions and the number of discoveries and distinct advances made in general medicine and surgery. It would seem almost as if in these years, to use a figure of fancy, the earnest seekers after the truth had bridled and seated themselves firmly upon the back of their Pegasus, and from such vantage ground had dealt and were dealing more effective strokes upon the dragon of disease than in any corresponding number of years in history. Is it that we of this generation are endowed with a greater degree of intellectual activity than those who came before us? Emerson, in his essay on Circles, pictures intellectual progress as rhythmic. At a given moment knowledge is surrounded by a barrier which marks its limit. It gradually gathers clearness and strength until some thinker of exceptional power bursts the barrier and wins a wider circle within which thought once more intrenches itself. But the internal force again accumulates, the new barrier is in turn broken, and a wider horizon is presented. Tyndall, in one of his lectures on Light, says: "People sometimes speak as if steam had not been studied before James Watt, or electricity before Wheatstone and Morse; whereas, in point of fact, Watt and Wheatstone and Morse, with all their practicality, were the mere outcome of antecedent forces which acted without reference to practical ends." It is clearly manifest that we are to-day simply reaping the harvest which others have sown.

During the past twenty years the means of communication have grown prodigiously. The electric wire and the steel rail have belted the globe. The time of transit by land and by sea has been greatly reduced. Books have multiplied. Magazines and journals have increased to such an extent that nearly every department of life, as well as medicine, has its exponent in the printed page. By these means the world has, in a sense, grown smaller. Cities have grown larger, while the population of most countries has not increased. If there have been fewer great men, compensation can be found in the fact that there have been more able men. If there have been fewer great orators there have been more speakers. Associations and societies have been greatly increased in numbers and men to be known must give expression to their thoughts and produce their results. In the days of our forefathers it took years to gather the same amount of information which can now be acquired in a corresponding number of days in one of the large, well-organized libraries. The genius of invention has simplified living. We are in close touch with the whole of the civilized world and are benefiting by the work of others to a greater extent than has ever before been possible. It is not alone that we have easier access to the work and the workshops of the scientists of the world, but the improved methods of promulgating knowledge bring a larger acquaintance with matters of detail, which are essential in order to put the facts to use.

Science has expanded like the branches of a tree, and each branch is covered with its ever-increasing number of workers who, centring their thoughts upon one particular branch, develop it until new shoots burst from its side, which are nurtured and still further developed by those who stand ready to cultivate them. Three classes of workers we know are needed in scientific work. The first is the original investigator who seeks the truth for the truth's own sake. The second is the teacher who diffuses the knowledge acquired by the original investigator, and the third is the applier of such knowledge to practical ends. Pasteur says: "We have science and the application of science, which are united as the tree and its fruits." We may not all be able to win victories over reticent Nature, but we can, at least, apply as well as promulgate the knowledge of the truths discovered by others.

In reflecting upon the great strides made in scientific medicine in this country during the past twenty years, it may be of interest to note the words of De Tocqueville, written nearly fifty years ago: "It must be confessed that among the civilized peoples of our age there are few in which the highest sciences have made so little progress as in the United States. . . . The future will prove whether the passion for profound knowledge, so rare and so fruitful, can be born and developed as readily in democratic societies as in aristocracies. As for me, I can hardly believe it." Tyndall, in an address delivered in New York twenty-five years ago, said that in no other country would science in its highest forms exert a more benign and elevating influence than in ours. The willingness of American citizens to throw their fortunes into the cause of education was, he said, without a parallel in his experience, but hitherto their efforts had been directed to the practical side of science. While his appeal for science on higher grounds is not as applicable to-day as when made a quarter of a century ago, it still suggests large possibilities for scientific research in this country, for the dependence of practice upon principles is as true to-day as it was then.

Since this association was founded a great change has been wrought in the character of medical practice. Though specialism was recognized and largely practised in Europe, it was comparatively new in this country, and those who confined their work to one department were relatively few. Now their number is legion, and the tendency toward the selection of a special field for practice is growing stronger each year. The widening of the field for study in every department of medicine has brought about this change. In no department, however, have the workers increased so rapidly as in ours. When we consider the intimacy of the relationship which diseases of the nose and throat bear to diseases in remote portions of the body, and how many diseases of other organs, or symptoms referred to other organs, may be caused by diseases of the upper air-tract, it is hardly to be wondered at that so many workers have been attracted to this field of study. The laryngoscope and the rhinoscope are only twice the age of our association, but the pioneers in this department have made such good use of the instruments, and laid so strong and broad a foundation for the study of the diseases of the parts which they reveal, that it is now relatively easy to acquire the manipulative skill necessary to become a specialist in rhinology. Years of practice, together with a natural aptitude, are absolutely necessary in order to acquire skill in the surgical treatment of diseases of the larynx; but much less practice is required to permit intranasal surgical work to be done, and this fact is unquestionably accountable for the large amount of indifferent or mischievous surgery which is yearly growing more noticeable. The ability to adapt many of the modern appliances to the treatment of disease requires only such training as will make a man a skilled mechanic, but to apply such measures with the best results and adapt them with intelligence requires a knowledge of the fundamental laws which are known to govern the human body. Pathology is the foundation of scientific medicine, but a knowledge of general pathology and the diseases which affect the whole economy can not be sufficiently acquired in a college and hospital course of study; and yet the disposition to consider such a training sufficient to permit a man to devote himself exclusively to the practice of a special department of medicine is growing to an alarming degree, and is bringing into the various fields a large number of men who can hardly be regarded as competent. The advice given by Sir Morell Mackenzie ten years ago, and indorsed by Dr. Asch in his presidential address before this body five years ago, that medical men should practise general medicine and surgery during the first ten years of their professional careers, should be considered of greater value to-day than ever before; and in view of the rapidly increasing number of men who are flocking into the various special departments immediately after graduation, those of us who have the opportunity to speak to medical students should not fail to make it clear to them that success by honest efforts in these days can only be attained by those who have acquired a comprehensive knowledge of disease by years of general practice. It would, perhaps, be wise to remind them of the advice given by Dr. William Osler to the young medical graduate that "as he values his future life let him not get early entangled in the meshes of specialism." That specialism should continue and increase is, however, inevitable and desirable. Is it not because men have made special branches their life work that so much of value has been learned in the past fifteen or twenty years? Earnest workers, devoting most, if not all, of their time to one branch of medicine, have evolved many of the scientific truths on which the practice of to-day is based.

The charge is made that the workers in the various departments of medicine are becoming too narrow in their studies, devoting themselves to the acquisition of knowledge of a limited field at the expense of general medical and surgical information. To a certain extent that, no doubt, is true, but as it has already become at least difficult to digest the rapidly increasing literature in any one department of the healing art, which is necessary in order to keep the methods of treatment abreast of the times, this condition is scarcely to be wondered at. As knowledge increases there will, of course, be less opportunity for general studies, and therefore the need of a higher school and college education as a foundation for the practice of medicine is becoming more apparent. When the means of acquiring information were not as large as they are to-day, great earnestness as well as ability were needed to overcome the difficulties in the path of the student, and are we not facing the danger that, as the acquisition of knowledge is made easier, the information will be accepted passively rather than actively? When, some years before the origin of this association, Dr. Barnard said, "Now we have made the task so easy, we have built so many royal roads to learning, in all its departments, that it may well be doubted if the young men of our day, with all their helps, acquire as much as those of the earlier period acquired without them," did not his words imply the truth that conquest means a spirit of augmented strength, and should we not, therefore, elevate the standard of requirement in proportion as the opportunities to meet it are increased? Another potent reason for the belief that the specialist is occupied with too limited a sphere of thought and action, and is disposed to magnify the ailments in the department of the body to which he confines his practice, is an outcome of the opposition which he has met in extending his field of study. Many of his critics have shown the greatest unwillingness to his having investigations made of other portions of the body than that with which he is identified; and yet the growth of knowledge has made it clear that the correlation of the various parts of the body is so intimate that it is impossible to determine the cause of many of the affections of a given part without a knowledge of the conditions which may exist elsewhere. The feeling is still strong that the specialist must limit his observations to his own field. To do so, the symptoms which he is asked to relieve would in some cases continue in spite of his best-directed efforts, while a happy outcome might be obtained if the physician who has the case in charge would heartily cooperate with him. To a large extent the absence of cooperation is to blame for not only many unsatisfactory results, but for hedging in the specialist to a limited sphere of action.

The charge is also made that specialism is doing great harm because of the charlatans who live and thrive under its cloak. While the profession of medicine has never been without its charlatans, it is probably a fact that there are fewer of them to-day than ever before, and let this condition, therefore, be set down to its proper account—to the weakness or, if you will, the selfishness of man, but not to specialism. In proportion as the standard of medicine is raised and the people are educated, so will the pretender and those members of the medical profession who are "over the border" of reputable practice be discounted. So long as there is a demand for such men they will be supplied. It is unquestionably true that there are too many men in the special fields who have an eye alone for the main chance; but it is equally true that the earnest, upright specialist has as strong a desire to elevate the standard of medicine, and has as great a power as any to do so.

Despite the evils which are growing out of specialism, the fact that men are centring their thoughts upon special lines of work more than ever will ultimately result in the largest good to mankind, for we are beginning to learn that concentration is the price we must pay for efficiency. The advance of civilization is, in a large degree, dependent upon a subdivision of labor. The advance in the knowledge of the human body in health and disease will depend upon an even greater subdivision of labor than now. The evils resulting from such subdivision of work and practice must be met and controlled as best they may, but the hope that has been recently expressed, that specialism will soon wane, is, in the nature of things, not likely ever to be realized. It therefore behooves us, individually and collectively, to think well on these things, that we may the sooner determine how best to secure for specialism the minimum amount of harm and the maximum amount of good.

The particular achievements which have been made during the life of this association, which have enabled laryngology and rhinology to occupy such conspicuous places among the specialties in medicine, have been many. The dawn of the most brilliant era in these departments began when Koller made known the local anæsthetic properties of cocaine fourteen years ago. The vast strides made in our knowledge of the pathology and treatment of diseases of the nasal passages and nasopharynx would not have been possible without the assistance of this agent. The ease with which diseases of the upper air-passages can be revealed, the presence of instruments tolerated, and the destruction and eradication of diseased tissue permitted by the application of this drug has revolutionized our knowledge and practice.

While the discovery of lymphoid growths in the pharyngeal vault antedates the foundation of this association by seven years, it is nevertheless true that the importance and frequency of occurrence of these growths were not fully appreciated in this country, at least, until 1884. To our deeply lamented and talented fellow, Dr. Hooper, must be given the credit for first awakening a lively interest in this affection in America. Countless thousands of lives during all the ages were rendered feeble and shortened by this heretofore unrecognized cause. To-day the operation for removal of these growths is performed by surgeons in every part of the civilized world. To have bestowed a boon of such magnitude upon posterity has made the distinguished discoverer of "adenoid vegetations," the late Professor Wilhelm Meyer, the greatest possible benefactor to mankind.

Antitoxine therapy, serum therapy, and organo-therapy are methods of treatment which have arisen since the inception of this association. If antitoxine had accomplished no more than the diminution in the number of cases of laryngeal invasion in diphtheria, it would have been a priceless boon; but, according to Richet, the lives of about fifty thousand infants are now saved annually by this agent alone.

O'Dwyer began his experiments with intubation of the larynx two years after this association was organized, but it is unnecessary for me to dwell upon the vast value of this distinctly American contribution to the relief of suffering humanity. It has to a very large extent driven tracheotomy from the field, but when a better adjustment of these two operations for the relief of laryngeal stenosis shall have been found the percentage of cures will doubtless be increased. There have been but few greater monuments reared in the science of medicine than that which will perpetuate the fame and the name of Dr. Joseph O'Dwyer.

We are probably standing to-day at the threshold of our knowledge of tuberculosis. Koch found the bacillus sixteen years ago, and how best to destroy it in the living tissues is a problem to the solution of which many scientists in this country and Europe are devoting the best parts of their lives. While the methods of treatment for laryngeal tuberculosis employed to-day give better results than heretofore, we can scarcely look for signal success in dealing with this disease until the nature of tuberculosis is better understood. Whether highly beneficial results from the use of the Krause-Heryng method are to be obtained in this country or not is yet to be demonstrated. The outlook is, however, encouraging.

While but little knowledge has been acquired during the past twenty years in regard to the nature, causes, and medicinal treatment of cancer, we are certainly in a better position to contend successfully with the disease in its early stages than heretofore. The noteworthy operative work in cases of cancer of the larynx of one of our corresponding fellows, Sir Felix Semon, and of Professor B. Fränkel, brings the encouragement that even better results may be expected when the means of making early diagnoses with greater ease and certainty shall have been acquired. Semon reported in 1894 fifty-eight per cent. of cures of selected cases in his private practice, after removing the diseased parts through an opening made by dividing the thyreoid cartilage. Further reports of cases operated upon by him since then, and presented in the *Archiv für Laryngologie*, do not materially change the percentage of cures. The gratifying statement made by Semon is that in only one of his cases had recurrence possibly taken place. In a letter to me dated December 29, 1897, Semon stated that all of the patients who had recovered from the operations were doing well. Surely such results can not but encourage us to believe that even this dire disease, if dealt with in its early stages, may be permanently eradicated in a much larger percentage of cases than has heretofore been believed to be susceptible of cure, and that, too, with a minimum amount of disfigurement or loss of function.

Almost all of our knowledge of diseases of the accessory sinuses has been acquired in the past twenty years. Prior to the eighties the sinuses were opened only to relieve the symptoms occasioned by acute suppuration. Now, thanks largely to the brilliant original work done by a number of the fellows of this association, we are in a position not only to relieve the symptoms produced by acute suppuration but, in a measure, to prevent its occurrence, and also to remove by rational means the conditions resulting from long-standing disease.

In the early years of this society the study of vasomotor reflex phenomena from structural diseases in the nose was begun by members of this body, and has been actively continued until the present time. While, perhaps, more was hoped from it than has been realized, nevertheless brilliant results have been obtained, and the investigators who have elucidated the subject have contributed facts of the utmost importance to rhinology.

Mainly through the researches of a number of the corresponding and active fellows of this association, a large addition to our knowledge of the innervation of the larynx has been acquired.

The discovery of the X rays in 1895 will perhaps mark an epoch of the utmost importance in medicine and surgery. Through the application of the rays to the portions of the body in which we are especially interested, excellent results have been obtained by our corresponding fellow in Glasgow, Dr. John Mackintyre. He has been experimenting with the cinematograph in conjunction with the X rays, and has been so far successful that he was able to show, at the Royal Society of Edinburgh last June, the movements of the bones in the legs of a frog on the screen. In our special department future developments will depend upon how far it will be possible to photograph the soft tissues. By placing a fluoroscope in the mouth Dr. Mackintyre has succeeded in obtaining an image of the sæptum, the roots of the teeth, and other hard structures in that neighborhood. He has also been able to demonstrate the process of ossification in the thyreoid cartilage. In a letter to me dated January 6, 1898, Dr. Mackintyre, in writing of the X rays, says, in substance, that it is possible to get shadows of the larynx, but that their definition is not as sharp as those obtained in photographs of hard structures or foreign bodies. Nevertheless, he has great hopes for the future, as the subject of skiagraphy is but two years old.

If Lister's work has been of less value in our field of practice than in others, it has, at least, taught us the value of cleanliness. It has taught us the necessity of subjecting our instruments, whether used for examination or for operative or non-operative treatment, to the germ-destroying action of heat. If we can not make very free use of antiseptics, we can, at least, give our patients the benefit of thorough asepsis. This brings with it the comforting assurance that if we are not always successful in contributing the largest amount of good, we have rendered it impossible to do harm by the conveyance of infectious germs. Through asepsis, antisepsis, and local and general anæsthesia, the fear of the knife is being rapidly banished, and, while this carries with it a certain degree of danger at the hands of the overzealous operator, it makes possible the eradication of disease to a degree never before known in history.

Although Valsalva demonstrated nearly two centuries ago that deafness was often due to the closure of the Eustachian tubes, the conditions in the nasal passages and nasopharyngeal cavity which are now known to be frequently accountable for the imperfect ventilation or closure of the Eustachian tubes were not fully appreciated until within the past fifteen years. In one of the standard American treatises on diseases of the ear published less than fifteen years ago, the author states that very few otologists made much use of the rhinoscope, as it was only in exceptional cases that it was found that the revelations compensated for the time employed. There is surely much yet to learn of the relation of diseases of the ear to diseases of the throat and nose, but the degree in which diseases of the ear may be prevented, or, when they exist, may be successfully controlled through the care of the nose and throat, is yearly growing greater. The most successful otologists to-day are necessarily competent rhinologists, and it is quite certain that the most successful textbooks on diseases of the ear, which will be written in the future, will be those in which a large part of the contents will be devoted to the consideration of catarrhal affections of the upper air-passages.

By comparison with the treatment of catarrhal affections by applications of alterative and astringent remedies, which were employed almost exclusively in the early years of this association, how brilliant seems the surgical work now performed for the radical relief of catarrh of the upper air-passages! The recognition of the physiology of the nasal passages, the recognition of the pathological importance of hypertrophied turbinated tissue, sæptal spurs, and deflected nasal sæpta, indeed, the recognition of nasal diseases themselves—virtually the inception of rhinology—are a part of the history of our special department of medicine since the association first saw the light. Much of the work which has revolutionized our methods of treatment has been done in this country, much of it in this association, and to-day we can claim distinctive places for American laryngology and rhinology which could not have been accorded to them twenty years ago.

The utilization of the incandescent electric-light current, which can usually be found wherever specialists are in demand, for galvanism, faradaism, electrolysis, galvano-cautery, and small-lamp work for transillumination, has greatly facilitated special work and saves much time. In the early days of the association these aids could only be obtained from cumbersome apparatuses.

It is my sad duty to chronicle the death of our lamented ex-president, Dr. Harrison Allen. By his personal charms he endeared himself to every member of the association, as well as to all those who had the privilege of an acquaintance with him. He represented the best type of the dualist in medical studies, dividing most of his time, in pursuit of knowledge, between comparative anatomy and laryngology. To a very large extent he filled the place left by the late Dr. Joseph Leidy, but at present it is felt that there is no one to take the place of Dr. Allen, in that particular field of study, in the city of his birth. He was the author of a large number of contributions to the study of anatomy and laryngology, but his superb *System of Human Anatomy* will live as his greatest memorial. We will miss his presence at our annual gatherings, but we will feel the inspiration of his character and work and be prompted by the lesson of his life to do the utmost that is in us for the betterment of mankind.

In the selection of a subject to be brought before a scientific body many, no doubt, are often deterred from reading at all because they are unable to find an original field for discussion, or some novelty which will interest. But I take it that such is far from the meaning of the annual gatherings of this society when we meet, partly to discuss again subjects which, by judicious pruning, may crystallize our knowledge in regard to them. Such discussions also assist in preventing us from forming habits of work or fixed beliefs in regard to subjects about which men hold different opinions. Let us remember that in scientific medicine the ideal is the truth, and the actual but that part of the truth which has been attained. As we are ever striving for the ideal and have but one desire, to know the truth, and thus but one fear, to believe an untruth, free and friendly discussion, entailing, as it does, the discipline of suspending judgment, is, I take it, one of the means of converting the actual into the ideal. It is for these reasons that I feel that a large part of the value of our meetings is derived from the discussions of papers. If the fellows could be made acquainted beforehand with the manner in which the subjects to be presented were to be treated, they would come better prepared to discuss them. If epitomes of papers to be read at each meeting could be sent to a committee whose duty it would be to print them and mail a copy to each member of the association two weeks before the meeting, discussions of a most fruitful character would be the natural result. Such a course of proceeding would probably also result in the saving of time, as under those conditions the discussions would tend toward crispness and brevity.

To provide the best material for the growth of our association, in the future selection of applicants for fellowship we should take pains to acquire the largest possible knowledge of their mental habits and ideals, as well as their scientific attainments. In this age of rapid advance and sharp competition, the physician who is not a good student can not be a candidate for the honors which will be awarded in the future of modern medicine. But there are things better even than science. Character is higher than intellect, and the highest mark in human nature is reached when high intellect and upright character are found combined. We are all striving for the highest attainments in the work of the association, and we wish to feel assured that the coming men will be thoroughly competent and filled with enthusiasm in their work. We want young spirit, vigorous spirit, and particularly men who are interested in, and in touch with, the advancing knowledge of biology, bacteriology, and pathology, for it is through these departments that medicine is being rapidly converted from an art into a science.

At its last meeting the council thought it wise to call attention to article 14 of the by-laws of the association, which reads as follows: "Any fellow who shall have failed to furnish a paper for three successive meetings, or who shall have absented himself from three successive meetings, may, on vote of the council, be dropped from the association." At the same time the council recommended that the by-law should be amended by excluding fellows of twenty-years' standing from its provisions—an amendment upon which you will be asked to vote at this meeting. The by-law is one which should be enforced in order to maintain the highest efficiency in the proceedings of the association. The average attendance at the nineteen meetings of the society has been fifty-six per cent. of the total membership. Even though the fellows reside in all parts of the country, from Massachusetts to California, and from Canada to Louisiana, the members of the council are hopeful that the attendance at the meetings in the future will be even greater than heretofore. A dearth of enthusiasm can not be complained of; but it seems desirable at this, the beginning of the third decade in the life of the association, to call attention to such measures as have been provided to insure an increase, or prevent a decline, in interest in the meetings of the association.

Since Elsberg first presided in this place there have been printed in the archives of the association four hundred and eleven papers, many of them masterpieces, carved with infinite pains and great labor in enduring bronze, upon the contents of which much of our practice of to-day is based, and which will, perhaps, be utilized to an equal extent by posterity. The wide range of subjects which have been discussed has, among other things, demonstrated very conclusively the intimate relationship which diseases of the throat and nose bear to internal medicine. Many of the founders of the association are among our most enthusiastic workers to-day and still continue to contribute material of a character which has made the association famous. The inspiration of the work done for us by Elsberg and Hooper, who sought the truth in its wholeness, not diluting it or masking it, is still with us, and will remain with us as long as the association exists. The heritage of the scientific spirit of Allen will add material strength to the foundation upon which we are to build in the future.

The attendance of the members of the association's council at its annual midwinter meetings during the past twenty years has been sixty-five per cent. of the total membership. No better demonstration could be had of the responsibility felt by that body in conducting the affairs of the association, for, in order to attend those meetings, it required, in some instances, the devotion of the largest part of two days to travel and, in many instances, the absence of at least two days from home.

In order to maintain the high order of excellence in the work of the association and the lofty standard which has resulted from its proceedings thus far, it is necessary to put forth extra efforts in the future so that the scientific spirit of the association may be seen to be growing ever finer, and as from the beginning reflecting the highest credit upon the department of medicine to which we are devoting our lives. The words of Elsberg, written when the laryngoscope was but five years old, that "the realization of a glorious future for laryngology needs but resolution, labor, and perseverance," are as applicable to-day as when written thirty-five years ago, and the high obligations imposed upon us by those who founded this association can only be met when we remember that "men walk as prophecies of the next age." Though great advances have been made, greater advances are yet to be made, and with "resolution, labor, and perseverance" we may lift laryngology to a still higher plane of usefulness, and thus contribute to the elevation of scientific medicine.

Again, gentlemen, I extend to you a cordial welcome to the borough of Brooklyn in the city of New York, and offer you my best wishes for a highly successful and most enjoyable meeting at this the twentieth annual congress of the American Laryngological Association.

A NOTE ON THE
SURGICAL TREATMENT OF LUPUS AND TUBERCULOSIS OF THE LARYNX IN CONNECTION WITH TRACHEOTOMY.*

By E. L. SHURLY, M. D.

THE recent adoption of curettement and other surgical endolaryngeal methods for the relief of tuberculosis of the larynx, which have been so zealously advocated and so successfully followed by Krause, Heryng, Gleitsmann, and others, have necessarily led the profession to a practical consideration of the advantages and limitations of such proceedings. The limitations may depend either upon the extent or inaccessibility of the laryngeal lesions, rendering approach by the mouth either ineffectual or dangerous, or upon the liability (either from constitutional disease or extreme swelling of the parts) to death, by interference with the respiratory function; indeed, the non-adaptability of curettement, excision, or escharotic topical applications in cases of tuberculosis and lupus of the larynx has been experienced so often that many practitioners have come to abandon all thought of such manipulation in the treatment of the majority of cases. Such observations have led the writer to adopt the plan of making tracheotomy previous to any attempt at the destruction of the diseased tissue of the larynx. This practice in some instances has shown marked advantages. Of course, in the case of a slight lesion situated upon the epiglottis, especially, or about the vestibule of the larynx, tracheotomy would be rarely indicated excepting for the relief of a tumescence sufficient to offer a dangerous impediment to respiration; but in cases of more extended tuberculosis or lupus, which from the character and extent of the lesions would seem amenable to surgical treatment, the previous introduction of a tracheotomy tube will be found of great advantage; for in this way the operator may take all the time necessary for proper manipulation without incurring the dangers arising from laryngeal spasm, laryngeal hæmorrhage, or subsequent laryngeal swelling.

Chloroform anæsthesia may be adopted if desired for each manipulation—although cocaine anæsthesia is usually sufficient.

To compensate for the loss of dilatation of the larynx by the ordinary respiratory movements after tracheotomy, a broad retractor, similar to the old-fashioned palate retractor, may be introduced into the larynx and held by an assistant during the performance of curettement or excision. By this means a considerable amount of diseased tissue can be removed at one sitting, and sometimes the full amount desired may be removed at once. The dressing of the wound with iodoform and boric acid is also facilitated, inasmuch as no attention need be paid to the respiration. In one instance, in a case of lupus of the epiglottis and aryepiglottic fold, the writer met with sharp hæmorrhage which, without the tracheotomy tube, would have been troublesome to check and possibly dangerous to life. In this instance there was no difficulty whatever in checking hæmorrhage by the application of styptics; indeed, by making a previous tracheotomy, the operator may remove with comparative comfort and unconcern the diseased tissue, whereas without the tracheotomy, as we all know, such manipulations are fraught with difficulty and misgiving and are peculiarly unsuccessful. The removal of laryngeal tumors may also be accomplished with much more ease after having inserted a tracheotomy tube.

When there is more or less extensive pulmonary disease, such as caseation of the lungs or a great amount of bronchitis, tracheotomy is contraindicated. The tracheotomy tube seems to interfere with expectoration, and in many instances will lead to additional septic infection. In two cases of this sort, as well as in several cases of laryngeal and pulmonary tuberculosis, more or less advanced, under the writer's care, the insertion of the tracheotomy tube speedily brought about an aggravation of the pulmonary disease, and thus led to an earlier death. This effect is probably brought about mainly by the interference with the free expectoration of the products of pulmonary caseation. Another objection which might be urged against the use of the tracheotomy tube in these as in all other chronic laryngeal diseases is the danger of destroying the natural resiliency of the trachea by the presence of the tracheotomy tube for a long time. This objection, however, is hardly applicable to the cases of adults. In children it is true that the wearing of a tracheotomy tube for a long time may lead to subsequent difficulty from collapse of the tracheal wall, as well as by the formation of adventitious folds or inequalities of its mucous membrane; but as this event so rarely occurs in adults, excepting in cases of diphtheria or tracheal syphilis, it ought not to be considered as a serious objection. Another objection which has developed in the experience of the writer is based upon the fact of the recurrence of the lupoid or tuberculous disease after the tracheotomy tube has been removed, thus creating an indication for a second tracheotomy. Such cases will occur in practice, and perhaps are not exceptional. Of course, it is unnecessary to say that a repetition of the tracheotomy will be inadvisable in the majority of instances. From this fact it therefore behooves the operator to allow the tracheotomy tube to remain, if possible, until the diseased tissue has been quite thoroughly and finally removed. Yet, notwithstanding the exercise of such precaution, there may be a recurrence of the disease.

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* Read before the American Laryngological Association at its twentieth annual congress.

I have made these suggestions for the purpose of bringing forth discussion upon this phase of the subject, and have purposely refrained from reviewing the merits and demerits of the surgical treatment of laryngeal tuberculosis and lupus, because of your familiarity with the subject.

LARYNGEAL TUBERCULOSIS AT THE LOOMIS SANITARIUM.*

By WALTER F. CHAPPELL, M. D., M. R. C. S. Eng.

The object of this paper is to present to this society a report on cases of laryngeal tuberculosis which have received climatic, systemic, and local treatment under most favorable conditions. No favor has been given to any special remedy or method of treatment, and the report is a simple statement of facts as taken from the notes of the sanitarium.

The climatic conditions and the general surroundings were, of course, the same in all cases, but the internal medications and local applications differed, the selections being made according to what in the experience of the writer and others seemed best for such cases.

Before proceeding to the histories of the patients, I think it would be interesting to the society to know something about the sanitarium and climate.

Sanitarium.—The Loomis Sanitarium, situated at Liberty in this State, admits only persons in the primary stage of pulmonary and laryngeal tuberculosis, and keeps them as long as there is a possibility of arresting the disease. I may also state, in this connection, that the sanitarium has a department which will appeal strongly to the members, and that is a hospital for incurables, situated in this city, where homeless and poor incurable tuberculous patients can receive every care and the special treatment so necessary for their comfort.

The sanitarium enjoys an altitude of twenty-three hundred feet above sea level, and is one of the highest accessible points between the Atlantic and the great Canadian lakes. The surrounding country consists of short hills and undulating ground. The watershed converges from this point, giving natural drainage. There is little or no forest land, and, with the exception of a few rivulets, there are no large sheets of water.

The sanitarium is built on the cottage plan and consists of administration building, cottages, and infirmary. Its capacity is for ninety patients.

The throat department is specially arranged so that patients can receive the same treatment they would at any dispensary in the city. This, in the opinion of the writer, is a great advance, as in his experience throat treatment of tuberculous patients in charitable institutions in the country is somewhat neglected.

Climate.—In winter the temperature ranges about zero, and the days are generally bright. In summer the temperature ranges from 70° to 85° F., with cooler nights. The prevailing winds, winter and summer, are northwest and southwest. The altitude and absence of forests and lakes contribute largely to the little humidity found in this region. There are also comparatively no morning and evening fogs, so common in many mountainous districts.

Local Treatment.—Special attention is given to the condition of the upper respiratory tract in all the sanitarium patients, whether suffering from tuberculous throat manifestations or not. This attention, it is believed, assists largely in the general good results obtained. The applications for tuberculous laryngitis consisted of such well-recognized remedies as creosote, lactic acid, ichthyol, iodoform, nitrate of silver, etc.

General Systemic Treatment.—This embraced suitable clothing, food, exercise, and the administration of medicinal remedies reputed to influence the pulmonary and general conditions, and indirectly the laryngeal lesions. The most important of these were beechwood creosote, creosotal, guaiacol valerianate, ichthyol, benzozal, arsenic, and tonics, also the hypodermic injection of horse serum. The latter was the antitubercle serum prepared at the Biochemic Laboratory, Washington, D. C., for the United States Government.

It was administered on alternate days, beginning with a dose of ten minims, gradually working up to a maximum dose of twenty minims. In case of high fever or irritation of the skin, the dose is diminished, and then again gradually increased. The mouth of the bottle should always be sterilized with heat before and after use. The serum is drawn out of the bottle by the sterilized barrel of the syringe; residual serum in the syringe should never be returned to the bottle.

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* Read before the American Laryngological Association at its twentieth annual congress.

The serum injections do not produce any immediate changes in the throat lesion, but that they do have a part in the ultimate results seems very possible. Dr. Stubbert says in his report to the medical board: "By referring to the table I shall read to you it will be seen that during the past few months the results of serum treatment upon temperature, cough, expectoration, weight, and tubercle bacilli are far in advance of those of any agent we have used. I, for one, am not ready to pin my faith to serotherapy in tuberculosis; but in the face of such facts as are and have been lately presenting themselves before me daily, both in and out of the sanitarium, I find it necessary to cultivate a conservative spirit, lest I believe too quickly. With a common ground of climate, hygiene, food, etc., placing side by side patients treated with serum and other remedies, we are forced to acknowledge in incipient cases, with or without bacilli, that the percentage of good results in every way has been lately in favor of the former. Numerous cases, more advanced, that have not prospered under other treatment, have gained weight and reduced temperature under the serum."

The observations on the following cases extended over a period of from three to nine months, and were made by myself on the dates mentioned in the history of each case. The local treatment was carried out at my suggestion by Dr. Stubbert and his assistant at the sanitarium, Dr. Stephen Wells. I am also indebted to Dr. Stubbert for the notes of the pulmonary condition of the laryngeal cases, and his method of administering the antitubercle serum.

Case I.—Miss A. D. Examined first, December 20, 1897. Left vocal cord thickened, right cord ulcerated; grayish patch on mucous membrane in the interarytænoid space; voice hoarse; considerable laryngeal tickling and cough. Pulmonary trouble, incipient in the right apex with tubercle bacilli. Treatment: Dobell's solution, followed by peroxide of hydrogen daily, and the local application of No. 2 creosote solution three times a week.

February 8, 1898.—Thickening of left cord very slight; ulceration on right cord healed; no longer hoarse.

April 10th.—Grayish interarytænoid patch disappeared, leaving some thickening; no ulcerations. Cough much better; voice normal. Condition of apex of right lung much improved. No bacilli; increased in weight sixteen pounds. General condition excellent.

Case II.—W. S., October 30, 1897. Mucous membrane covering both arytænoids and interarytænoid space much thickened; several papillomata and a moderate-sized ulcer at the base of left arytænoid cartilage; voice hoarse; general condition poor. Consolidation of upper lobe of right lung, with evidence of a disseminated process in other parts of right lung. Infiltration in region of left nipple. Treatment: Dobell's solution and peroxide of hydrogen daily. Twenty-five-per-cent. solution of orthochlorophenol in glycerin twice a week to the ulcer.

December 7th.—Laryngeal thickening the same; ulcer smaller; voice and cough the same. Orthochlorophenol produced some irritation, and was reduced to four per cent. solution.

March 6, 1898.—Laryngeal thickening the same; ulcer quite small; cough better; voice more certain; general condition improved. Orthochlorophenol stopped. Twenty-grain solution of nitrate of silver ordered twice a week.

April 10th.—Laryngeal thickening much less; ulcer healed; voice better; tones more sustained; cough greatly improved; general condition good; weight increased nine pounds; left lung has cleared up; on the right side has now only some consolidations of right upper lobe.

Case III.—Mr. P., October 30, 1897. Two points of ulceration on right margin of epiglottis; hoarse at times; slight laryngeal cough; has advanced trouble in right lung extending downward on a line with the nipple, and incipient trouble in left apex. Treatment: Dobell's solution daily, No. 2 creosote solution twice a week.

December 7th.—Ulceration healed; cough slight; no longer hoarse; general condition improved.

March 6, 1898.—Same as last notes.

April 10th.—Right arytænoid cartilage slightly red; general condition excellent; gain in weight ten pounds; left apex cleared up, and infiltration on right side extends only to second rib.

Case IV.—Miss H., October 30, 1897. Interarytænoid space thickened and red; no ulceration; slightly hoarse at times; has advanced trouble in right apex, incipient in left apex. Treatment: Dobell's solution daily.

March 6, 1898.—Thickening in interarytænoid space less.

April 10th.—Larynx healthy in appearance; voice natural; gained three pounds since last note. Trouble on left apex disappeared, right apex improved.

Case V.—Mr. F., October 30, 1897. Thickening in interarytænoid space; ulceration on both ventricular bands; voice very hoarse; considerable pain on swallowing; had advanced trouble on both upper lobes and signs of softening on left side. Treatment: Dobell's solution daily, No. 2 creosote solution three times a week.

December 7th.—Ulcerations healed; voice and cough improved; dysphagia less.

March 6th.—Condition about same as at last note. No pain on swallowing.

April 10, 1898.—Very slight interarytænoid thickening; voice improving steadily. Pain, which had continued over fifteen months, entirely disappeared. Pulmonary signs no longer active; general condition much improved; has gained fifteen pounds since admission.

Case VI.—Mr. E., October 30, 1897. Arytænoid cartilage and vocal cords red; voice hoarse; advanced trouble in upper left lobe and incipient in right upper lobe. Treatment: Dobell's solution and No. 2 creosote solution.

December 7th.—Cords red and thick, and present minute ulcerations along their margins; hoarseness very great, and considerable pain on swallowing.

March 6, 1898.—Both vocal cords present a worm-eaten appearance; cough, hoarseness, and pain much worse. Ordered twenty-five-per-cent. solutions of lactic acid twice a week.

April 18th.—Cords thick; ulcerations much improved; considerable granulation tissue in larynx; hoarseness continues; cough and pain improved. Pulmonary conditions improved, also general condition.

Case VII.—Miss M., December 7, 1897. Thickness and redness of interarytænoid space; occasional hoarseness; infiltration in right apex; tubercle bacilli. Treatment: Nitrate of silver, twenty grains to ounce.

March 6, 1898.—Thickening and redness in larynx less.

April 10, 1898.—Larynx normal in appearance; pulmonary conditions improved; no bacilli.

Case VIII.—Mr. H., October 30, 1897. Cords slightly thickened and red; intermittent hoarseness; infiltration in right apex with bacilli. Treatment: Dobell's solution and ten-grains-to-the-ounce solutions of nitrate of silver.

December 7th.—Cords normal; voice natural.

March 6th.—No laryngeal symptoms.

April 10th.—No laryngeal symptoms and no bacilli.

Case IX.—Mr. J., January 22, 1898. Several papillary growths in interarytænoid space and grayish patch on its mucous membrane. Consolidation on left side to nipple, infiltration in right apex. Treatment: Twenty-grain solution of nitrate of silver to interarytænoid space.

April 10th.—Papillary growths less in size; grayish patch about the same; pulmonary and general appearance improving; weight increasing.

Case X.—Miss D., December 20, 1897. Interarytænoid thickening; very hoarse at times; had infiltration in right and left apices. Treatment: Solution nitrate of silver to interarytænoid space and spray with Dobell's solution.

April 10, 1898.—Larynx much improved; hoarseness better.

Case XI.—Miss R., December 12, 1897. Arytænoids and both cords thickened and red; voice hoarse. First stage of phthisis in upper lobes of both lungs. Treatment: Dobell's solution and No. 2 creosote solution.

March 6, 1898.—Laryngeal infiltration increasing; speaks with a hoarse whisper, and when discharged, April 1st, there were signs of breaking down under the right clavicle, and larynx was unimproved.

Case XII.—Mr. F., December 7, 1897. Left arytænoid considerably swollen, also posterior pharyngeal wall; advanced trouble in right lung apex to base, incipient on the left side. Treatment: No. 2 creosote solution. This patient passed from under our observation, but we ascertained that the disease spread rapidly in the throat and lungs until his death, April 1st.

Case XIII.—Mrs. P., August 20, 1897. Thickening in posterior commissure and several small spots of ulceration. Small ulcer on posterior end of right cord, also on the anterior wall of trachea just below the cords; tips of arytænoid cartilages red and slightly swollen. Quite hoarse, and considerable laryngeal cough, owing to accumulation of mucus on upper part of trachea and the posterior commissure. Both apices infiltrated and passing to the advanced stage of pulmonary tuberculosis. Treatment: Locally, Dobell's solution, followed by peroxide of hydrogen and No. 2 creosote solution.

October 30th.—Little interarytænoid thickening and several granulations; no ulceration in the larynx or trachea; occasionally hoarse; gained fourteen pounds.

December 7th.—Larynx looks healthy, and all active symptoms have subsided.

March 6th.—Recently had a slight attack of influenza, followed by return of temperature and signs of renewed trouble in right apex and a small ulcer in the interarytænoid space.

May 1st.—The pulmonary and laryngeal activity has entirely ceased, and the patient seems perfectly well, having gained ten pounds since the first note was made.

Case XIV.—Mr. W., December 30, 1897. Ventricular bands swollen and œdematous; large ulcer on left cord; voice hoarse, and considerable pain on swallowing and talking; advanced trouble in upper right lobe and incipient in left lobe. Treatment: Dobell's solution and No. 2 creosote solution.

February 22, 1898.—Ulceration covering both ventricular bands, all symptoms worse; ordered lactic acid to be applied instead of the creosote.

March 6th.—Arytænoid cartilages, epiglottis, in fact, the mucous lining of the larynx appeared to be entirely dotted with fine point ulcerations; general and local symptoms all worse, and pulmonary trouble increasing. Died early in April of advanced laryngeal and pulmonary tuberculosis.

Case XV.—Miss R., October 30, 1897. Vocal cords and bands thickened; large superficial ulceration covering both bands, especially the left; also two ulcers on interarytænoid space; is very hoarse, and has considerable pain and difficulty on swallowing; has increased vocal resonance and prolonged expiration, with dullness over apex of right lung. Treatment: Apply No. 2 creosote solution twice a week.

December 7th.—Laryngeal ulcerations much lessened and covered with abundant granulative tissue; voice and laryngeal pain much improved; was discharged early in January, 1898, much improved.

Case XVI.—Mr. S., October 30th. Interarytænoid space thickened; superficial ulcerations on posterior margins of both cords and on the anterior wall of the trachea; hoarse, especially at night; had advanced tuberculosis on upper lobes of both lungs. Treatment: Cleanse throat and apply No. 2 creosote solution twice a week.

December 7th.—Laryngeal ulcerations healed; voice natural. Died January 10, 1898, of pulmonary œdema and angina pectoris.

Case XVII.—Miss L., December 9, 1897. Mucous membrane in interarytænoid space red and swollen, and presenting several small superficial ulcers; voice hoarse at times; had advanced trouble in both apices. Treatment: Apply creosote twice a week.

March 6th.—Ulceration healed; voice improved.

Case XVIII.—Mr. D., March 6th. Right arytænoid very much thickened, left moderately so; both cords red and thick; mucous membrane in upper part of trachea very red; incessant laryngeal cough. Ordered solution of nitrate of silver, twenty grains to ounce, to be applied every other day to the larynx. The laryngeal symptoms improved very much, and he was discharged four weeks later, having gained fourteen pounds in three months.

Case XIX.—Mr. C., October 30, 1897. Arytænoid cartilages swollen; edge of right cord ulcerated; epiglottis congested; voice harsh, and some difficulty in swallowing; has infiltration of both upper lobes of lungs. Treatment: Dobell's solution, nitrate of silver, and No. 2 creosote solution.

April 10th.—Ulceration in larynx less, and a good deal of granulation tissue present; general condition improved.

A brief *résumé* of the interesting points of these histories shows the following results: Laryngeal ulcerations healed, eight cases; laryngeal ulcerations improved, two cases; laryngeal ulcerations unimproved, two cases; laryngeal thickenings improved, seven cases.

The subjective symptoms also show marked improvement, the voice returning to its normal tone in several instances, and the laryngeal cough and irritation entirely subsiding. Relief of pain was also marked, especially in one case, when it had been very severe for fifteen months. In every case of laryngeal improvement the pulmonary involvement also showed equal gain, and the generally improved condition was marked by a universal gain in weight. A more critical examination between the laryngeal and pulmonary conditions will show their great dependence one upon the other, ulcerations occurring only when the pulmonary disease is active or in the advanced stage, and the location of the laryngeal ulcerations corresponding in nearly every instance with the lung which is most affected.

In conclusion, I wish to state that, although the patients for this report were specially selected for admittance to the sanitarium, the results have been most encouraging as showing what may really be attained. I have always felt that most of the reports by throat specialists did not represent all that might be done, as their observations have usually been made in large cities, and often in climates very unsuitable for such cases.

From my observations I am led to believe that if special attention is given to the upper respiratory tract in every tuberculous patient that the frequency of laryngeal tuberculosis will be diminished. Furthermore, that when patients with tubercular laryngitis can secure competent throat treatment early, with suitable climate, excellent results may be expected.

7 East Fifty-fifth Street.

THE PREVENTION OF SORE NIPPLES.

By J. MILTON MABBOTT, M. D.,
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It is a favorable sign of the times that it is becoming fashionable for a mother to nurse her own child. Maternal lactation went out of fashion, it is fair to presume, partly because of the suffering involved, resulting largely from sore nipples. The mother in many instances endured the pain for two or three weeks only to find that after all her suffering she lost her milk, or its quality had depreciated as a natural consequence of her own increasing neurasthenia. In occasional instances the sore nipples led up directly to mastitis, requiring incision and numerous dressings, with all their additional shock and suffering. The woman who had not experienced this martyrdom knew of some one else who had, and is it any wonder if she preferred to have her baby nursed in some other manner, even at some risk to the baby?

The treatment of sore nipples is more successful than formerly. The prevention of mastitis, or its cure without suppuration when seen early, may be so uniformly accomplished in these days that certain practitioners are careless in regard to the nipples prior to lactation. A friend of mine recently read a paper on the treatment of sore nipples and mastitis based on a large experience, and in the discussion expressed the opinion that preparatory treatment of the nipples was scarcely worth while. But a large experience with sore nipples spoke volumes to the contrary. How much suffering might have been escaped! In how many instances might the secretion of milk have been preserved! How many infant lives, ultimately lost, might have been saved!

From the foregoing I do not wish to have it inferred that I am ignorant of the fact that text-books and journals are not silent on this subject. I merely wish to emphasize its importance, and particularly to present a simple and efficacious method which has proved usually successful in my practice—I may say *unusually* successful, for I have seen less gratifying results from other methods. The method is based upon suggestions made to me some years ago by Dr. E. L. Partridge. It is so successful that recently I have used no other, and it is to this method only that I desire to draw attention. I refer to the use of lanolin and a nailbrush.

Lanolin, as is well known, is simply sheep's wool fat mixed with a small percentage of water. It is official under the name of adeps lanæ hydrosus, and is well described in Potter's *Materia Medica.* The article manufactured by the process of Liebreich is the preparation usually dispensed. My regular prescription is as follows:

℞ Lanolin (Liebreich) .... ℥j.
Dispense in glass or porcelain screw-cap jar.
Sig.: For external use every night.

The patient is instructed to begin its use from four to six weeks before the expected date of confinement and continue until delivery. Every night at bedtime a small portion of lanolin is thoroughly worked into each nipple with the thumb and fingers, special pains being taken to rub it well into any folds or crevices, especially in the case of depressed and sunken nipples. This kneading process has the effect of forming the nipple—partly by pulling it out and partly by causing erection—and this in itself develops the nipple and promotes facility of nursing. I consider lanolin superior to other substances which might be used for this purpose by reason of its combined adhesive and penetrative qualities, promoting the nutrition of the epidermis. However, perhaps the most useful purpose of the lanolin is associated with its moral effect in furnishing a substance to remove in the morning by the second and more important step of the treatment. Lanolin resists saponification and requires considerable time for its removal.

The nailbrush should be soft and well soaked. A harsh brush at the beginning would have the effect of a file. It is desired to avoid causing abrasion at any time. If soreness is produced, the treatment has been too heroic. The nipple should be brushed with lukewarm water and any mild, pure soap (preferably a white soap), giving it a thorough lathering for three or four minutes. It should afterward be rinsed with fresh water and dried as after ordinary bathing. The effect of this treatment is to remove every detachable fragment of epithelium, together with any little crusts of dried secretion which may possibly have accumulated, and which, unless removed, act as a protection to the surface of the nipple and keep it tender and delicate.

The treatment here described exposes the surface not only to the friction of the brush, but also of the fingers in applying the lanolin, and still further to the contact and more or less rubbing of the clothing during the day. All these agencies combined, secured in so simple a manner, develop the cuticle, render it firm, elastic, and resisting, and produce a useful nipple which may be almost guaranteed against subsequent abrasions and tenderness. No woman should consider it too troublesome, in view of the suffering and dangers which thus may be averted.

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THE MECHANICAL TREATMENT OF IMPOTENCE IN THE MALE.

By B. SCHEINKMAN, M. D.

I consider it of some interest to the profession to communicate the results of several years of diligent and careful study of a very common and exceedingly distressing affection, generally known as "male sexual impotence." This comprises inability for copulation owing to a lack of erectile capacity of the male sexual organ, one of the most distressing and obstinate, although in the majority of cases purely functional, affections of a large portion of civilized mankind. I say "civilized," for according to the best authorities on the subject, and as a result of my personal observation, I find that the particular form of impotence to which I allude is most generally met with among the more intelligent and refined members of society, or those whose avocations are of a mental or intellectual character; while with the classes of a lower standard of intellectual and moral capacity, or with the purely physical laborer, it is, on the contrary, of rather infrequent occurrence.

We find in the text-books that male sexual impotence is divided into two main classes: the organic or true, and the functional, nervous, or false impotence, as it is sometimes called. Of these, the latter, being by far the most prevailing and the most complicated in its nature, is most deserving of our attention, especially since it plays an important part in the welfare of our moral and social relations, and its curative treatment is, moreover, not only possible but often essential for the preservation of life. I do not believe I exaggerate in saying "life-saving," for there is very little doubt in my mind that a large proportion of our "tired-of-life" suicides, to say nothing of divorces, adultery, and criminalism, is frequently either directly or indirectly related and traceable to these affections. Upon referring to so excellent an authority as the great work of Van Buren and Keyes, in treating of this subject, we read: "Under these circumstances the patient is driven to thoughts of suicide, urged on by that morbid depression which always in the male accompanies a consciousness of sexual incapacity, be that incapacity functional or real."

I further find after careful investigation that there is a much greater number of sufferers from this particular form of impotence than is commonly known (for there is a peculiar and strange tendency with this class of patients to keep it a secret even from the physician), and that the evils of this affection are much more profound and serious in nature than it would at first sight appear to us. Close observation also shows that it has a great bearing upon the moral as well as social life of the individual thus affected whose condition becomes nothing short of pitiful. It is characterized by extreme irritability, melancholy, loss of courage, aims and ambitions of life; the patient often neglects his personal interests and duties, and thus becomes not only a burden to himself, but frequently also to his community. Others again, in order to ameliorate their condition, resort to all sorts of immoral and vicious practices, as self-abuse, etc. I have no doubt that those of the profession, who have ever sufficiently interested themselves with these cases, will fully corroborate me in the above description, a still more serious feature of which is its obstinacy and inamenability to any existing treatment.

In the face of these facts the question naturally arises, What is to be done in these cases? They seek relief, and I think are fully and justly entitled to our earnest and serious consideration, as much as any other class of patients whom we are so eager to relieve in every way and manner. But unfortunately, as I said before, almost all the remedies and medicines recommended for these cases I find of very little real value in a great majority of them, and we are frequently forced to assume the rôle of helpless spectators of the miserable condition of our patients while fully conscious of the fact that the affection is merely functional, or very often only imaginary, in origin, since in some cases we have plentiful evidence as to the patient's virile capacity—viz., that he often awakes with an erection; that he occasionally experiences an erection under the influence of an amorous thought; while some are able to beget an erection by masturbation, and yet on attempting a normal intercourse the organ fails to respond. As Dr. Van Buren and Dr. Keyes express themselves: "The patient can do everything except that he can not rely upon an erection at the critical moment." And the greater the number of failures or unsuccessful attempts at copulation he has experienced, the stronger becomes the hold upon his imagination of his irremediable incapacity for sexual intercourse, and the more remote becomes the possibility of ridding him of this conviction; hence the great difficulty of treatment.

According to Van Buren and Keyes, Roubaud, Gremand de Caux, and other equally competent authorities, the main object to attain in the treatment of these cases is to inspire the patient with complete confidence in his capacity for sexual intercourse, and that his organs of generation are capable of responding to their natural stimuli; this being accomplished, the charm is broken, the mind clears up, and complete recovery is established. But this I found an extremely difficult task with the majority of these cases, for this class of patients are exceedingly skeptical to all suggestions and promises, and the best and most skillful tactics the physician may exercise in endeavoring to dispel the patient's morbid convictions are very seldom crowned with success. After a considerable experience with disappointments, I finally came to the conclusion that something more rational, more practical, than mere tactics is required here; that some immediate and positive demonstration as to their capacity for copulation was needed; while the more obstinate cases may require not alone psychic convictions, not only one such demonstration as to their capacity, but repeated successful copulations in order to overcome a long-standing impression, and perhaps a real asthenia of the organ, the result of prolonged inactivity, such as would be in the case of any other organ disused for a long period, which would certainly call for repeated exercise in its natural function in order to regain its normal capacity.

But how is this to be attained? In what way, and by what means? Before attempting to answer this question we shall first endeavor to form a clearer idea as to the real nature of this perversion of function, and in order to do this we must first direct our attention to the physiology of a normal erection. As is well known, it is a phenomenon of the involuntary type, and consists of an influx of blood, or a state of congestion of the organ, brought about by certain vasomotor disturbances of its vessels. This congestion is induced by either central or peripheral irritation, or both, causing a dilatation of their calibre (thus accounting for part of the plethora), with the addition of another simultaneous action produced by the same influences upon the innervation of the erector penis muscle which causes it to contract upon the roots of the corpora cavernosa and probably some other blood channels, whereby the return circulation from the organ is prevented or retarded, thus completing the mechanism.

In contemplating the phenomena which comprise an erection, our attention is soon attracted by the close analogy of similar though less complicated phenomena seen in other regions of the body also caused and produced by similar vasomotor changes; as, for example, the spontaneous congestion of the face commonly known as blushing, induced by certain psychical conditions, as shame, anger, excitement, etc., or the sudden anæmia or pallor of the same part, caused by other conditions, as fear, surprise, and so forth. It will also be noticed that some of the above influences are more or less uncertain in their effects upon the vasomotor mechanism, and consequently not always constant in their respective manifestations. Anger or excitement, for instance, will vary in their reaction upon the face according to their degree of intensity. Thus moderate anger or excitement will almost invariably cause a flushing of the face; but let the degree of these influences reach a higher point of intensity or assume the stage of rage, and the condition will immediately be supplanted by pallor. The same can be said of surprise and shame.

The reaction upon the face will also depend upon the number and kind of influences acting simultaneously. Thus a moderate excitement when accompanied by fear will result in either one or the other reaction according as to which agent is the preponderant element. It is also an established fact that a normal erection in man, especially of the intelligent type, can only be effected under the most favorable psychical conditions, as perfect quietude of mind, entire freedom of moral impingement accompanied by a moderate venereal impulse, or, in other words, there must reign a complete moral and physical harmony at the time; any disaccord or disturbance, as fear, shame, or surprise, is apt to prevent an erection; in fact, a too ardent sexual impulse is frequently followed by a failure on the part of the organ to respond, thus constituting temporary impotence. It seems, therefore, highly probable that the phenomenon of an erection is merely one of a variety of identical and similar ones in other parts and regions of the body, and is consequently subject to similar psychic influences with their variations as to degree and kind; and that venereal excitement, being uncertain in its effects upon the sympathetic system of nerves, is liable to result in either congestion or anæmia, or, in other words, in either erection or impotence in various cases and under various circumstances. As a matter of fact when under an excessive venereal excitement no erection takes place, as is often the case, the organ will be found extremely anæmic as shown by the unnatural flabbiness, softness, and even shrinkage, usually described by the patients, here again bearing a strong similarity to the manifestations in the face.

These facts collectively prove to us beyond a doubt that psychical influences exercise a very important control over our generative function; and that the majority of the so-called cases of "impotence" are merely physiological manifestations caused or induced by psychical abnormities which, when of long duration, enter into and become deeply impressed by habit, the "second nature," hence the difficulty of overcoming it.

In view of the above considerations, all that would seem to be necessary in order to restore normal function is some method or device which would enable the flabby, soft penis to be brought into contact and friction with the female canal, thus giving it its strongest possible natural reflex impulse which would overbalance and counteract the antagonistic psychical ones, and restore to it its natural function. Such a method would supply the missing link; and with this object in view, after a long struggle with all sorts of obstacles, I finally succeeded in constructing such a device which I subsequently found of considerable practical value in these cases, having proved itself satisfactory with a number of my patients.

The accompanying figures fully illustrate the instrument as well as the *modus operandi.*

It consists of two soft and at the same time resistant longitudinal plates, concavo-convex in section, and united anteriorly so as to form an elastic collar-like opening, at the circumference of which is attached a highly elastic rubber tubal sheath (provided with a ring at its free extremity to facilitate the rolling in of the sheath when in the process of application, Fig. 1). The object of this sheath is to keep the two plates *in situ* when inclosing the flabby organ with the glans penis protruding through the anterior opening, and also to give it a smooth round contour, thus maintaining the flabby organ in such a state as to allow of its introduction into the vagina, which would otherwise be impossible of accomplishment. As is well known, the glans penis is the main surface of distribution of the nerve-end filaments of sexual sensitiveness, and by being thus brought in contact and friction with the internal surface of the canal, its secretion would, in all probability, convey to the organ its strongest possible natural reflex impulse—an impulse sufficient to counteract any psychical or imaginary drawback, and to stimulate the organ to its natural function, when the instrument can be instantly removed and natural coitus continued. In more obstinate cases, however, the experiment may have to be repeated several times before an unaided natural intercourse can be established.

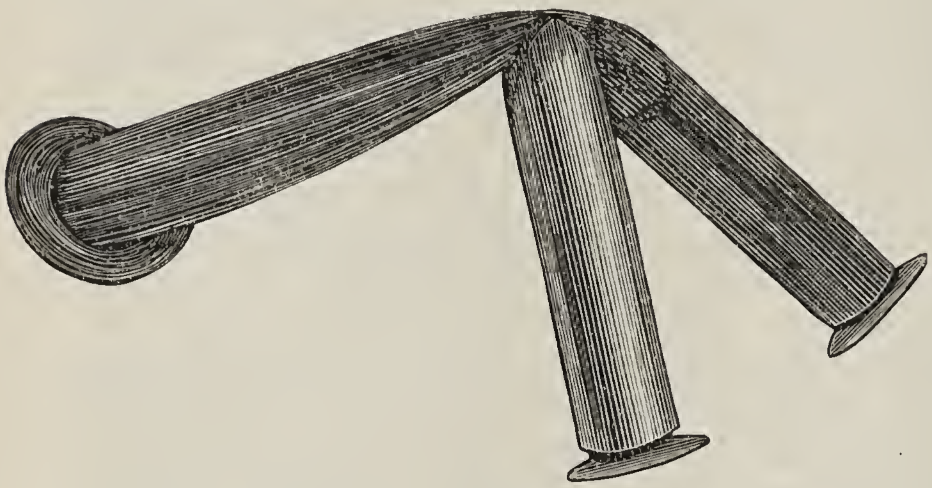
FIG. 1.

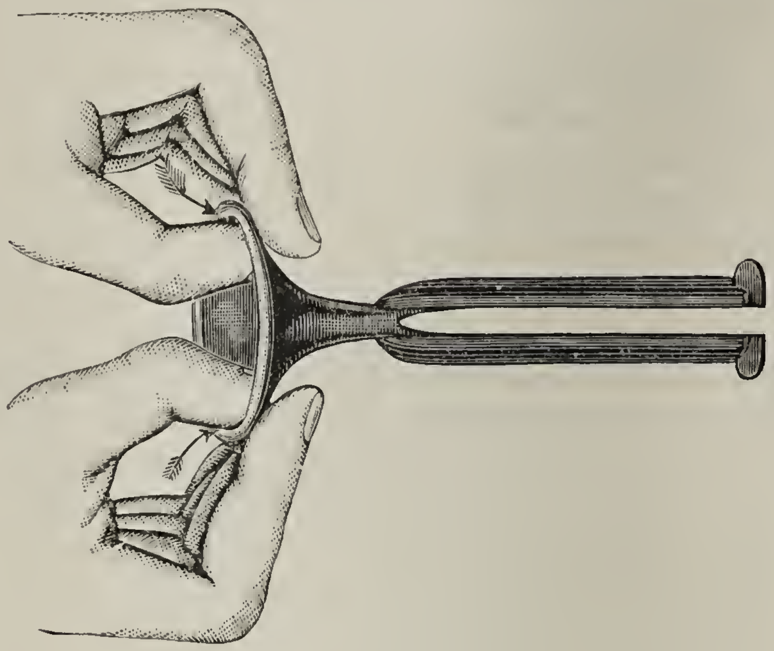
FIG. 2.

To the opposite sex the presence of this instrument is hardly perceptible, for its construction and consistence simulate the anatomical arrangements of the erected penis to such an extent that it differs very little if at all from a natural condition of the erected organ, whence its presence can be entirely withheld from the knowledge of the female.

Now as to the *modus operandi.* Grasp the ring between the thumb and forefingers and middle fingers of both hands on two opposite sides of the ring, and roll it inwardly up to the anterior opening of the bars, as shown in Fig. 2; then grasp the two bars in both hands and enlarge the opening of the bars by stretching them apart while with both thumbs pushing the head of the penis (previously exposed from the prepuce) through the opening, in the manner described in Fig. 3;

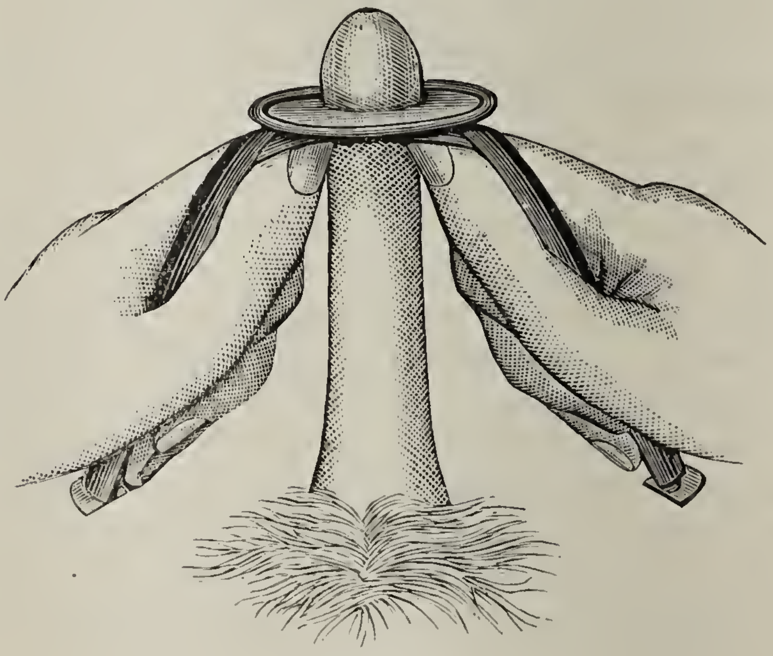
FIG. 3.

then steady the gland with the thumb and forefinger of one hand and with the other roll the ring over the bars that inclose snugly the organ, until the whole organ is completely covered by the sheath, as in Fig. 4.

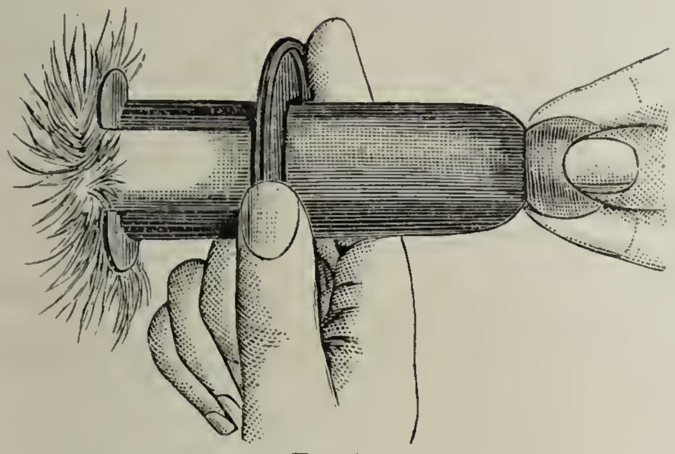

Fig. 4.

So much for its application. Its removal, however, is a much simpler manipulation, as will be readily understood by taking hold of the ring and simply pulling it in the opposite direction until the sheath is completely off the organ; then pull or stretch the bars apart as wide as necessary to painlessly remove the gland through the anterior opening in a backward direction. It may, however, require a slight lubrication of the posterior third of the sheath by either vaseline or glycerin previous to the attempt at removal of the sheath, which may otherwise in inexperienced hands prove difficult.

For the purpose of convenience in referring to the instrument, I have named it "Potentor," which name I consider most proper as suggesting its nature (from *potentia*), and it can be obtained from Mr. J. Herbith, No. 81 Mott Street.

THE POINTS OF DISTINCTION BETWEEN CEREBRAL SYPHILIS AND GENERAL PARALYSIS OF THE INSANE.

TWO LECTURES DELIVERED TO THE MEDICAL STAFF OF THE ILLINOIS EASTERN HOSPITAL FOR THE INSANE.

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Lecture II.

As before emphasized, the indications of syphilis are generally in the form of somatic signs, and I may say again that in the majority of instances these signs are such as indicate focal disease. In fact, to repeat, here lies the gist of the whole matter. Given a mental state, a dementia, that will harmonize with the diagnosis of general paralysis, the question is, are there any local symptoms that in character and course will accord with a diagnosis of brain syphilis? This has certainly been apparent in what I have said regarding the cranial nerves, and will be equally so in what follows regarding other somatic signs. Even when specific brain disease causes a generalized weakness—a general paresis, or perhaps I should say a generalized paresis—it either runs so rapid a course, approximating an acute infectious disease, that confusion with general paresis is hardly possible, or, after some little time, there is an intrusion into the general motor trouble of some well localized affection that stamps the nature of the disease upon the symptomatology; for syphilis is, before almost all other diseases, one of focal attack, dementia paralytica a generalized brain affection of graduated progress, sometimes broken by episodic interruptions more or less transient.

So any symptom whatever pointing to a distinctly localized brain lesion would indicate syphilis rather than general paralysis, and all the more emphatic would be the testimony of multiple focal disease. Equally conclusive with the latter are symptoms indicating the gradual extension of a gross lesion. I have already spoken of this in connection with cranial-nerve symptoms, and the same applies to syphilis of the convexity of the brain. For instance, a weakness of one leg known to be of cerebral (not spinal) origin, to which is gradually added a weakness of the other, would mean an extension of a cortical process (gumma or meningitis) across the median line of the vertex to the other leg centre. A paresis of the face that gradually extended to the arm and then the leg of the same side would indicate a pathological condition starting in or near the face area and from there encroaching in succession upon those for the arm and leg lying above. The same principle applies to gradual extension of localized spasm or focal fits, which will be again spoken of. At first the attacks may be limited to the face; then, coincident with the spasm, aphasia appears; later, the arm becomes involved, and finally the leg. The interpretation of such a course of events would be gradual invasion of adjoining areas by some cortical lesion—that is, in our dilemma, cerebral syphilis and not general paresis.

Charrier and Klippel * say that a weakness of the face and arm on one side (a frequent result of cerebral syphilis), followed by a like paresis on the other side, or a hemiplegia followed by paralysis of the opposite side, is pathognomonic of syphilis. The statement is not to be accepted literally as made, for the same sequence may and does occur from ordinary arterio-sclerosis, but for our present purpose it may be taken absolutely, such a succession of focal symptoms being entirely foreign to the nature of general paralysis.

Hemiplegia may be a symptom of general paresis or of brain syphilis, but the antitheses of the condition in the two cases are striking. The one-sided weakness of paretic dementia invariably comes on as a part of an apoplectoid or epileptoid seizure. There is loss of consciousness, some kind of a fit, and, when this passes off, some degree of hemiplegia is left over. A syphilitic hemiplegia, on the other hand, may (Mairet says generally does) come on without loss of consciousness, and frequently progresses "by jerks," by distinct increments, without any general disturbance. Although the hemiplegia of dementia paralytica makes its *début* with considerable fuss—not to say alarming symptoms—it is much more transient in character than that due to syphilis, after a few days or weeks being merely a slight weakness with few accompanying symptoms, as we shall presently see. Permanent, well-marked hemiplegia, then, does not belong to the symptomatology of general paralysis. Foville,* in recording a case of multiple gummata that was diagnosticated and regarded for a year as general paralysis by competent men, remarks that he never had seen a case of general paresis with enduring hemiplegia and could find only two in the literature. It is to be remarked, however, that a considerable degree of hemiplegia may be caused in dementia paralytica by the sanguineous effusion of pachymeningitis hæmorrhagica, and, furthermore, that meningeal hæmorrhage *may* be caused by syphilis (Spillman, Lancereaux, Brault, Müller, Dieulafoy, Charrier, and Klippel), in which cases the symptoms would be strikingly similar; but in either event the lesion belongs to an advanced period of the disease, when the differential diagnosis would be of no great value and less difficulty. A left hemiplegia (in a right-handed person) with aphasia is, with very few exceptions, due to multiple lesions and hence to syphilis, and this disease is also indicated if the hemiplegic side exhibit distinct rigidity and markedly increased reflexes. Indeed, Althaus thinks that in hemiplegia due to syphilis the knee-jerk is more exaggerated than in that due to any other cause. In this question of hemiplegia don't forget that a paretic dement may have bad arteries and hence ordinary cerebral hæmorrhage or thrombosis, the same as any other person, although such a complication seems less frequent than might be supposed. A three fourths paralysis—that is, paralysis of both legs and one arm—is born of a hemiplegia added to a paraplegia or *vice versa;* in any case it means a spinal lesion plus a one-sided cerebral lesion, which means syphilis and not general paralysis. In like manner symptoms of syphilis of the spinal cord may be taken as evidence that an existing brain disease is of a specific nature. This association is not rarely of assistance, for in a great number of the cases in which syphilis attacks the central nervous system both brain and cord are involved. In this connection, however, I must again remind you that general paralysis is a disease of rather uncertain type and indulges in many irregularities, and that, although bulbar and spinal symptoms, as a rule, exclude this disease, yet it may begin not only as locomotor ataxia but, on rare occasions, as lateral sclerosis, amyotrophic lateral sclerosis, combined sclerosis, or bulbar paralysis.†

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* *Rev. de méd.*, 1894, p. 771.

In other words, to reiterate, the examination must be careful and complete, and conclusions never drawn from one or two striking symptoms. For instance, the gait of true general paralysis may resemble that of almost any one of the different spinal-cord diseases; it may be spastic, paretic, ataxic, and often combines two or more typical gaits. The same may be said of the walk in cerebro-spinal syphilis. The gait, then, is to be admitted as evidence only in connection with other symptoms, although a very unusual, atypical, or peculiar gait is much more likely to belong to syphilis than to general paresis, because of the limitless variations of the former disease. With the more unusual abnormities of progression may be mentioned propulsion, retropulsion, lateropulsion, rotation, and constant deviation to one side, all of which may be looked upon as evidence in favor of syphilis rather than of paretic dementia. But here, again, there are exceptions. Bevan Lewis * reports a case of dementia paralytica with conjugate deviation of the eyes and rotation of the head to the right and, for a time, rotation (gyration) of the body from left to right, especially apparent on starting to walk.

Of the knee-jerk much the same may be said as regarding the gait. It may be absent, exaggerated, or normal in either disease. Of course, it is abolished in the cases of general paralysis accompanied by tabes, and on the whole is much more frequently absent in this disease than in syphilis, but the rule has many exceptions. It goes without saying, that involvement of the upper part of the lumbar cord by syphilis abolishes the knee-jerk, but it may be lost even when this part of the cord is spared. In this connection it is worth remembering that Thomsen † observed loss of the knee-jerk in ten cases of cerebro-spinal and tuberculous meningitis when there were no spinal lesions so located as to account for it, and that although in focal disease of the frontal lobes of the brain we expect to have the knee-jerk exaggerated, if at all affected, Williamson ‡ noted its absence in three out of five cases of this character. It is, then, the harmony or discordance of the patellar tendon reflex with other symptoms that is to be taken as evidence. A number of years ago Bettencourt-Rodrigues # particularly emphasized exaggeration of the knee-jerk, with loss of the plantar reflex, as an early sign of general paralysis. Queerly enough, I have at present under observation a typical case of spinal-cord syphilis with this very grouping of symptoms, and I see no reason why it might not be reasonably frequent. Exaggerated knee-jerks with outspoken ataxia, either of spinal or cerebellar type, would be evidence supporting a diagnosis of syphilis.

The trophic troubles of the two diseases fall pretty well under the general rule already noted—that is, local trophic disorder in syphilis, general in paretic dementia—but there are two notable exceptions. In the early stage of brain syphilis there is often a general and rapid loss of weight, a disturbance of general nutrition, which may amount to a veritable cachexia. This is exceedingly rare in general paresis, except in the advanced stages of the disease. Localized atrophy, especially if accompanied with reaction of degeneration, is due to local disease, and, as we have seen, this is evidence of syphilis and not of general paralysis. But the peroneal (external popliteal) nerve is particularly liable to be paralyzed in dementia paralytica, and this paralysis is often accompanied with atrophy and reaction of degeneration in the muscles supplied by it.* The occurrence of progressive muscular atrophy in general paralysis I have already spoken of. It has ordinarily been of the Aran-Duchenne type, but Mann † records a case in which the distribution of muscular wasting was exactly that of idiopathic muscular atrophy (myopathy)—viz., confined to the thigh, pelvo-femoral, and scapulo-humeral musculature. But in either case the disease is a systematic one, which is quite different from the fortuitous localization of syphilis. As repeatedly stated, syphilis observes no type except by accident.

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* *Ann. Medico-Psych.*, 1879, p. 353.

† Klippel. *Arch. de méd. expérim.*, January, 1894.

* *British Medical Journal*, May 2, 1896.

† *Berlin. Gesellsch. für Psych.*, May 10, 1886.

‡ *Brain*, 1896, p. 346.

# *L'Encéphale*, 1885, p. 170.

Othæmatoma and fragilitas ossium allowing of spontaneous fracture belong to general paralysis. Of course, the latter (spontaneous fracture) would be possible in the presence of a gummatous osteomyelitis, such as that reported by Róna,‡ in which occurred spontaneous fracture of the right humerus, of the right acromion, and of both forearms, with spontaneous amputation of the left leg in its upper third. The lesions in such a case, however, are so grossly palpable as to be scarcely pertinent to the present question.

Outspoken sensory disturbance is, beyond all comparison, more frequent in brain syphilis than in general paralysis of the insane. The almost pathognomonic headache has already been discussed, as well as some other pains, but any well-developed sensory disorder, be it pain, paræsthesia, anæsthesia, analgesia, or hyperæsthesia, local or general, permanent or transient, is evidence of considerable weight for syphilis and against general paresis. Fournier has particularly described what he calls "cerebral pains of the extremities," and Mairet calls especial attention to attacks of gastralgic pain as a symptom of brain syphilis. Seeligmüller # considers of some diagnostic importance plaques of anæsthesia on the face, most frequently observed about the corners of the mouth and not rarely symmetrical. He has found them only in brain syphilis and in hysteria, and in my opinion here lies the point of doubt. These anæsthetic spots have been described also by Fournier, I think, and other Frenchmen, but it has always been a question if they were not due to the coincidence of hysteria. There are, however, two disorders of sensation that are frequent in general paralysis. The first is analgesia of the legs. Even very early in the disease, it is not so very unusual that a pin can be thrust through the skin of the leg without causing pain, and this when the tactile sense is practically normal. I have not been able to find this loss of pain sense in cerebral syphilis nor have I seen it often mentioned by others. The other comparatively frequent sensory symptom of dementia paralytica—also absent in syphilis—is analgesia of the ulnar trunk, first described by Biernacki * as a symptom of tabes.† Just how frequent it is in general paresis is not yet determined, but it is certainly more often found in this disease than in any other except locomotor ataxia.‡

Polydipsia and Polyuria.—These are a pair of signs that may be of use in distinguishing syphilis from paretic dementia. They are two of the manifestations of the former disease and are particularly frequent in syphilis of the base, Oppenheim # having observed them in eleven or twelve of thirty-six cases of syphilitic basilar meningitis. Like so many other symptoms of lues the condition is apt to be inconstant and variable.

Bulimia is considered to be rather a symptom of general paralysis than of syphilis, but it has been observed in the latter affection,‖ and I think may be neglected so far as diagnostic worth is concerned. Vomiting, on the contrary, especially if of the cerebral type (that is, projectile and without nausea or great gastric distress), is strong evidence of gross brain disease, and consequently, in our present quandary, would, if persistent, compel a diagnosis of cerebral syphilis.

Tremor of almost any kind may be found in either affection, and yet distinctions are sometimes possible. The trembling of general paralysis, in accordance with the pathology, is more or less general; that of syphilis, caused as it is by single or multiple focal disease, may be neatly localized. A monoplegic tremor (tremor of one extremity) therefore, rapid or slow, would designate syphilis as the cause, and, as Aparicio △ some years ago pointed out, pronounced trembling of the hands, the tongue being steady, indicates the same disease—

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[*] Pick. *Berlin. klin. Wochens.*, 1890, No. 47.—Moeli. *Neurol. Centralb.*, February 1, 1895.

[†] *Allg. Zeits. für Psych.*, vol. liii, p. 397.

[‡] *Arch. für Derm. und Syph.*, vol. xxxiii, p. 61.

[#] *Krankh. des Rückenm. und Gehirns*, 1887, p. 723.

[*] *Neurol. Centralb.*, April 1, 1894.

[†] It is just possible that a word of explanation regarding this symptom may not be amiss. When the ulnar nerve, where it passes between the condyle of the humerus and the olecranon, is forcibly pressed against the condyloid ridge—a manœuvre not difficult of execution—there is, in the vast majority of normal persons, not only a "pins-and-needles" feeling in its distribution, but also considerable pain at the point of pressure. It is the absence of this pain that is diagnostic. It is frequently wanting when the paræsthesia in the distribution of the nerve is present.

[‡] Cramer. *Münch. med. Wochens.*, July 10, 1894; *Neurol. Centralb.*, July, 1894, p. 500.—Hillenberg. *Neurol. Centralb.*, April 15 and May 1, 1895.

[#] *Die syphilit. Erkrank. des Gehirns*, 1896, p. 53.

[‖] Darier. *Manuel* of Debove-Achard, Paris, 1894.

[△] *Étude sur le tremblement syph.*, Thèse de Paris, 1872.

particularly if it appears suddenly or comes on rapidly. On the whole, the tremor of syphilis is considerably coarser than that of general paresis, and the universal fine vibratory tremor (vibration) sometimes observed in the latter disease is almost unknown in the former. The syndrome of paralysis agitans, however, the tremor of which is decidedly slower than that just mentioned, may be caused by syphilis, but not by general paralysis.* It is possible for post-hemiplegic chorea and athetoid movements to appear in general paralysis, but if they are very lasting and well developed they are to be taken as indicating syphilis. Tremor of the tongue and lips will be considered presently.

Temperature.—As we shall see later, increase of bodily heat is of some diagnostic value in connection with the various fits occurring in dementia paralytica, but even in the quiet course of this malady the thermometer may give some indication of its nature. The temperature not seldom shows a "mercurial facility of change," as Mickle expresses it; a preternatural disturbance from very slight or undiscoverable cause, and, especially in the rapid cases, there is often a considerable evening rise. These changes are not found in brain syphilis, even syphilitic meningitis causing no fever; but should the bulbo-pontine region be attacked, an apparently causeless elevation up to 101.5° may be observed, and both Zambaco and Reade have reported cases of cerebral syphilis with symptoms like those of intermittent fever.†

In this connection it should be noted that these cases were observed when thermometry was far from being the routine procedure that it at present is, and the comparison may have been made from general symptoms alone. I have recently seen two cases and learned of another, in which the headache, backache, insomnia, anorexia, and general malaise (in one case sore throat) of cerebral or cerebro-spinal syphilis led to a diagnosis of influenza.

Disorders of Speech.—As a set of symptoms mostly somatic, but partly psychic, I may mention here a few diagnostic indices connected with speech. Needless to say, a very careful examination may be necessary to determine the exact nature of an existing speech defect, and I have often known some degree of sensory aphasia (word deafness, word blindness, etc.) to be mistaken for mental dullness and lack of attention—in other words, for a dementia which did not exist. In this country, too, where a goodly proportion of our patients are of foreign birth, it is necessary to guard against confusing an incomplete aphasia, sensory or motor, with an imperfect knowledge of the language.

Distinct aphasia can scarcely be said to be a symptom of general paralysis; it is frequent in cerebral syphilis. And this is quite as we should expect, in agreement with the general rule already laid down, for speech and its various divisions are about as well localized as any function of the brain. General paresis may announce its *début* by a gradual failure of the higher attainments and more complicated refinements of language: the writer suffers in style, the orator in eloquence, the ordinary individual in fluency and accuracy of conversation; but the inability to name familiar objects, understand elementary phrases, and express simple ideas belongs only to an advanced stage of the disease, as a part of complete mental and physical breakdown. In brain syphilis, on the other hand, loss of speech may be the very first intimation of brain disease, and is often among the earlier symptoms. Not only does it constitute an accompaniment of right hemiplegia, but is far from rare as an isolated symptom. It is apt to be more or less transitory, recurrent, and to appear suddenly without loss of consciousness. These characters at once stamp it as something perfectly distinct from paretic dementia. It is true that transient loss of speech may be found after the apoplectoid or epileptoid attacks of general paralysis, but in such a case the aphasia is evidently a part of the general physical and mental cataclysm and is easily distinguished from that due to focal disease of the speech centre. It is also true that aphasia has been reported as the first manifestation of general paresis, but most of such cases are open to criticism. Savage,* for instance, reports attacks of aphasia occurring four, five, and even nine years before the first symptoms of general paralysis were noticed, but it seems to me much more reasonable to suppose that the aphasia was due to the existent syphilis than to the subsequent general paresis. Charrier and Klippel † make the interesting statement that in the slight, transient, recurrent aphasia that is so characteristic of syphilis, it is apt to be (in the same individual) always lack of the same word that brings speech to a stop. The assertion appears to me to be born of the picturesque and pleasing style of some of our French *confrères* rather than of extended clinical study; but should it be found to be correct, such an isolated speech defect would certainly discriminate against dementia paralytica and for syphilis. In short, the earlier the aphasia occurs the more perfect it is; the more it appears as an isolated symptom or associated with purely somatic signs, the more is it a sure sign of brain syphilis.

The simpler imperfections of speech—indistinctness, bradyphasia, and bradylalia (slow speech), monotonous tone, and the like—are of no diagnostic significance. Mickle lays great stress on the difference between the speech in general paralysis and that of the brain syphilis that simulates it, saying that in the latter the disturbances are of a paralytic nature and in the former characterized by mingled weakness and incoordination, but this distinction appears to me to be too subtile and too uncertain for frequent practical use. Of course, the alalia of bulbar paralysis means syphilis.

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* Mickle. *Journal of Mental Science*, October, 1877.

† Quoted by Mickle. *Journal of Mental Science*, October, 1879.

* *Transactions of the Ninth International Medical Congress.*

† *Rev. de méd.*, 1894, p. 771.

Krafft-Ebing says that stumbling speech or syllable tripping (*Silbenstolpern*) is practically confined to paretic dementia, but I have been gradually giving less and less importance to this sign. It may be entirely wanting in incipient general paralysis, and I find it present not only in some cases of brain syphilis that closely resemble this disease, but also in such cases as are quite unlike it—in brain tumor and other diseases sufficiently removed from the organic psychoses. Still, it is doubtless much more frequent in general paralysis and often more pronounced in comparsion with other symptoms, so that in connection with them it is proper to give it considerable attention. The paralexia that consists of the insertion of irrelevant words is of about equal diagnostic value in indicating the same disease.

A great deal has been written about the incoordinate tremor or wavy fibrillary twitching of the lips and facial muscles in general paralysis, which may occur spontaneously, but is more frequently noticeable when the patient speaks or is about to speak. When full-fledged, the condition is undoubtedly of major value in excluding functional nervous trouble, but in the present question of diagnosis its value is less determinate. I, as well as others, have seen the symptom sufficiently clearly defined in brain syphilis, as well as other organic cerebral disease, and its importance, like that of so many other symptoms, would appear to lie largely in its association. That is, if there were no particular paresis of the parts involved and apparently no gross lesion of the speech centres, the condition would be a confirmatory sign of paretic dementia. Likewise, if the trouble had been one of gradual appearance and insidious growth, keeping pace with progressive mental impairment, the same conclusion would be the natural one. If, however, there were facial paralysis, plain signs of bulbar disease, outspoken hemiplegia or monoplegia, or cranial-nerve palsies, the symptom should be attributed to syphilis. Should the condition appear suddenly or be coordinate with evidence of gross brain disease, the same verdict would be inevitable. This wavy tremor does not belong to the earliest stages of general paralysis, but to a more advanced period; therefore, if it should be quite pronounced and the mental impairment very slight, the inference would be that it was not due to a general microscopic change throughout the cortex, but to some considerable lesion so located as to affect more especially the muscles about the lower face—that is, focal disease—which in this question always means syphilitic disease.

Seizures.—In making a clinical diagnosis between these two brain diseases, the different kinds of seizures or fits are at once confusing and an aid. The most various apoplectoid and epileptoid attacks belong to the clinical picture of either affection, but there are certain broad and other special distinctions that serve as a means of differentiation.

The more purely focal the character of the fit the more likely is it to be due to syphilis. Localized tonic or clonic spasm, followed by weakness of the affected part, or a spasm spreading from part to part in correspondence with their topographical representation in the motor cortex, without loss of consciousness or very late loss of consciousness, in other words, a typical Jacksonian fit, indicates syphilis. It follows that a patient who can describe his seizures, or one of them, from beginning to end—who, as the French graphically express it, "assists" at his own fit—can not be a general paretic. It is certainly true that these focal fits—motor or sensory or both combined—do occur in general paralysis, but they are comparatively rare, and even when the spasm or abnormal sensation is strictly limited there is generally some obnubilation of consciousness that continues for some hours or days after the attack. A rather frequent episode of general paresis is a severe apoplectoid or epileptoid seizure, or a series of them, leaving the patient so completely paralyzed or so profoundly comatose that recovery seems a remote contingency, and yet followed by return to almost the previous condition within a week or two. In syphilis such a happening is decidedly exceptional, while the reverse is not infrequent—that is, a comparatively slight spasm or fit, possibly only a transient vertigo, ushering in a complete hemiplegia or monoplegia that remains more or less permanent; or the patient awakens quite naturally some morning to find himself paralyzed. Epileptoid and apoplectoid attacks belong to the advanced stage of dementia paralytica—that is, after other somatic and psychic symptoms are unmistakable. As one writer has expressed it, they mark the beginning of the closing scene. It is undeniable, however, that they may occur early or even as the initial symptom of this disease. Ballet especially calls attention to the occurrence of sensory focal epilepsy as an early sign, and even says it may exist for as much as eighteen months as the sole manifestation. Nevertheless, the rule holds good that fits of any kind, epileptoid, apoplectoid, general or local, slight or severe, in the absence of well-defined mental impairment, indicate syphilis rather than general paralysis, and if there be at the same time motor, sensory, or special-sense signs of focal disease, the rule becomes a practical certainty. Fournier makes the statement that eight or nine out of every ten cases of convulsive seizures appearing for the first time after the age of thirty or forty are due to syphilis. I am inclined to think this proportion high, but it would certainly hold good as a ratio to general paralysis. Any sickness, then, that announces its advent by a fit, by sudden, transient, or permanent paralysis, by aphasia or delirium, is in all probability syphilis and not paretic dementia.

Vertigo is a frequent and early symptom of cerebral syphilis, not of dementia paralytica, and what Fournier calls the "habitual subvertiginous state" is practically confined to the former disease. With attacks of vertigo may be classed ordinary *petit mal* and special-sense epilepsy, as their significance is the same. On the contrary, so-called congestive attacks, in which the face becomes injected and livid, consciousness obscured or lost, and respiration impeded, belong to general paralysis rather than syphilis.

The mental state following an attack is of diagnostic importance. In paretic dementia it is almost always distinctly worse, frequently characterized by the sudden appearance or sudden aggravation of grandiose ideas, and, as before hinted, the appearance of seizures marks the beginning of rapid and continuous mental deterioration. Indeed, an apparently causeless, sudden aggravation of the symptoms is due in most instances to unobserved or unrecognized fits. In syphilis, on the other hand, a high degree of mental impairment after a fit, or indeed several of them, is the exception. Somatic signs, however, especially localized paralyses, are frequent, while they are rare or insignificant in general paralysis. It follows from the preceding that a series of apoplectoid or epileptoid or aphasic attacks, or a condition of coma or deep stupor, followed by an intermission of several years, is scarcely to be thought of in general paralysis; but the possibility is always present that the patient may have had such fits or stupor from syphilis, and later have become the subject of general paralysis of the insane. The case of Bristowe * is suggestive of this.

Elevation of temperature is a uniform accompaniment of the fits of paretic dementia and is exceptional in those caused by syphilis, unless the attack be violent and prolonged, and even then the elevation is only such slight rise as would be caused by the excessive muscular exertion. As already remarked, however, an apoplectic attack from syphilitic pontine or bulbar disease may be attended by considerable pyrexia. Tetaniform convulsions may occur in general paresis, but are probably more frequently due to syphilis, while induction of a fit by physical or mental exertion belongs entirely to paretic dementia, so far as I know.† A Jacksonian fit limited to one or both legs is said to be almost surely syphilitic,‡ but I have seen a case of general paralysis in which frequent epileptoid fits began uniformly in the left leg and, furthermore, could be started by sensory irritation of this leg. The diagnosis was confirmed by autopsy, when a small area of meningeal adhesions was found over the lower part of the leg centre of the right hemisphere. Attacks of prolonged narcolepsy indicate syphilis, as does prolonged stupor (not status epilepticus) without a condition indicating approaching death.

(*To be concluded.*)

Therapeutical Notes.

The Treatment of Habitual Abortion.—Bossi, of Genoa (cited in the *Klinisch-therapeutische Wochenschrift* for July 31st), recommends mercury, not only in cases dependent on syphilis, but also in those of unknown origin. He employs the following formula:

℞ Corrosive sublimate, Extract of opium,	each...... 1½ grain;
Extract of licorice, Powdered licorice,	enough to make a pill mass.

M. Divide into thirty pills. One to be taken every evening. If the mercury is well borne, the dose may be increased to 0.075 of a grain at the end of a month. Viburnum prunifolium and hydrastis are to be given in case moderate hæmorrhage occurs.

Against Malarial Poisoning Martineau (*La Settimana medica dello sperimentale,* July 30th) recommends an infusion of two hundred and twenty-five grains of leaves of Occidental cassia to be taken during the day.

Treatment of Epistaxis.—Hutchinson (*Internationales Centralblatt für Laryngologie,* No. 5; *Journal of Eye, Ear, and Throat Diseases,* July) recommends the patient to soak his hands and feet in water as hot as can be borne. This method has never failed the author, even in obstinate cases.

The Use of Formaldehyde in Atrophic Rhinitis.—In the May number of the *Laryngoscope* Dr. George L. Richards, of Fall River, Massachusetts, says that he has used formaldehyde as follows: After removing all the crusts and *débris* with a weak alkaline solution, by means of a syringe and cotton applicators, he washes out each nostril thoroughly with a solution of formaldehyde containing from five to ten drops of the forty-per-cent. solution to eight ounces of warm water. As it is very irritating, even in dilute solutions, a preliminary spraying of the nose with cocaine is advisable. It produces always a sense of smarting throughout all the nasal mucous membrane with which it comes in contact, lasting, however, but a short time. At the patient's home he has a drop added to the solution used in the douche cup for the daily cleansing. Under its use the crusts diminish in number and all unpleasant odor ceases.

Antihysteria Pills.—The *Louisville Medical Monthly* for August publishes the following formula:

℞ Arsenious acid	½ grain;
Ferrous sulphate	20 grains;
Extract of sumbul	20 "
Asafœtida	40 "

Make into twenty pills. One three times a day, after meals.

Nervous Vomiting.—Meisl (*Therapeutische Wochenschrift,* 1897, No. 38; *Pacific Record of Medicine and Surgery,* August 15th) recommends the following for nervous vomiting produced by disturbances of the nervous system without external irritation or anatomical lesion:

℞ Menthol	1 grain;
Sodium bicarbonate	100 grains.

Dispense in ten capsules. One capsule to be taken three times a day. In severe cases suppositories of one third of a grain of extract of belladonna, and half a grain of codeine are recommended in addition.

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* *Diseases of the Nervous System,* 1888.

† Bevan Lewis. *Text-book of Mental Diseases,* 1889, p. 256, and *British Medical Journal,* May 2, 1896.

‡ Kaes. *Allg. Zeits. für Psych.,* vol. li, p. 760.

Treatment of Vegetations of the Vulvar Orifice.—The *Journal de médecine de Paris* for July 24th recommends the daily dusting with a pinch of the following powder:

℞ Powder of savin,	of each 150 grains.
Powder of finely pulverized alum,	

M.

Pilules for Urticaria.—Gueneau de Mussy (*Journal de médecine de Paris*, July 24th) recommends the following:

℞ Pulverized jaborandi,	of each.. 1½ grain;
Extract of guaiacum,	
Benzoate of lithium	3 grains,

for each pilule. Two to be taken in the twenty-four hours. The dose may be increased subsequently to four in the twenty-four hours. This treatment especially applies to arthritic subjects attacked with chronic urticaria, and is recommended concurrently with the use of sulpho-arsenical waters.

Corrosive Sublimate in the Treatment of Pleurisy with Effusion.—*Médecine moderne* (*Gazette hebdomadaire de médecine et de chirurgie*, August 7th) commends the use of mercurials in the treatment of pleurisy with effusion. It attributes the following formula to Albert Robin:

℞ Corrosive sublimate,	each ..... 15 grains;
Sodium chloride,	
Extract of opium,	
Fresh bread crumb	75 "
Gluten	38 "
Glycerin	30 to 45 "

M. Divide into a hundred pills. One, two, or three to be taken daily.

Lucas-Championnière's Antiseptic Powder, according to the *Gazette hebdomadaire de médecine et de chirurgie* for June 23d, is made after the following formula:

℞ Powdered gray cinchona,	equal parts by volume.
Powdered benzoin,	
Iodoform,	
Magnesium carbonate,	

M.

The Treatment of Scrofula.—According to the *Indépendance médicale* for August 17th, Descroizilles recommends:

℞ Arseniate of sodium	1½ grain;
Syrup of cinchona	18¾ ounces.

M.

One to five teaspoonfuls during the day.

Verneuil's prescription is as follows:

℞ Iodide of potassium	30 grains;
Tincture of iodine	30 drops;
Syrup of gentian,	of each.... 3¾ ounces.
Syrup of cinchona,	

One to two tablespoonfuls during the day.

Dujardin-Beaumetz prescribes:

℞ Iodoform	15 grains;
Essence of anise	45 drops;
Cod-liver oil to	8 ounces.

M.

Two tablespoonfuls during the day.

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THE HEALTH OF THE ARMY.

The sensational newspapers are still keeping up their infamous attempt to make the people believe that our soldiers are dying in such numbers as to show culpability on the part of the government, and, we are sorry to say, a few of the medical journals have seemed bent on aiding them. The people, for their part, are ready enough to accept the accusation as true. They observe that many of the men who have been brought back look thin and ill-conditioned, and that now and then one of them dies. It does not occur to them that enlistment does not confer immortality, or that war is necessarily destructive to health and strength as a general thing. They are the same people who urged three months ago that the government was dilatory in the matter of the Cuban campaign. It is safe to say that they are not the people who have any personal remembrance of the civil war. Those of us who do remember that war—and there are a few of us left yet—know that it is either idiotic or malicious for any man to say that our war with Spain has involved an excessive mortality among our troops or an unexpected amount of damage to their health.

We are far from saying that as much has been done as we may ever hope to do to preserve the health of the army. Doubtless there have been defects in camp management, due mainly if not entirely to ignorance and inexperience on the part of the subordinate officers and the enlisted men. It is quite probable that due attention has not been paid to cleanliness in many instances. The great importance of cleanliness in camps is well shown in a communication, concerning the Jacksonville camp, by Mr. George Kennan, published in a recent issue of the *Outlook*. It is as follows: "From a sanitary point of view the camp—thanks to the municipal authorities of Jacksonville—leaves nothing to be desired. When the first regiments of the Seventh Army Corps reached there they began to dig trenches and pits for garbage, offal, etc., in accordance with the usual custom. The mayor of the city promptly appeared and said: 'Stop that! You can't open any trenches or pits in this camp.' 'Why not?' inquired the astonished officers who were directing the work. 'Because it is in violation of the municipal ordinances. Put all of your garbage and filth outside the camp limits, and we will take it away and burn it in our crematory. You will not be allowed to put it into pits or trenches, where it will rot and imperil the health of the city.' The authorities of the army yielded to the municipal authorities, and the city of Jacksonville, at its own expense, has since been carting away and burning in a crematory all the refuse of the camp. Some time afterward the commissary general received a shipment of several hundred barrels of potatoes which had been so long in transit that more than half of them rotted. The soldiers were engaged in picking out the sound tubers from those that were decayed when the mayor again appeared, condemned the whole lot, and ordered that every barrel be taken away and destroyed. As a result of the vigilance and firmness of the Jacksonville authorities, the atmosphere of the camp seemed to me to be everywhere as pure and wholesome as that of a wheat field or a forest. . . . The sick rate of the camp since its establishment has been less than one per cent., and this immunity from disease is due very largely to the vigilant oversight and cooperation of the municipal authorities, who have done for the camp what every camp ought to do for itself."

It can not be doubted that such a course as Mr. Kennan says was pursued by the mayor of Jacksonville had not only the direct effect of keeping the camp pure in so far as purity was attainable as the result of the specific acts ordered by the mayor, but also the far more important effect of impressing upon the officers and men the absolute necessity of cleanliness and giving them such a realizing sense of it that they would bear it in mind and be governed by it wherever they might happen to be. For it is by no means within the camp alone that every case of sickness has its origin. The sanitation of a camp may be perfect, and yet the men may contract avoidable disease, typhoid fever, for example. The man who goes outside the camp on leave, whether for a day or for a few hours, is likely to eat or drink something that carries infection with it; "the old oaken bucket" in particular is apt to have for him an attraction that he can not resist unless he is thoroughly impressed with the danger that may lurk in its cool and refreshing contents. After all is said and done, therefore, much depends on the way in which the men take care of themselves, and it is of the first importance that they should be duly and constantly instructed in matters of personal hygiene.

TOXINES AND ANTITOXINES.

The *Proceedings of the Royal Society*, vol. lxiii, No. 400, for July 29, 1898, contain a remarkable communication to the society by C. J. Martin, M. B., D. Sc. Lond., acting professor of physiology, and Thomas Cherry, M. D., M. S. Melb., demonstrator and assistant lecturer in pathology in the University of Melbourne, Australia, On the Nature of the Antagonism between Toxines and Antitoxines. The authors refer to the controversy on this subject between Behring and Buchner, which appeared in the *Deutsche medizinische Wochenschrift* in 1894, Behring maintaining the chemical nature, Buchner the indirect physiological one, of the antagonism. At the present time, among authorities, Ehrlich and Kanthack support Behring in principle, while Buchner is similarly supported by Roux and Metchnikoff.

Calmette's experiments in 1895 with cobra poison and its antitoxine seemed to prove that the toxine of snake venom does not interact with its antitoxine *in vitro*, but only *in corpore*, and therefore that its action can not be explained as a simple chemical operation between the two. Wassermann arrived at similar results with regard to the toxine of the *Bacillus pyocyaneus;* and further confirmatory results were obtained by Nikanarow and Marenghi. The sum and substance of all these experiments were that certain measures being found which destroyed either the toxine or the antitoxine, when these measures were applied to a mixture of the two *in vitro*, the one not affected remained active while the other became inert. The inference was that the interaction did not take place *in vitro*.

The authors, however, point out that the absence of any account of the *time* during which the interaction should be permitted to continue, as a factor in the experiments vitiates their results; and, while admitting that the same results can be repeated, they consider the conclusions founded on them unjustified, and assert that by modification of the factors—time, temperature, and active masses—exactly opposite results may also be obtained.

The upshot of the authors' experiments, which are abstracted in another column from the *Proceedings*, tend to prove that since the toxine of diphtheria will pass through a gelatin filter, while the antitoxine will not, a mixture of the two *in vitro* would become separated by filtration, and the filtered toxine would be active unless it were previously neutralized by contact with the antitoxine *in vitro*. They found that a mixture of the proper neutralizing amounts, when left in contact at 30° C. for two hours, was not active after filtration, proving thus that the antitoxine had neutralized the toxine.

The authors say:

"As the experiments are so simple as not to leave any possibility of experimental error, we turned our attention to any existing difference in the conditions under which Calmette and ourselves worked. As previously pointed out, Calmette absolutely neglected the possible influence of time, temperature, and the relative proportions of the active masses of the toxine and antitoxine present in his mixture. Up to the present we have investigated the value of the factors, time and proportion of active masses, and have shown that these are most important. Indeed, by altering either the one or the other we can produce results which, if these factors be neglected, would lead to diametrically opposite conclusions. . . . We have not yet determined the influence of temperature upon the rapidity of the reaction, but our results so far seem sufficiently conclusive to decide the question and leave no room for doubt that the antagonism between the toxines of diphtheria and snake venom and their relative antitoxine is due to a direct chemical action which takes place between them. Further, that the opposite conclusion come to by Calmette, and presumably those of Wassermann, Nikanarow, and Marenghi, were due to their disregard of the value of time as a factor in such chemical action."

These experiments of Martin and Cherry are undoubtedly a great contribution to the scientific investigation of this important subject.

MINOR PARAGRAPHS.

THE IMPORTANCE OF EXPERT AID IN LEGISLATION.

Sir T. Grainger Stewart, president of the British Medical Association (*American Medico-Surgical Bulletin*, August 25th), in his address at Edinburgh, said on this subject that he wished that the legislature would boldly accept the principle that as it was mainly guided by the opinions of lawyers as to legal questions, by those of soldiers in matters military, by practical seamen and engineers in matters concerning their department, so in medical questions they should look for guidance to the medical profession, and give effect to its matured opinion. Then there would be less difficulty about the question of vaccination, or that of the treatment of inebriates, or the prevention of the risks attending certain callings, such as those that expose the workers to lead poisoning or to poisoning by phosphorus; and the statute book would be enriched by further beneficent enactments which would save multitudes of lives and immensely diminish sickness and suffering.

It is the absence of this principle which is at the bottom of half the economical troubles in the world. We have seen it abundantly exemplified in the late war. If our soldiers and our sailors, our military surgeons and others had had the sole say on their absolute authority in their respective departments in this war, we should have had very little ground for the lurid horrors which, bad as they are, have been magnified out of all proportion by the shrieking of a hysterical "yellow" press. The navy, from the very nature of things, is bound to be more autocratic in its doings; and to the navy has, as could only have been expected by those who know anything about the first principles of the science of warfare, as an inevitable consequence, fallen the largest share of brilliant success. The men of the army, regular and volunteer, taken as individuals, did splendidly, and it is to their individual qualities that the good results must be alone attributed. But the disasters which have accompanied their brilliant personal achievements are the sole result of not turning a deaf ear to all meddlesome amateurs, and leaving the entire conduct in every detail of the campaign in the absolute discretion of those whose business is warfare. And this applies to the medical department. An army that is served with medical officers who are good soldiers and just fair average physicians is far better off than one served by the pick of all the best hospital surgeons in the land who are not soldiers by training.

ALLEGED RED CROSS AID TO BELLIGERENTS.

Major W. G. Macpherson, of the Royal Army Medical Corps, writes to the *Lancet* that it was stated in the daily papers some time ago that the duty of rationing the Cuban belligerents allied with the Americans in their attack on Santiago was handed over to the Red Cross Society. If this is true, he remarks, and if it came to the knowledge of the Spaniards, it is not difficult to understand the "severe charge" "unreservedly" made against them by the *Lancet's* special correspondent on board the hospital ship *Relief* to the effect that "they did not respect the Red Cross."

THE RESULTS OF OPERATIVE FORWARD FIXATION OF THE UTERUS.

Kober, of Breslau (*Inaugural Dissertation*, 1897; *Centralblatt für Gynäkologie*, August 20, 1898), reports upon nearly a thousand cases of uterine retroflexion treated during the years 1893 to 1896. Out of eighty-one women subjected to vaginofixation according to Mackenrodt's procedure, forty-five were under observation for periods varying from a year to three years and a half, and thirty-nine of them appeared cured. In twenty-one instances internal examination showed the uterus to be in its normal attitude, eight relapses were observed, and five of the women had undergone normal labor. Of twenty-five instances of pregnancy observed, six ended in abortion in the third or fourth month. Of thirteen cases of labor, three were terminated with the forceps outside of the clinic, and two were observed in the clinic. In these two cases both the children were lost. One was a case of placenta prævia, and in the other there was prolapse of the funis. In one the anterior vaginal wall was found held aloft in the shape of a funnel, and the cervix also was elevated. None of the women died. Of a hundred and forty women treated with ventrofixation, only forty-one were under observation for a considerable length of time; although several of them were brought to bed, only one relapse was noticed. Out of sixteen labors observed, in two there was a transverse presentation, and in one tetanic uterine contraction and prolapse of the funis led to craniotomy. Of seventy-one women subjected to the

Alexander-Adams operation, twenty-eight were seen subsequently, and six of them showed relapse. Six underwent labor normally in the clinic.

HÆMATURIA DUE TO CARBOLIC ACID.

At a recent meeting of the Paris Hospital Medical Society (*Gazette hebdomadaire de médecine et de chirurgie*, July 14th) M. Comby related the case of a little girl, five years old, who had had hæmaturia for a fortnight as the result of carbolic-acid applications for otorrhœa. The applications had been kept up for ten days. Six times a day her ear had been washed out with a hot 15-to-1,000 solution, and after each evening injection five drops of a five-per-cent. solution in glycerin had been instilled into the ear. In two days after the cessation of this treatment the child passed pure blood from the bladder, and then a dark-colored liquid like coffee. No other cause of the hæmaturia could be found than the applications of carbolic acid.

LATERAL MASTOPEXY, AN OPERATION FOR PENDULOUS BREASTS.

Before one of the French medical societies (*Gazette médicale de Nantes*, August 6th) M. Verchère recently described an operation for pendulous breasts which, he said, had the advantage over the one devised by Pousson, of Bordeaux, of leaving no prominent scar. An incision is made from the summit of the axilla downward and forward to the lower border of the pectoralis major muscle; from that point the incision follows the furrow between the outer border of the breast and the chest wall as far as that furrow extends; from this lowest point a straight incision is carried to the point of beginning. The triangle of skin and subcutaneous fat thus described is removed and the edges are brought together with sutures. The result is to draw the breast upward and outward.

BONE MARROW IN THE TREATMENT OF GRAVE PURPURA.

Jaunin (*Revue médicale de la Suisse romande*, 1897, No. 6; *Centralblatt für innere Medicin*, August 20, 1898) relates a case of grave purpura in which the use of bone marrow was of great temporary benefit, although the patient eventually fell a victim to infection of the tonsils with streptococci and staphylococci followed by delirium and septicæmia. Ergotine, Haller's serum, tannin, and iron chloride had proved utterly powerless to check the hæmaturia, hæmatemesis, and melæna that marked the purpura, when the administration of a teaspoonful of calf's bone marrow two or three times a day was resorted to. At that time the patient was collapsed, the pulse was small and rapid, there was fever, and there was only twenty-five per cent. of hæmoglobin. In two days the general condition was improved to a striking degree. On the ninth day the hæmoglobin had risen to sixty per cent., and thereafter recovery was rapid. Within a few days, however, the throat affection set in with its fatal consequences.

THE HÆMATOZOON OF GOÎTRE.

At a recent meeting of the French Academy of Sciences (*Progrès médical*, July 16th) M. Grasset presented the results of his ten years' study of a number of goîtrous persons of Puy-de-Dôme. He has seen the affection manifest itself not only as a sequence of menstruation, childbirth, a violent emotion, or a cold, as has before been noticed, but also as the sequel of a light febrile attack with lassitude and gastric derangement. He concludes that goître is a general disease, presenting as the dominant manifestation enlargement of the thyreoid gland comparable to the splenic enlargement of malarial poisoning. The two diseases, he says, have a special geographical distribution, both affect a gland of internal secretion, and both end in cachexia. In eight cases of very recent goître, none of more than a fortnight's duration, he has found in the blood parasitic organisms analogous to Laveran's hæmatozoon, from which they differ chiefly by the brick-red color of the pigmented granulations and by the absence of crescentic bodies. No one of the goîtrous persons examined had had malarial trouble before or subsequently. The existence of a goîtrous hæmatozoon, says M. Grasset, goes to support the hypothesis of the infectious nature of the disease.

A SO-CALLED CREMASTERIC REFLEX IN WOMEN.

Once out of four times Dr. Karl Bodon, of Budapest (*Centralblatt für Gynäkologie*, February 5th; *Gynécologie*, August), has found evidence of what he considers to be a cremasteric reflex in women, manifested by a forward movement of the fundus uteri. The uterus, he remarks, is heavier than the testicle, and the round ligament is weaker than the cremaster; consequently, in seeking to elicit this reflex, it is well to touch both thighs at once, so as to bring both ligaments into play. He first inserts a sound into the uterus, and from a backward movement of the handle of the instrument he infers a forward movement of the fundus uteri.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 3, 1898:

DISEASES.	Week ending Aug. 27.		Week ending Sept. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	180	41	181	24
Scarlet fever	69	6	55	5
Cerebro-spinal meningitis	0	7	0	3
Measles	30	2	38	4
Diphtheria	96	14	90	24
Croup	1	2	7	4
Tuberculosis	149	156	98	140

An Army Medical Board will be in session at Washington city, D. C., during October next for the examination of candidates for appointment to the medical corps of the United States army, to fill existing vacancies. Persons desiring to present themselves for examination by the board will make application to the secretary of war, before October 1, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between twenty-two and twenty-nine years of age, and a graduate from a regular medical college, evidence of which, his diploma, must be submitted to the board. Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School. Further information regarding the examinations may be obtained by addressing the Surgeon General, United States Army, Washington, D. C.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending September 3, 1898:

Small-pox—Foreign.

Antwerp, Belgium	July 31–Aug. 6	1 case,	2 deaths.
Ghent, Belgium	Aug. 6–13		1 death.
Rio de Janeiro, Brazil	July 8–15	4 cases.	
Rio de Janeiro, Brazil	July 15–23	1 case.	
Calcutta, India	July 2–9		1 "
Madras, India	July 16–22		1 "
Christiania, Norway	July 31–Aug. 6	1 "	
Christiania, Norway	Aug. 6–13	3 cases.	
Moscow, Russia	July 23–30	2 "	2 deaths.
Moscow, Russia	July 30–Aug. 6	83 "	7 "
Odessa, Russia	July 31–Aug. 6	4 "	2 "
Odessa, Russia	Aug. 4–13	3 "	1 death.
St. Petersburg, Russia	July 31–Aug. 6	4 "	1 "
Warsaw, Russia	July 31–Aug. 6		6 deaths.

Yellow Fever—United States.

Franklin, La.	Aug. 23–Sept. 2	2 cases.
Orwood, Miss	Aug. 29	2 "
Orwood, Miss	Aug. 31	10 "
Orwood, Miss	Sept. 2	9 "
East of Waterford, Miss., five miles in country	Sept. 2	1 case.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 8–15	22 cases,	15 deaths.
Rio de Janeiro, Brazil	July 15–22	13 "	13 "
Kingston, Jamaica	Aug. 10	1 case on S. S. *Darien* from Colon for Pensacola, Fla.	
Tampico, Mexico	Aug. 13–20		25 deaths.
Vera Cruz, Mexico	Aug. 12–19	3 cases,	1 death.
San Salvador, San Salvador.	July 23–31	12 "	3 deaths.
San Salvador, San Salvador.	Aug. 1–7	9 "	3 "

Cholera—Foreign.

Bombay, India	July 19–26	4 deaths.
Calcutta, India	July 2–9	2 "
Calcutta, India	July 9–16	6 "

Plague.

Hongkong, China	June 25–July 2	10 cases,	11 deaths.
Hongkong, China	July 2–9	2 "	4 "
Hongkong, China	July 9–16	1 case,	2 "
Bombay, India	July 19–26		69 "
Calcutta, India	July 2–9		10 "

Martin and Cherry's Experiments on the Nature of the Antagonism between Toxines and Antitoxines.—Dr. Martin and Dr. Cherry (*Proceedings of the Royal Society*, vol. lxiii, No. 400, July 29th) say that their experiments were conducted with the toxine of diphtheria and one of the constituents of the poison of the Australian tiger snake (*Hoplocephalus curtus*).

The diphtheria toxine was prepared by cultivating the organisms in broth made from well-hung beef, after the method of Spronek (*Annales de l'Institut Pasteur*, 1895). It was filtered through a sound Pasteur-Chamberland filter, and the toxine strength of the filtrate was determined by injection into a series of guinea-pigs. That with which most of their experiments were conducted had a minimum lethal dose of 0.12 cubic centimetre per kilogramme in forty-eight hours.

The antitoxines used were Behring's No. 1 and serum from the Pasteur Institute, Paris.

The constituent of the venom used was the one which is not destroyed by heating a solution of venom to 90° C. This constituent resembled most closely, if indeed it was not identical with, the principal constituent of cobra poison; and, as shown by one of these authors (C. J. M., *Intercolonial Medical Journal of Australasia*, August, 1897), Calmette's antivenomous serum possessed a small but decided counteracting action upon it. This action, though unfortunately of little or no practical importance, was sufficient for their present purpose, for in their experiments they could mix comparatively large quantities of the serum with small fatal doses of the venom *in vitro*. Under these circumstances the poison could be easily neutralized.

The antitoxine was the antivenomous serum prepared by the Pasteur Institute at Lille, and bore date November, 1896.

They endeavored at the outset to determine whether the action of antitoxines upon toxines was chemical or physiological, by a direct physical method. In 1896 one of them (C. J. M., *Journal of Physiology*, vol. xx, 1896) published an account of a method of separating substances of large molecular size from those of smaller size in solutions containing both. This method consisted in simply filtering through a film of gelatin, supported in the wall of a Pasteur-Chamberland filter. The filtration was accomplished by a pressure of fifty atmospheres.

A standardized solution of diphtheria toxine was filtered through such a filter. The filtrate was found to contain diphtheria toxine. This filtrate was then tested to ascertain whether it was as toxic as the original solution. It was found to be somewhat diminished in toxic power.

The antitoxine of diphtheria, as was shown by Brodie (*Journal of Pathology*, 1897, p. 460), did not pass through such a filter. When antitoxic serum was filtered through gelatin, the whole of the proteids, and together with them all antitoxic virtue, were absent from the filtrate. As the toxine was not held back by the filter, whereas the antitoxine was, this fact provided a simple physical means of separating them, *provided they had not reacted upon one another.*

They mixed a solution of toxine containing eight fatal doses per kilogramme of guinea-pig in each cubic centimetre, with sufficient Behring's antitoxine to more than completely neutralize all the toxine. This mixture was allowed to remain *in contact at 30° C. for two hours,* and was then filtered through the gelatin filter. Varying quantities of the filtrate were injected into guinea-pigs up to nearly four cubic centimetres per kilogramme of body weight, a quantity originally containing thirty-two fatal doses. The filtrate was quite innocent. The guinea-pigs suffered no inconvenience, and gained weight while under observation in small cages. The injections produced no local œdema.

If the toxine had remained unaffected beside the antitoxine, there was nothing to prevent it passing through the filter in virtue of its relatively small molecular size. As, however, it did not do so, they could only conclude that it had entered into some sort of chemical relationship with the relatively large molecules of the antitoxine during their sojourn together prior to filtration.

Having obtained results so definite, and in apparent contradiction to those of the authors quoted in the beginning of this paper, they next experimented with snake venom in order to repeat Calmette's observations.

They took a series of rabbits and injected them with mixtures containing one constituent of the venom of *Hoplocephalus curtus* and Calmette's antivenomous serum. This series of experiments showed that two cubic centimetres of this sample of serum was sufficient to counteract an amount of the poison contained in 0.0002 gramme of the dried venom. This amount killed control rabbits in about eight hours.

In some of the experiments this amount of venom and serum was allowed to remain in contact for fifteen minutes at the laboratory temperature (21° C.), and was then heated to 68° C. for ten minutes to destroy the antitoxine. In Calmette's experiments the rabbits injected with this heated mixture died, whereas the controls injected with the mixture which had not been heated lived. From this he concluded that the serum and venom were merely existing side by side, and had not reacted upon one another. In the authors' experiments, on the contrary, the rabbits injected with the heated and unheated mixtures of venom and serum alike lived, nor did any of them suffer from symptoms such as loss of appetite, loss of weight, or diminished temperature. The only conclusion to be drawn from these experiments was that during the time which elapsed between the mixture of the venom and serum the latter had acted upon the former, so that there was no longer a fatal dose of venom present. Their experiments showed that heating for ten minutes to 68° C. had no influence upon the venom.

Sick Soldiers in the Philadelphia Hospitals.—On September 3d the number of sick soldiers brought to the different hospitals of Philadelphia amounted to 519, distributed as follows: Medico-chirurgical Hospital, 310; St. Agnes's, 90; University of Pennsylvania, 54; German, 27; St. Mary's, 24; Episcopal, 23; Presbyterian, 16; Jefferson, 8; Hahnemann, 8; St. Joseph's, 4; Pennsylvania, 1. Hospital trains have since brought quite a number of others to the University and Medico-chirurgical Hospitals.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 6th inst., the following papers were to be read: The Duties of Medical Officers to Soldiers during Active Campaigning, by Dr. William Warren Potter, and The Cooperation of Physicians and Surgeons in Abdominal Cases, by Dr. A. L. Benedict, which was to be discussed by Dr. Fredericks, Dr. Park, Dr. Mann, and Dr. Congdon.

What the Philadelphia Hospitals have done for the Sick Soldiers.—The city of Philadelphia has long been known for its generosity. The different hospitals of that city have sent out several hospital trains to the different camps throughout the Southern States in order to bring the soldiers home. By this method five hundred and nineteen sick soldiers have been transferred from the camps to well-equipped hospitals, where their diseases can be properly treated. While some of the patients were brought as far as from Florida, it is gratifying to state that, owing to the extreme care of the patients while in transit and the good equipments of the trains, all of them arrived home in good condition, and some showed signs of reaction soon after their arrival. Up to September 3d there had been a total of three deaths, which were due to hæmorrhage. The other patients have shown a marked improvement.

Change of Address.—Dr. H. W. James, from Essex, Massachusetts, to Rochester, New York.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Twenty-one Days ending September 1, 1898:*

MURRAY, R. D., Surgeon. To proceed to Galveston, Texas, for special temporary duty. August 12, 1898. To proceed to Key West, Florida, for special temporary duty. August 17, 1898. To proceed to Tampa, Florida, for special temporary duty. August 25, 1898.

CARTER, H. R., Surgeon. To proceed to Franklin, Louisiana, for special temporary duty. August 13, 1898.

WHEELER, W. A., Surgeon. To proceed to Cairo, Illinois, and assume temporary command of service. August 19, 1898.

CARMICHAEL, D. A., Surgeon. Detailed as chairman of board to select site for national quarantine station at or near the mouth of the Columbia River, Washington. August 18, 1898.

KALLOCH, P. C., Surgeon. To proceed to Fort Pierce, Florida, for special temporary duty. August 19, 1898. To proceed to Franklin, Louisiana, for special temporary duty. August 29, 1898.

PECKHAM, C. T., Surgeon. To proceed to New Orleans, Louisiana, for temporary duty. August 30, 1898.

WHITE, J. H., Surgeon. Unexpired portion of sick leave granted by bureau letter of July 30, 1898, revoked, and directed to rejoin station at New York, N. Y. August 16, 1898.

VAUGHAN, G. T., Passed Assistant Surgeon. Granted leave of absence without pay during the war with Spain. August 18, 1898.

COBB, J. O., Passed Assistant Surgeon. Granted three months' leave of absence without pay from August 8, 1898. August 11, 1898. Leave of absence granted by department letter of August 11, 1898, revoked, and directed to proceed to Ponce, Porto Rico, for special duty. August 19, 1898.

STONER, J. B., Passed Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 16, 1898. To report at bureau for special temporary duty. August 18, 1898. To proceed to Miami, Florida, for special duty. August 22, 1898.

STEWART, W. J. S., Passed Assistant Surgeon. Granted leave of absence for one day, September 3, 1898. August 31, 1898.

SPRAGUE, E. K., Passed Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 16, 1898.

WICKES, H. W., Assistant Surgeon. Upon expiration of leave of absence, to proceed to Cleveland, Ohio, and assume command of service. August 12, 1898.

CUMMING, H. S., Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 23, 1898.

Parker, H. B., Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 23, 1898.

Anderson, J. F., Assistant Surgeon. To proceed to the Tortugas Quarantine Station and report to commanding officer for duty and assignment to quarters. August 26, 1898.

Gwyn, M. K., Assistant Surgeon. To proceed to Montauk Point, N. Y., for special temporary duty. August 23, 1898.

Society Meetings for the Coming Week:

Monday, *September 12th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *September 13th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Medical Society of the County of Rensselaer, N. Y.; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *September 14th:* New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

Thursday, *September 15th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis.

Friday, *September 16th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Born.

James.—In Essex, Massachusetts, on Thursday, July 28th, to Dr. and Mrs. H. W. James, a son.

Married.

Purdy—Livingston.—In Rye, N. Y., on Thursday, September 1st, Dr. Sylvanus Purdy and Miss Antoinette Livingston.

West—Burgoyne.—In Ticonderoga, N. Y., on Thursday, August 25th, Dr. James N. West and Miss Alice Burgoyne.

Young — Coe.—In Middletown, Connecticut, on Tuesday, August 30th, Dr. Charles B. Young, of New York, and Miss Daisy N. Coe.

Died.

Bennett.—In Brooklyn, on Thursday, September 1st, Dr. William H. Bennett, aged fifty-four years.

Breaux.—In Socarpo, Texas, on Monday, August 29th, Dr. Oscar J. Breaux, of New Orleans, in the thirtieth year of his age.

Brumby.—In Biloxi, Mississippi, on Saturday, August 27th, Dr. G. McD. Brumby, in the sixty-third year of his age.

Letters to the Editor.

THE TREATMENT OF ABDOMINAL ANEURYSM.

Louisville, Kentucky, *August 24, 1898.*

To the Editor of the New York Medical Journal:

Sir: On reading Dr. B. M. Ricketts's treatment for aneurysm of the aortic arch (*New York Medical Journal*, page 284, August 20th), I should like to report a case of apparently successful medical treatment of aneurysm of the abdominal aorta attained by chance. I had previously used everything I thought likely to be of service. I put the patient on five-grain protonuclein tablets, one every two hours, and of these she took about a hundred. I also kept the bowels open to remove such pressure therefrom as might cause pain. By the time the patient had taken a hundred tablets she was able to sit up, a thing she had not done for weeks. She had not been able to sleep or keep quiet for some time without the aid of morphine. As soon as I put her on this treatment she ceased the morphine, and in three weeks after she had taken the hundred tablets she was up and about her work at the washtub. I told her to keep on with the treatment, but, although she did not do so, she has felt no trouble from the aneurysm since. This case has been seen and diagnosticated as above by quite a number of physicians. The case was reported before the Physicians and Surgeons Society of Louisville in July, 1898. Theodore J. Yager, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. Thomas R. French, of Brooklyn, in the Chair.

The President's Address.—(See page 361.)

Laryngeal Tuberculosis at the Loomis Sanitarium was the title of a paper read by Dr. W. F. Chappell. (See page 368.)

Dr. Mayer: Only a short time ago I presented a paper on tuberculosis of the upper air-passages before one of the medical societies, and which appears in the current number of the *Medical News*, wherein I stated that a properly equipped sanitarium should have every appliance for systematic throat treatment. We very frequently keep our patients under our control because of the absence of opportunity for such treatment as Dr. Chappell now informs us may be had at the Loomis Sanitarium.

I wish particularly to approve of the suggestion made by Dr. Swain a few moments ago that patients sent to sanitaria should remain there much longer than they are accustomed to at present.

With regard to the illustrations here presented, it strikes me that these cottages are much too ornate in their construction. I think that the object could be attained in a better manner if a different plan were adopted, similar to that in one southern resort where small cabins are obtainable. These are occupied by a single individual and are used for sleeping purposes only, the patient spending the greater part of the time out of doors. They have the advantage of being inexpensive and may be destroyed after being used.

I presume that the applications of creosote mentioned are intratracheal as also subcutaneous. Parachlorphenol has been valueless in my hands.

Dr. Newcomb: I have been much interested in the paper of Dr. Chappell, and especially with the treatment of patients in the Loomis Sanitarium which he has brought before us. One signal advantage which these institutions have should be mentioned. I think that we must acknowledge that until within very recent times the treatment of cases of tuberculosis in the hospitals of this country has been shamefully lax. The cases were kept as short a time as possible, received very little attention, and were passed on. But in these sanitaria patients receive special attention, and they become impressed very soon with the idea that tuberculosis is an infectious disease, and they become thoroughly satisfied and accustomed to the idea of the danger of infection of others. When they return to their homes after cure they are agents of instruction for the rest of the community, and continue their precautions with regard to disinfection of sputa, etc.

I have some personal knowledge of the sanitarium at Santa Clara in the Adirondacks, which is an institution especially for the treatment of shop girls from large stores, and I have been pleased to notice that after these girls return to their homes they continue to carry out the strict plan with regard to the use of spit cups that they were taught in the sanitaria, thus conveying to the other members of the family and their friends a knowledge of the necessity of the precautions against the spread of the disease. And I have also observed that they live upon a much higher sanitary plane.

The President: I am glad that this subject has been brought before the association, and quite agree with Dr. Mayer's suggestion of the importance of building cabins with but one or two rooms. I think that the governors of the various sanitaria are fully impressed with the importance of such small structures, and that the question is only one of expense. That Dr. Trudeau believes in the necessity of using small buildings is proved by the structures put up at the sanitarium at Saranac Lake. Most of them in that large and superb institution have but two rooms, and only one has, I think, more than four rooms. The excellent results obtained at that sanitarium are, no doubt, to a considerable degree, dependent upon the use of cottages which accommodate from two to four patients.

Dr. Chappell: As regards the question of the mode of application of lactic acid and creosote, we use them both locally and by submucous injection. With reference to the cabin plan, I would say that most of the cottages at the Loomis Sanitarium have only two rooms. One or two have four rooms. Our object is to have only two rooms in future cottages. Of course, the expense is very great, as in our climate the cottages have to be built so as to be warm in winter. I think that the cabin plan for one or two patients is the plan for the future.

With regard to the remark of Dr. Newcomb about the importance of local treatment and its neglect in many institutions, I may say that I have noticed that where the patients in a sanitarium receive the proper attention for their throats, they progress more favorably in every other respect.

(*To be continued*)

Book Notices.

Lehrbuch der Nervenkrankheiten für Aerzte und Studirende. Von Professor Dr. H. Oppenheim, in Berlin. Mit 287 Abbildungen. Zweite, wesentlich vermehrte Auflage. Berlin: S. Karger, 1898. Pp. xiv-4 to 985.

Dr. Oppenheim's book, like his name, is so well known to American students of neurology that this, the second, very much enlarged edition of it requires but brief comment in our columns. From the first the book has been accorded a high rank in neurological literature, and in its present form it is one of the few text-books on the subject which are in accord with our new ideas. In the sections on pathology are incorporated the results of the work which has been done with the Nissl method, a method which has shed so much light on the morbid anatomy of diseases of the nervous system. Such modifications in the significance of individual symptoms as time and observation have shown to be necessary are mentioned; new accessions to the neglected domain of therapeutics are described, and methods of treatment which, though reverenced in the past, have been proved to be ineffectual or dangerous are cautioned against.

That we are obliged to say, of a book of nearly a thousand pages, that parts of it are too condensed and too cursory is an evidence of how voluminous the subject of nervous diseases has become, and of how difficult it is in a single volume to satisfy the requirements of publisher, general practitioner, and specialist. Too great brevity, however, is the one fault to be found with Dr. Oppenheim's work. Many of the clinical descriptions are not sufficiently full, and we miss the masterly discussions on pathogenesis which have so distinguished the great production of Gowers. This objection is essentially an objection of the specialist. The student and the physician who uses books on special subjects chiefly for reference will find all that he needs in the *Lehrbuch*, for it is clear, it contains all essential information, and it is most aptly illustrated.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat, and Ear. By W. Scheppegrell, A. M., M. D., Late Assistant Surgeon to the Eye, Ear, Nose, and Throat Hospital, New Orleans, etc. With One Hundred and Sixty-one Illustrations. New York: G. P. Putnam's Sons, 1898. Pp. xiv-403.

This work is practically divided into four parts: The first, comprising pages 1 to 61, discusses the physics of electricity, especially from the medical standpoint; the second, pages 62 to 118, treats of the methods of examination; the third, pages 119 to 193, speaks of the various modes of application, such as the cautery, electrolysis, etc.; and the fourth takes up *seriatim* the various diseased conditions of nose, throat, and ear practice to which electricity is applicable, and shows how it should be applied. The book concludes with chapters on the physics and practical use of the X rays. There is an extended bibliographical reference list, also a complete index.

The author has long been known as a conservative but industrious worker in this therapeutic field, and many of the devices figured in the book are of his own originating. He is perfectly fair, and does not allege for this special agent more than belongs to it. He is frank to admit its failure in certain conditions. He makes an urgent plea, which we would heartily indorse, that medical men should take the pains to learn more about the physics of electricity, for, unless they do, they will (he truly says) obtain very unsatisfactory results. Far from doing good, they may even do harm. We congratulate Dr. Scheppegrell on the result of his labors. His book is a credit to American medical literature.

Atlas of Legal Medicine. By Dr. E. von Hofmann, Professor of Legal Medicine and Director of the Medico-legal Institute at Vienna. Authorized Translation from the German. Edited by Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York, etc. Assisted by Aloysius O. J. Kelly, M. D., Instructor in Physical Diagnosis, University of Pennsylvania, etc. Fifty-six Plates in Colors, and One Hundred and Ninety-three Illustrations in Black. Philadelphia: W. B. Saunders, 1898. [Price, $3.50.] [Saunders's Medical Hand Atlases.]

This is one of the most valuable volumes of this notable series, prepared by one who was, until his death a short time since, one of the great masters in forensic medicine. The illustrations are drawn from actual post-mortem appearances, in cases selected from an abundance of material. The work is an almost inexhaustible mine of information on a subject but little illustrated in the text-books. Such of the more commonly pictured appearances as blood spectra and spermatozooids have been omitted to make room for more valuable illustrations. It is a book that is indispensable to the student of legal medicine, and contains much that is of value for every physician.

Text-book of Diseases of the Kidneys and Genito-urinary Organs. By Professor Dr. Paul Fürbringer, Royal Medical Councilor and Member of the Royal Medical Council of the Province of Brandenburg, etc. Translated from the German with Annotations by W. H. Gilbert, M. D., Member of the "Congress für innere Medicin," etc. In Two volumes. Vol. II. London: H. K. Lewis, 1898. Pp. vi–310. [Price, 10*s.* 6*d.*]

The fact that we have not had the opportunity to review the first volume of this work makes it necessary to confine our statements to the volume now at hand. Perhaps its most striking feature is the simplicity of the methods of treatment, and the very general avoidance of drugs. At the same time the treatment of each condition is clearly outlined, and on all questions of debate the author takes a firm stand, thus making a valuable reference book for the practitioner, who as a rule seeks positive information rather than a discussion of possible methods. The arrangement is systematic, and the translator is to be congratulated upon the ease and clearness of his style. The index is disappointing, but one is not disposed to pick flaws in so good a book. The bibliography is very complete, and is by no means the least valuable part of the work.

The chapters on cystitis and on gonorrhœa are very full, and illustrate very well the systematic arrangement that prevails throughout. In the chapters on morbid loss of semen, impotence, and sterility, a great fund of common sense is to be found, common sense that we shall do well to disseminate among that neurasthenic class of patients who most frequently apply for the treatment of these conditions.

Wounds in War. The Mechanism of their Production and their Treatment. By Surgeon-Colonel W. F. Stevenson (Army Medical Staff), A. B., M. B., M. Ch. Dublin University, Professor of Military Surgery, Army Medical School, Netley. New York: William Wood and Company, 1898. Pp. xvi–437.

This book, in the English edition, has already been reviewed in our columns. Accordingly, in speaking of this, the American edition, we have only to add that the work of the publishers on this side of the water is of a high order of excellence. The paper, binding, printing, and cuts are all of a character to make the volume attractive and convenient.

Clinical Manual of Mental Diseases. For Practitioners and Students. By A. Campbell Clark, M. D., F. F. P. S. G., Mackintosh Lecturer on Psychological Medicine, St. Mungo's College, etc. New York: William Wood and Company, 1898. Pp. viii–9 to 484.

There is no dearth of sketch books, text-books, and treatises on the subject of psychiatry. Some of them can be read in an hour; some can be read and reread indefinitely, always with advantage; some would be better left unread. They exist in sufficient number, and in sufficient variety of treatment, to render easily accessible what is known concerning the causation, symptoms, and treatment of disorders affecting the mind. With the field so well supplied, the reader naturally expects, upon the appearance of a new aspirant to favor, to find a hitherto unattempted method of handling the subject, or some unmistakable contributions to science, or some originality in thought or diction; in short, that the book should have some individual characteristics to account for its being.

Dr. Clark has failed to demonstrate the *raison d'être* of the *Clinical Manual of Mental Diseases.* It is true that in the volume may be found a concise and lucid account of mental disorders, written by an alienist of experience. But, unless our reading of the book has been faulty, it does not contain anything that can not be found in similar books of its size.

There are two introductory chapters on mental constitution and mental health and one on sleep and insomnia. Then follow chapters on diagnosis, causation, prognosis, and general principles of treatment. Thus introduced, the subject is unfolded by descriptions of the various clinical forms of insanity, idiocy, imbecility, and the civil rights of the insane. The author shows a familiarity with psychiatric literature, especially of the English school, and his style is pleasing.

Altogether, it is a good handbook. But it is no better than many others.

Beiträge zur Pathologie und pathologischen Anatomie des Centralnervensystems mit Bemerkungen zur normalen Anatomie desselben. Von Dr. ARNOLD PICK, o. o. Professor an der deutschen Universität in Prag. Mit 205 Abbildungen. Berlin: S. Karger, 1898. Pp. 324.

THESE contributions to the pathology and pathological anatomy of the central nervous system, with remarks upon its normal anatomy, consist of twenty-one papers collected and published on the occasion of the five hundred and fiftieth anniversary of the Karl Ferdinand University in Prague, and dedicated to the author's friend and collaborator, Professor Kahler, who died in Vienna in 1892. They represent thoughtful observations and reflections in the clinic and laboratory; they are the kind of studies which are intimately connected with the progress of the special branches of medicine, and every neurologist will benefit by their perusal. Among the most important articles may be mentioned: Word-blindness in Left-handed Persons; the Symptomatology of Bilateral Lesions in the Temporal Lobes; Subcortical Sencory Aphasia; The Relations of Word-blindness to Agoraphobia; Word-deafness as a Complication of Pseudo-bulbar Paralysis; The Symptomatology of Tumors of the Corpus Callosum; Corneous Degeneration in the Posterior Columns of the Spinal Cord; The Varieties of Tabes of Childhood; and Contributions to the Study of Defects and Deformities of the Spinal Cord.

Records of Urinary Examinations. A Convenient, Practical Method for Keeping Records of Urinary Examinations for Future Reference in Hospital or General Practice. Arranged by HARRY MORELL, M. D., C. M., Trinity University, Toronto. Hartford, Connecticut: J. B. Burr & Company, 1898.

THIS seems to be the most satisfactory method of keeping records of analyses that has yet come to hand. For the practitioner, as well as for the hospital, it affords a ready means of referring to successive analyses, and the desire to make the records complete would tend to more careful and systematic examinations of the urine.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1897. Par BOURNEVILLE. Avec la collaboration de MM. DARDEL, JACOMET, METTETAL, NOIR (J.), PHILIPPF, RELLAY, SCHWARTZ, TISSIER et WUILLAMIER. Volume XVIII. Avec 18 figures dans le texte et 20 planches. Paris: Félix Alcan, 1898. Publications du *Progrès médical.* Pp. lxxxiv–228.

THIS, the seventeenth volume of the Bicêtre Hospital reports, contains, in addition to an account of the service during the year 1897, many scientific contributions from Bourneville and his collaborators. Among them may be especially mentioned A Contribution to the Study of False Parencephaly and of True Parencephaly, Epilepsy due to Onanism, Idiocy and Epilepsy Symptomatic of Atrophic Sclerosis of both Frontal Lobes, and Epilepsy following Typhoid Fever.

All the articles are prepared with the care and attention to details characteristic of Bourneville's work, and the figures and plates are excellent.

BOOKS, ETC., RECEIVED.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Seventh Edition, enlarged, thoroughly revised, and largely rewritten. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. 11 to 776.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, LL. D., F. R. S., Jodrell Professor of Physiology in University College, London, etc. New (Fifth) Edition, revised and enlarged, with Three Hundred and Ninety-two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xi–359.

Elements of Histology. By E. Klein, M. D., F. R. S., Lecturer on General Anatomy and Physiology, and J. S. Edkins, M. A., M. B., Joint Lecturer and Demonstrator of Physiology in the Medical School of St. Bartholomew's Hospital, London. With Two Hundred and Ninety-six Illustrations. Revised and Enlarged Edition. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xii–500.

De l'exploration des organes internes à l'aide de la lumière éclairante et non éclairante. Endoscopie par les rayons de Röntgen. Par le Dr. Léon Bouchacourt, Ancien interne des hôpitaux de Paris. Avec 76 figures dans le texte. Paris: G. Steinheil, 1898. Pp. 7 to 258.

La Grippe. Par L. Galliard, Médecin de l'hôpital Saint-Antoine. Avec 7 figures dans le texte. Paris: J. B. Baillière et fils, 1898. Pp. 5 to 100.

Transactions of the Medical Society of the State of New York. For the Year 1898.

Forty-second Annual Report of the Health and Sanitary Conditions of the Parish of St. Mary, Islington.

Renal Calculus. By J. H. Musser, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

State Medicine. By Harry S. Pearse, M. D., of Albany. [Reprinted from the *Medical Record.*]

Miscellany.

The American Climatological Association.—The fifteenth annual meeting was held in Bethlehem, New Hampshire, on August 31st and September 1st, under the presidency of Dr. E. O. Otis, of Boston. In addition to the president's address, the programme included the following papers: Common Errors of General Practitioners in Dealing with Cases of Pulmonary Tuberculosis, by Dr. F. I. Knight, of Boston; Suggestions, the Results of Recent Experience with Phthisical Patients, by Dr. Vincent Y. Bowditch, of Boston; Note on the Position of the Lower Border of the Heart, by Dr. Glentworth R. Butler, of Brooklyn; A Case of Dissecting Aneurysm of the Thoracic Aorta Rupturing into the Pericardial Sac and Causing Immediate Death, by Dr. Judson Daland, of Philadelphia; The Influence of Respiration on the Action of the Heart in Health and Disease, by Dr. R. G. Curtin, of Philadelphia; Clinical Notes on Asthma and its Treatment, by Dr. Beverley Robinson, of New York; Ergot in Chronic

Malaria, by Dr. A. Jacobi, of New York; A Preliminary Report upon Sixty-five Cases of Malarial Fever in Relation to their Contiguity to Certain Brooks, by Dr. R. C. Newton, of Montclair, N. J.; Concerning the Natural History of Pulmonary Tuberculosis, by Dr. J. C. Wilson, of Philadelphia; Variations in Pathogenic Activity among Tubercle Bacilli, by Dr. Theobald Smith, of Boston; Oxygen Inhalations in Acute Pulmonary Affections, by Dr. Andrew H. Smith, of New York; The Treatment of Hay Fever, by Dr. J. C. Mulhall, of St. Louis; Sanatoria for the Consumptive Poor, by Dr. J. M. Anders, of Philadelphia; Infection from the Hands in Phthisis, by Dr. E. L. Baldwin, of Saranac Lake, N. Y.; Application of the X Rays in the Diagnosis of Tuberculosis, by Dr. Francis H. Williams, of Boston; The Value of Systematic Physical Training in the Prevention and Cure of Pulmonary Disease, by Dr. E. Fletcher Ingals, of Chicago; The Distribution of Pulmonary Tuberculosis in New Jersey, by Dr. Guy Hinsdale, of Philadelphia; A New Inhaler, by Dr. H. Longstreet Taylor, of St. Paul; A Single Test of the Virulency of Sputa kept Many Months, by Dr. Irwin H. Hance, of Lakewood, N. J.; and Some Statistics upon Serotherapy in Tuberculosis, by Dr. J. E. Stubbert, of Liberty, N. Y.

The Treatment of Pulmonary Tuberculosis by Serotherapy.—Professor Maragliano (*Presse médicale*, August 6th) says that the question of serum therapy against tuberculosis must be regarded from the point of view both of the laboratory and of the clinic. From a laboratory point of view it is necessary (*a*) to prepare the poisons and inject them into animals; (*b*) to demonstrate and measure the antitoxines in the serum; (*c*) to investigate the action of the antitoxines upon infection and its consequences. In the cultures there are two categories of poisons, the proteins and the toxalbumins. The best method of securing active proteins is to extract them with water from bacilli washed and isolated from the cultures. By concentration one can precipitate from aqueous extracts an active principle which kills a healthy guinea-pig in the proportion of four milligrammes for a hundred grammes' weight of guinea-pig —*i.e.*, one to twenty-five thousand. All these products must be employed very fresh, since they rapidly lose their energy. They are, however, preferable to glycerin products, because they are absolutely deprived of every substance foreign to the bacilli. The toxalbumins are found in the filtrates mixed with proteins. They can be demonstrated by their biologic action, but not isolated. In order to obtain active antitoxines a mixture of proteins and toxalbumins standardized to a hundred toxic units must be injected into animals. The mixture is composed of three parts of a pure solution of protein and one part of solution of toxalbumin (the culture filtrate concentrated *in vacuo*). The injections should be made with preparations fresh every week. The measurement of the antitoxic power of the serum should be made with fresh proteins, which must be neutralized by the serum. The antitoxines prevent the bacilli from manifesting their toxic action. They also prevent the bacilli from vegetating *in vitro*, and they exhaust *in vitro* the virulence of the bacilli, which thus become innocuous when injected into animals. Experimental tuberculosis in the guinea-pig is not always prevented in its evolution by means of the serum; the evolution is simply retarded, but antitoxic serum does prevent the evolution of experimental tuberculosis in the rabbit. The guinea-pig is the least resistant of animals in regard to tuberculosis, while man is most so. The blood of the guinea-pig has no bactericidal action upon the *Bacillus tuberculosis;* the blood of man, on the other hand, has complete preventive action. In making a progressive descending scale of the bactericidal power of different animals in respect of the *Bacillus tuberculosis* we find it to be as follows: (1) Man; (2) the horse; (3) the cow; (4) the rabbit and dog; (5) the sheep. The antitoxines when injected into man determine the production of other antitoxines in his blood; this fact gives the scientific basis of serum therapy. The poisons of tuberculosis injected into man determine in his organism the production of antitoxines; this fact supplies the reason of the process of spontaneous cure. The serum which contains the antitoxine is never dangerous to the tuberculous man. The assertion of Behring that the serum of birds is more homogeneous than that of other animals to man is not accurate.

The employment of serum in the tuberculous human subject is justified from a scientific point of view: (*a*) By the action of the serum against tuberculous poisons, and perhaps by an action, yet to be determined, upon the bacilli; (*b*) by the analogy of the therapeutic process of the serum with the defensive processes of the organism in spontaneous cure. This analogy is demonstrated: 1. By the presence of antitoxines in the blood of the healthy man. 2. By the production of antitoxines in man when injected with tuberculous poisons. 3. By the presence of antitoxines in the organism of patients in whom spontaneous cure of tuberculosis has occurred. From a clinical point of view the action of the serum is demonstrated in man: (*a*) By the fall of temperature; (*b*) by the disappearance of bacilli from the sputum; (*c*) by the cure of broncho-pneumonic foci. 4. The therapeutic action of the serum is complex, and is exercised on the poisons and on the bacilli of tuberculosis. 5. Because the disappearance not only of the toxæmia but also of the bacilli is noted, with an arrest, and even cure, of the morbid process.

The examination of 1,362 clinical obseravtions justifies the application of the serum to the therapeutics of human tuberculosis.

To appreciate justly the therapeutic action of the serum it is necessary to become habituated to the distinguishing between clinical forms of tuberculosis, and to fix with exactitude the clinical boundaries within which one can reasonably hope to demonstrate the cure of the morbid process.

The Poisoning Hand in Surgery.—The *Kansas Medical Journal* for August 13th quotes *in extenso* an article by Lawson Tait On the Evolution of the Aseptic Method in Surgery. Mr. Tait's vast experience lends weight to the following pregnant words:

> As my experience grows, as I ponder year after year over my fatal cases, this conviction gets stronger and stronger. I have eliminated every cause of death (save accident, and that so far as I can) save the poisoning hand, and there every now and then I am beaten, beaten in the most sudden and overwhelming fashion in cases where there can be no other explanation, and in some where I have seen it plain enough. Thus I operate on a huge perineal abscess and the smell is enough to empty the house. My fingers are soiled by the horrible pus, and I wash and wash with germicides and perfumes, and the smell remains for days. Nobody will persuade me that it is the presence of germs that continues the awful

smell. It is the presence of something far more potent than germs, probably a secretion of theirs which soaks deep, deep into the skin, far beyond where a germ could go. The slightest access of these germs to an abraded finger means something little short of death. A post-mortem was held on one of my patients with such an abscess as this round the kidney, and of the three men present, two, who had no contact at all actually with the putrid pus, died of putrid sore throat in a few days, and the third was seriously ill. This peculiar putridity is common in perineal abscesses and in abscesses of the cheek. It is also met with in and round the kidney, in the peritonæum when the bladder is an active factor in the suppuration, and in all cases of purulent peritonitis, and chiefly those of puerperal origin. It is a most deadly thing when introduced into the peritoneal cavity by the finger of the surgeon, even days after his contact with it. Some years ago I opened the abdomen of a woman, four days after her labor, for purulent peritonitis, and encountered this fearful putridity. Having strong suspicions of its deadly character, I soaked my hands for hours in various germicidal lotions as hot as I could bear them, till my hands were like those of a washerwoman.

On the third and fourth days after I operated on two simple ovarian tumor cases, and the rapidity with which these two women succumbed was altogether shocking, the post-mortem examination leaving no other guess than "acute septicæmia." A perfectly parallel experience has been the melancholy fate of one of my recent assistants.

The Rôle of the Mosquito in the Evolution of the Malarial Parasite.—Dr. Patrick Manson (*Medical Record*, August 20th), in a paper read before the British Medical Association, thus describes the various stages in the evolution of the theory on this subject:

The various stages of their work were arranged under several headings: 1. Ross found that the mosquito, in imbibing the human blood, ingested the parasite. 2. He saw the formation of the flagellated body in the blood in the mosquito's stomach. 3. He observed the flagella break away from the parent cell and attain a separate existence. Ross thereby established the probable correctness of the conjecture that in the mosquito the parasite entered a new stage of existence. To work out the behavior and development of the parasite in the mosquito was now the problem. After partial success with the human malaria, and for several reasons, Ross elected to investigate the problem in birds. Birds, the speaker said, suffered from intracorpuscular blood parasites like those in human malaria, and Labbé had shown that definite forms of parasites were frequent in Europe. Two species in particular he had described. They were known as *Proteosoma* and *Halteridium;* they were definite organisms, readily found by those experienced in this branch of parasitology in bird's blood. 4. Ross now allowed a particular species of mosquito (the gray mosquito) to feed on birds with *Proteosoma* in their blood, and soon discovered that the parasite entered with the blood the mosquito's stomach. 5. Examining his mosquitoes some hours later, he discovered certain oval pigmented bodies in the muscular coat of the mosquito's stomach. 6. By hundreds of observations he established the important fact that it was only in gray mosquitoes that had fed on birds in whose blood the *Proteosoma* parasite was present that those pigmented bodies occurred. 7. From this Ross correctly inferred that the pigmented body was an evolutionary form of *Proteosoma*. 8. MacCallum had previously shown that in the case of the analogous parasite—the *Halteridium*—the flagellum of the flagellated phase, after breaking away, entered certain spherical, pigmented *Halteridia,* causing them to be transformed into little traveling pigmented vermicules, which, in virtue of their sharp beak and mechanical power, traversed freely red and white corpuscles. 9. Analogy suggested that a similar thing occurred in *Proteosoma,* and that the traveling pigmented vermicule entered the tissue of the mosquito's stomach and became Ross's pigmented body, in the same way as Manson had shown took place in the case of the *Filaria sanguinis hominis*. 10. Arrived in the stomach wall of the mosquito, the *Proteosoma* increased rapidly in size until it projected beyond the stomach walls into the cœlom, or body cavity, of the mosquito, as a rounded body, which he styled the *Proteosoma* coccidia. 11. During its progress and growth various changes took place in size and in the appearance of the contents of the coccidia. Pigment diminished and then disappeared, and as the parasite protruded into the cœlom it was seen that the contents had a more or less granular appearance. 12. The coccidia now burst, and what Ross called germinal vermicules, which had formed in its interior, were set free in the body, blood, and tissues of the mosquito. 13. The next step in the problem was one of great consequence—it was no other than the discovery of these vermicules in the venomo-salivary glands of the mosquito. Ross, during dissection of the mosquito, found a couple of head glands with a duct leading toward the proboscis of the animal, and traced the parasite vermicules into these glands. 14. The climax of the discovery was now within Ross's grasp, and he elucidated it thus: He allowed mosquitoes to feed on birds infected with *Proteosoma;* after a few days he fed the mosquitoes on birds whose blood was void of any parasite infection. He found in due course that the parasite-bearing mosquitoes had infected the healthy birds and that the blood of the latter was charged with *Proteosoma*.

Thus was the cycle completed, and the analogy between bird and human infection had only to be proved to establish what was no doubt a great scientific truth, that the mosquito was a carrier of malaria and an infecter of man. Much had yet to be done, however, before the full significance of the mosquito in malaria was worked out.

Liquid Air Cocktails.—We learn from the *Public Health Journal* for August that "liquid air presents surprising possibilities as a medicine. A Russian physician has already begun to experiment with it. He placed a dog in a room with the temperature lowered, as stated in *London Engineering*, to a hundred degrees below zero. After ten hours the dog was taken out alive, and with an enormous appetite. The physician tried the test on himself. After ten hours' confinement in an atmosphere of still, dry cold, his system was intensely stimulated. So much combustion had been required to keep warm that an intense appetite was created. The process was continued on the man and the dog, and both grew speedily fat and vigorous. It was like a visit to a bracing northern climate."

When will liquid air cocktails be available?

Michael Angelo a Physician.—According to the *Riforma medica* for August 4th, Michael Angelo was not only a great painter, but a physician also, and there is in the Vatican library a manuscript in his handwriting containing a series of remedies for diseases of the eyes.

The Sense of Smell and its Education.—Dr. A. L. Benedict (*Medical News*, August 20th) says that his attention was first called to this subject during a lecture on the special senses. Alluding to the power of distinguishing individuals by the sense of smell, and asking how many of the class possessed this power, he was surprised to find that not one out of fifty or sixty replied in the affirmative, nor had his experience with subsequent classes been different.

Just as we felt only half acquainted with an object which we had touched but had not seen, so a dog was evidently not fully satisfied with sensations arising from the eye and the ear, but must supplement them with those of smell before he could fully frame his concept. Not only did he recognize human beings by the sense of smell, but all the social amenities of dog life, all his hunting instincts, all his conscientious guardianship of domestic animals, and much of his mischievous sport, were connected with smell.

The odor of healthy, clean human beings arises, he says, from the perspiration and the sebaceous secretion. Neither of these contains as an important chemical ingredient a volatile substance, and whether the volatile excreta from the skin are more properly considered as perspiratory or sebaceous in origin, he can not pretend to say. Some human beings who have the power of distinguishing individuals by odor have described the odor as usually agreeable and, often, in the case of persons of the opposite sex, as an excitant of passion. This is certainly true of dogs.

The unclean human body affords odors which may be of diagnostic importance, or, at least, may aid in that detective work which every physician has to perform in estimating social standing, habits, and other circumstances in connection with the practical care of the sick. The following odors may be detected, singly or combined: 1. Neglected skin secretion, sebaceous or perspiratory. 2. The special odor of the axillæ. 3. The special odor of the smegma. 4. The special odor of the perinæum. 1, 2, 3, and 4 refer to general or modified secretions from sebaceous glands, with the accidental admixture of truly sudoriferous odors. 5. Urine. 6. Fæces. 7. The special odor of the scalp, which, perhaps, should be included with the first four. 8. Breath. 9. Menstrual blood or other secretion. 10. The odor of the feet, which is not a sebaceous odor, but due to the decomposition of macerated epithelium. 11. Extrinsic odors permeating clothing, hair, etc. 12. Certain vegetable or drug odors which escape through many routes, but especially through the skin. 13. Perfumes, as in soaps and other cosmetics.

The terms clean and unclean are relative and by no means dependent on refinement, social position, etc. It is absolutely impossible for any one to keep immaculately—or rather inodorously—clean and have time for anything else. Owing to personal differences in chemistry, some may remain free from noticeable odor while careless as to bathing, and, on the other hand, the greatest pains in bathing and changing underwear may not be sufficient to offset a tendency to bromhydrosis. Women, even when not menstruating, and when such factors as constipation and lack of exercise do not exist, require more frequent attention to the toilet than do men. While perspiration causes a noticeable odor, persons engaged in active exercise who sweat much and bathe sufficiently are much less odorous than those who take little exercise and, hence, retain products of imperfect metabolism in the system. Very fat persons and those with acne, comedones, and wens, are liable to the development of valerianic acid and more or less closely allied bodies. It is largely this substance that gives the peculiar sour odor to accumulations in the umbilicus, beneath the breasts, or other folds of the skin. While fat women are very apt to be disagreeably odorous, the axillary odor is usually marked in lean brunettes. Just why the axillary odor should be so much more marked in women than in men is difficult to explain, unless on account of the warmth of the corset and the wearing of tighter garments. Often the absence of a bath tub or the necessity of dressing in a cold room is a crucial factor.

The odor of smegma, urine, fæces, and feet usually indicates a rank infringement of the laws of decency. The first may indicate a stimulation of sexual passion and may, therefore, be of value in recognizing cases of hysteria. In the *Journal of the American Medical Association* of February 19, 1898, Dr. Charles Provost Grayson calls attention to the sexual factor in the production of nasal hyperæmia and inflammation, and alludes to the existence of other reflex manifestations of the same emotional cause. Physicians must realize the importance of this subject and consider it without false modesty. The smell of urine may indicate stillicidium in women, prostatic disease in men, enuresis in children, and various other causes of impairment of the sphincter and urethral muscles. It is easy to distinguish the odor of decomposed normal urine from the reek of that which has undergone alkaline putrefaction in the bladder, along with the decomposition of mucin (or nucleo-albumin?). As is well known, the urine may be odorous from the ingestion of asparagus, turpentine, and various other foods and drugs. A fæcal odor may indicate the presence of a fistula or some interference with the tone of the sphincters. By the odor we may distinguish between fat decomposition, with the production of fatty acids, the putrefaction of proteids, including blood, and the sourness of carbohydrate fermentation. After the evacuation of fæcal contents by a diarrhœa, a characteristic saline (?) and not specially disagreeable odor may indicate the loss of serum or of mucus. Sometimes, even the odor of orange, lemon, etc., may be distinguished, as well as that of certain drugs. Foods like beans and eggs, which are rich in sulphur, usually produce H_2S and CS_2. The latter gas seems to be more slowly volatile than most other odorous intestinal gases; at any rate it is more persistent and gives the idea of staleness in regard to a discharge either of fæces or of flatus.

The odors of the feet and of the scalp have no special diagnostic value in the author's experience, although they should have to a dermatologist. In justice to patients, it must be remembered that blacking, paste, and badly tanned leather may be responsible for an offensive odor; also, that excessive sweating of the feet is a disease, not a filthy habit. The odor of the breath may be due to nasal, pharyngeal, or even frontal or other sinus disease, to ulceration of the gums, cheeks, etc.; to decomposition in and about the teeth; to decomposition in tonsillar crypts; to laryngeal, pulmonary, or gastric disease. The fœtid odor of ozæna is classic. Phthisical patients are apt to develop a peculiar sour odor of the breath, especially after cavities have formed. The odor of mercurial stomatitis has been described as characteristic, but personally the author has not been able to distinguish it from that of noma or of any other extensive ulceration or necrosis of comparable extent and degree. Foul breath may be due to the lodgment of food between sound teeth, and cleaning of the teeth should not be considered thorough unless the brush is preceded by the use of floss or, better yet, of loosely twisted shoe thread.

Hepatic and intestinal lesions produce bad breath, apparently from the absorption of toxic substances, not odorous in themselves but capable of reducing the resisting power of the mouth to bacterial action. Gangrene of the lungs has a quite characteristic odor. In diabetes, not only the breath but all secretions may be perfumed with what was formerly supposed to be acetone. The worst breath is due to the filthy practice of stuffing dental cavities with cotton. Alcoholic beverages are well known to impart a characteristic odor to the breath, and thus to give a warning to the diagnostician, but the odor of chronic alcoholism is quite different from that of recent imbibing.

The odor of menstruation is occasionally diagnostic, but it is mentioned here rather for the sake of emphasizing that it may be utterly unpreventable, persisting in spite of the most careful toilet possible. The odor of the clothing often throws light on the habits, occupation, and social status of a patient. The quality of tobacco, its use for smoking or chewing, the amount used, are quite distinguishable by the smell, and are of considerable indirect value. The clothing of even the cleanly poor, who have not the privilege of bath tubs and who must hang their garments where they are penetrated by the fumes of cooking, often assumes a vile odor. New garments, recently moistened and pressed, are often quite offensive. Persons who eat garlic, onions, etc., must expect to have strong-smelling secretions, which no amount of external cleanliness will offset.

The character of perfume is a very fair index of social status. Musk we naturally associate with bleached hair and a stained character. Musk plus iodoform, in the absence of a visible lesion, is a not uncommon combination and suggests not only bad morals but venereal infection. Bergamot and other abominations of the barber shop often stamp that class of men for whom we have no more reputable term than "mucker."

In diseases, the mousy smell of favus and the odor of variola are classic. Some physicians speak of a characteristic odor of typhoid. This is a mistake; the odor is due partly to sour milk from the diet and partly to the intestinal intoxication, and may be encountered in any low fever. Urine loaded with indican and other products of intestinal putrefaction is apt to develop a foul odor quite distinct from that of normal but condensed urine.

In examining the gastric contents we make practical use of the nose to distinguish between acetic and butyric acids, and we may also recognize the mixed sourness of carbohydrate fermentation—which must not be confused with that of fruit ingested—the putrefaction of albumin in serious ischochymia, and the carrionlike smell of cancer. The presence of H_2S in the stomach contents or eructated gas is almost positive evidence of regurgitation of the *Bacillus coli communis* from the large and the lower part of the small intestine, unless foods rich in sulphur have been eaten.

Problems of toxicology are often solved by the sense of smell. The general anæsthetics, hydrocyanic acid, alcohol, carbolic acid, some opiates, cannabis indica, camphor, and illuminating gas may be mentioned.

In sanitary practice one of the best tests for leaks in sewer or other pipes is that by volatile and odorous substances, such as peppermint. Or, we may substitute the oil of catnip and use the more acute olfactories of a cat. Similarly, the peppermint test has been used in diagnosticating against intestinal occlusion.

The author concludes by asking for the criticisms and reports of the observations of others.

A Report by First Lieutenant Guy C. M. Godfrey, Assistant Surgeon, United States Army.—The following is an extract from the report dated Santiago de Cuba, July 28, 1898, by Lieutenant Godfrey, Assistant Surgeon, United States army, to the surgeon general, United States army, Washington, D. C., transmitted in due course through proper channels:

Sir: As commanding officer of the hospital-corps company of the first division, Fifth Army Corps, I have the honor to submit the following report:

This company was organized at Tampa, Florida, on June 5, 1898, just two days previously to the departure of the troops of the first division for the transports at Port Tampa, Florida. On the day of organization the strength of the company was eighteen privates. No noncommissioned officer was assigned to it until June 7, 1898, when acting hospital steward McGuire reported for duty. He was at once detailed as first sergeant of the company, which place he has held up to the present date. A cook and an assistant cook, orderlies for the medical officers, and a clerk were at once detailed.

. . . .

When the order came to move, the men of the company performed the work necessary thereto, and the enthusiasm and *esprit de corps* with which they labored added greatly to the celerity and facility with which the task was accomplished. The *personnel* and supplies of the division hospital, as well as the hospital company, were placed on board the transport *Santiago*, and arrived off the coast of Cuba near Santiago on June 20, 1898. The day before landing all of the material was brought up from the hold by the men of the company, and was stored on the main deck of the ship near the forward starboard port. This was done by direction of Major M. W. Wood, chief surgeon of this division, and proved a wise and efficient measure.

We landed on June 25th at Siboney, Cuba, and pitched camp on the beach. On this day thirteen of the privates of the hospital corps of the Seventy-first New York Volunteers joined the company. During the night of June 25th acting hospital steward McGuire and five of the men worked all night unloading the material for the hospital and storing it upon the beach under canvas. This was done by using small boats drawn by steam launches, and, owing to the high swell, it was at times quite dangerous. I remember several occasions where the men narrowly missed injury from falling boxes.

On June 26th the men were given a short drill to perfect organization. Hurried preparations were made for a forward movement, and, as absolutely no transportation could be obtained from the quartermaster's department, these preparations consisted principally in selecting such necessary dressings and drugs as the men could carry on their backs and litters. On June 27th the first division moved forward, and the hospital company followed in rear of the third brigade, taking the ridge road toward Seville. Owing to the possibility of an immediate skirmish or battle, none of the medical officers rode their horses, but made pack mules of them, and carried as large a number of dressings, etc., as they could. The division camped in column of brigades, and the hospital company and division hospital pitched camp near the headquarters of the division commander. On the following morning twenty men and the steward and two medical officers returned to Siboney and brought up four litters and as many medical supplies as possible, returning about 2 o'clock P. M.; after a soaking rain the company broke camp, and was ordered to move forward two miles. This they did, marching over a rocky yet muddy road, carrying the hospital supplies with them. They pitched their shelter tents on the soaking ground, while the officers, who had no shelter, slept in the open air, exposed to dampness and poisoning. On June 29th the company moved forward a quarter of a mile farther to a beautiful spot, with the Aguadores River on one side and the Siboney road on the other. Here on the 29th the division hospital was established, and here it remained all through the terrible carnage that followed. On this day six wagon loads of our supplies were brought up from the beach at Siboney, and tent flies were pitched and everything arranged for the coming battle. On the 30th of June the work of establishing the division hospital continued, and more of our supplies were brought from Siboney.

. . . .

On the morning of July 1st the writer rode in the direction of the firing toward El Caney, and while searching for an ambulance rode to the extreme right and visited the firing line of the Twelfth Infantry. He then returned and reported to Major Wood, who directed an ambulance to be at once sent in that direction. Owing to the very small number of hospital corps men present with the division, and as the number of ambulances for the entire army was limited to three, it was impossible to expect them to convey the total number of wounded from the collecting stations to the first division hospital. It was soon apparent that the entire force of the hospital corps would have to be used to man the hospital, but about noon acting hospital steward McGuire, two litter squads, and an ambulance went forward up the San Juan road. As the Spanish shrapnel were bursting around the battery on El Paso hill, near the road, it was not deemed prudent to take the ambulance beyond that point. Therefore it remained, while the two litter squads pushed forward up the San Juan road. One wounded man was found, who was not able to walk, about four hundred yards before reaching the farthest crossing of the Aguadores River. He was at once dressed and conveyed to the rear by a litter squad. The other litter and the steward advanced about four hundred yards farther to the east bank of the Aguadores, and there found a wounded man who could not walk. At this time the Sixth and the Sixteenth Infantry were immediately in front, and were making their advance toward San Juan hill. It can therefore be seen that the hospital litter squad in rear was under the hottest kind of fire, and the bullets were cutting the leaves all around, but not one of these men faltered or showed the least sign of fear.

. . . .

At this time the wounded were coming back in a constant stream, and such as needed stimulation or dressing were at once attended to by the roadside. Many of them returned alone, others walked, supported by the arm of some comrade, while the more seriously wounded were borne upon litters of various kinds. A few of those who returned had not received medical attention, but the majority of them were dressed with first-aid packages by the regimental surgeons and their hospital-corps men.

At about 1 P. M. Major Valery Havard, chief surgeon of the cavalry division, established an ambulance station on the east bank of the Aguadores near El Paso. At this station many dressings were readjusted, and a few patients were dressed for the first time. Stimulants, medicines, and dressings constituted the stock at this station, which was about a mile in advance of the first division hospital. No point farther to the front was safe from the enemy's fire. The ambulances were worked constantly, and, considering their number, did remarkably well. Late in the afternoon ambulances were taken forward to near the farthest crossing of the Aguadores, but it was rather dangerous at all times, as the enemy kept the San Juan road enfiladed all day long. It was also very dangerous on account of Spanish guerrillas, who were located in trees overlooking the road. Several men carrying wounded were shot, and, indeed, in a few cases the patients themselves were hit.

Later in the afternoon a dressing station was established at the farthest point, where the San Juan road crossed the Aguadores. At this place there was a vertical bank about four feet high, beneath which was a gravel beach. Here a certain amount of shelter was obtained, but bullets frequently cut through the bushes, or splashed up the water in the creek. At one time it was enfiladed by Spanish sharpshooters in trees up the creek. Several horses were killed here, but no patients, surgeons, or attendants were injured that afternoon. It was at this place on the following morning that Dr. Danforth was killed. Late in the afternoon several escort wagons, having carried ammunition to the front, were turned over to the writer by Lieutenant J. D. Miley, General Shafter's aide-de-camp. These were taken to this station and filled with the wounded, who were transported to the first division hospital. Empty army wagons that could be found were used for this purpose, and the wounded kept coming into the hospital all night. On the following morning an ambulance and two wagons were taken to the dressing station just described, and the wounded brought in, among them being Acting Assistant Surgeon Danforth, who was shot through the head. Major S. Q. Robinson had assumed command of this station on the previous afternoon, but at this time he, with Captain W. D. McCaw, rejoined their regiments, and left the station in charge of Captain Paul Newgarden. Major V. Havard arrived later and established an ambulance station at this point, which was then comparatively safe. It was customary during the battle for the writer to send litters and dressings to the front in the empty ambulances. During and after the battle the men of the hospital corps company did much of the work in the first division hospital. They assisted in operations, helped in applying dressings, made soup and coffee, carried patients to and from the operating tables, and acted as nurses to the wounded. With but few exceptions they worked all day, all night, all the following day, and most of the next night. They were assisted by members of the bands of the regiments, and by some of the hospital-corps men of the regiments.

During the battle the first-aid work was very effective, and was done mostly by regimental surgeons and their hospital squads. Many dressings were applied by the line officers and soldiers on the firing line, and in some instances by the wounded men themselves. Major S. Q. Robinson, who commanded the Aguadores dressing station on July 1st, says that only about ten patients came there who had not been dressed by first-aid packets. Words can hardly express the appreciation which the officers and men of the line have for the first-aid packets. They realize now, as never before, the value and importance of instruction in first-aid work. The very small number of suppurating wounds can readily be accounted for by the prompt applications of these dressings.

. . . .

Salicylic Acid as a Food Preservative in Philadelphia.—In a public interview Dr. Henry Leffman, city chemist, lately gave it as his opinion that the use of salicylic acid as a preservative of milk, infant foods, etc., was gradually on the increase, and as the consequence the health of children had been affected. He stated that the acid was being sold in several forms, and thought some action should be speedily taken to prevent the practice from becoming even more common.

Cases are cited which occurred in Trenton, N. J., in which salicylic acid was put into milk and caused the poisoning of several infants.

Dress for Hot Weather.—The *British Medical Journal* for August 20th has the following practical remarks on the senselessness of not dressing according to the condition of the weather. The past few weeks there must have been few of us who have not suffered as much from our mode of clothing as from the heat itself, especially in the matter of eczema intertrigo.

The *Journal* says:

On a hot day, to a man not in perfect condition, the white cotton shirt with its linen front is a positive danger. He perspires in it all day, hurries to catch a train and sits perhaps in a draught, and his shirt, which retains the moisture of the perspiration, forms a veritable freezing machine. There are a sufficient number of men, even in cities, with enough strength of mind to show practically by example that a flannel or woolen shirt may look as neat and clean as a linen, and it would be a good thing for the public health if they had more imitators. Another point worthy of attention is that tailors have the absurd custom of lining waistcoats and certain parts of trousers with cotton material. One of the miseries of the stout man who goes for his holidays on the moors or the mountains is the chafing at what the tailors call "the fork" of the trousers. This is due to the insane and dirty custom of sewing a piece of cotton stuff into the inside of the trousers at this point. This soon gets moist or wet with perspiration, forms a kind of poultice to the skin, and quickly produces intertrigo. There is absolutely no excuse for this sartorial eccentricity. Fine woolen material can be obtained for the purpose, and the tailors will put it in if told to do so, though it is necessary to give strict orders that no cotton shall be used in any part of the garment, otherwise it will be introduced somewhere. In a flannel shirt and a woolen suit a man may with ordinary prudence defy any weather, hot or cold, likely to be met with in these islands, provided that in warm weather he eats in moderation of a diet mainly vegetarian, and quenches his thirst with beverages which are not alcoholic. If the attempt to reform men's dress is arduous, in the case of women it is desperate. In cold weather most of the well-to-do class now wear woolen "combinations," which make the danger of their over garments less imminent. But with the approach of hot weather they discard these safe articles of clothing, and take to a cotton shift, cotton coverings for the thighs, and a stiff, impervious corset. Anything more atrociously unhygienic could not be imagined. Women now lead more natural lives, why should they not wear more rational clothes? Unfortunately, rational dress has come to mean bloomer costume, which has gone out of fashion even with the most "advanced." As has been said, tailors can be forced into making men's clothes in a way which obviates the many risks attached to cotton garments in our variable climate, and there is no doubt that dressmakers and corset manufacturers would soon find the better way if their clients would be at the pains to insist on a rational reform.

Pennsylvania Soldiers in Philadelphia Hospitals.—Since the successful trip was made by the city hospital train to the different army camps, some time ago, those looking after the health of the army have felt much encouraged toward blotting out the epidemic of typhoid fever which has existed among the troops for several months. Of those brought home, all have improved, some, in fact, so fast that they have already been discharged cured. Governor Hastings has sanctioned the movement to such an extent that the State has sent out another hospital train to the front carrying the governor along with it. The Medico-chirurgical Hospital has also fully equipped an entire hospital train, which will be placed under the charge of those connected with that institution, and this train has made a successful trip. Indeed, these measures seem to be about the only way of breaking up this scourge, for soldiers state that in some instances the drinking water was so bad that a greenish scum often formed over it, and besides a foul odor was often emanating from it.

The American Microscopical Society.—At the annual meeting, held in Syracuse last week, officers for the ensuing year were elected as follows: President, Dr. William C. Krauss, of Buffalo; vice-presidents, Professor A. M. Blelie, of Columbus, and Dr. G. C. Huger, of Ann Arbor; secretary, Professor Henry D. Ward, of Lincoln; treasurer, Mr. Magnus Pflaum, of Pittsburgh; members of the executive committee, Professor Simon H. Gage, of Ithaca, Dr. A. Clifford Mercer, of New York, and Dr. V. A. Moore, of Ithaca.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee will be held in Birmingham, Alabama, on Tuesday, Wednesday, and Thursday, October 25th, 26th, and 27th.

Apenta Water in Yellow Fever.—We learn that satisfactory use was made in Apenta water in the Touro Infirmary, New Orleans, in the treatment of yellow fever in the autumn of 1897; also that large quantities of the water were furnished by Surgeon-General Sternberg to the United States General Hospital near Santiago, Cuba.

The Jefferson Medical College and "Typho-malarial" Fever.—In a recent public interview Dr. Solomon Solis-Cohen stated that several gentlemen connected with the Jefferson Medical College were making a thorough examination of the blood of those patients brought home from the South, in order to find out whether or not malarial fever coexisted with typhoid fever. He expressed himself very plainly in regard to the negligence displayd by officials in not preventing the terrible epidemics of typhoid fever.

Original Communications.

THE IMPLANTATION OF AN ARTIFICIAL VITREOUS AS A SUBSTITUTE FOR ENUCLEATION OF THE EYEBALL.*

By FRANK C. TODD, M. D.,
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IN THE UNIVERSITY OF MINNESOTA.

THE object of this operation is to obtain a more natural appearing artificial eye than results from the removal of an eyeball by enucleation.

In enucleation we dissect up the conjunctiva around the cornea, sever the muscles of the globe and the optic nerve, and remove the entire eyeball, leaving a deep cavity, which is only partially filled later by the thin glass shell. Such an eye is sunken and small and permits the collection of tears and secretion. It lacks motility, and in general has the staring appearance characterizing the ordinary artificial eye.

It would seem that to be deprived of one of the organs of sight is misfortune enough, and further to be made conspicuous by a staring glass eye, the wearer ever conscious of his deformity, must be a source of great annoyance and embarrassment.

Evisceration consists in scooping out the contents of the sclerotic tunic after removing the cornea. This operation was devised by Graefe, of Halle, in 1884, to prevent death from meningitis after the removal of suppurating globes, and by Mules, of Manchester, England, at about the same time, to take the place of enucleation in sympathetic ophthalmia,† since which time it has been urged by some surgeons as furnishing a more suitable and movable stump for a glass eye. Experience has shown, however, that after a short time the muscles, being bound down by cicatricial contraction, become useless, the motion disappearing, leaving a stump no better than that following enucleation.

In 1885 Mr. Mules devised and carried into execution the operation which bears his name.‡ This consists in evisceration, with the introduction of a glass ball, described in detail in the report of Case I.

In 1886 Mr. Adams Frost, of London, practised the insertion of a glass ball immediately after enucleation of an eyeball.# This operation was intended for cases where from atrophy and shrinkage of the ball it becomes impossible to insert the artificial vitreous within the sclera. The technique of the operation briefly is as follows: The muscles are secured by sutures and severed from the ball, which is then removed, the glass ball introduced into the cavity and the muscles reattached and the conjunctiva sutured. Mr. Lang, of Moorfields, improved upon this operation by inserting the artificial vitreous in Tenon's capsule.* Both of these latter operations are applicable only in cases where the operations as devised by Mules can not be performed.

In 1895 Dr. L. Webster Fox, of Philadelphia, devised a similar method of improvement for cases where the eyeball had already been removed.† His operation consists in making a horizontal cut in the conjunctiva and tissues of the orbit and dissecting it up from the underlying tissue, thus making an artificial cavity into which the ball is inserted. Dr. Fox reports in all seventeen cases, in five of which the glass ball came out and had to be reinserted; two of the patients had to be operated upon a third time before the ball remained. It would seem that after the muscles had been in a state of disuse for so long a time there would be no motion imparted to the eye, but Dr. Fox assures us that there is as much motion as there is following evisceration.

My first experience in inserting an artificial vitreous was obtained in 1896, when I assisted Dr. Allport in performing several operations. He had just returned from an eastern trip and had witnessed Buller, of Montreal, and Fox perform the operation, and had seen a number of their cases. He was so pleased with the operation that he took occasion on the first opportunity

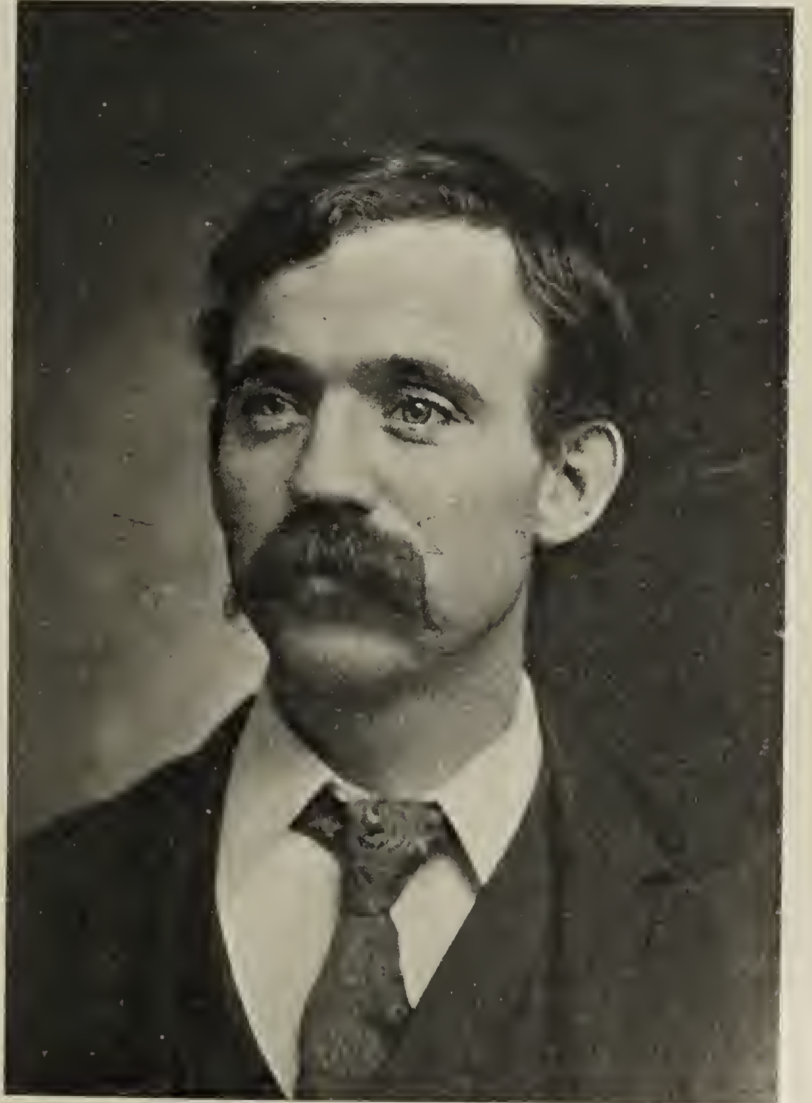

FIG. 1.

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* Read before the Minnesota State Medical Society, June 16, 1898.

† Swanzey. *Diseases of the Eye*, p. 214.

‡ *Ibid*, p. 215.

# L. Webster Fox. *Journal of the American Medical Association*, January 8, 1898.

* *Jour. Am. Med. Assoc.*, Jan. 8, 1898.

† *Ibid.*

to carry it into practice. Two patients operated upon at this time were shown before the Minnesota Academy of Medicine (reported in the *Northwestern Lancet*). One of the patients had tuberculosis of the iris, and the other hæmorrhagic glaucoma. The first case is now under my observation; the eye looks very natural and has given no trouble. The other case was equally successful. I wish now to report three cases of operation by myself within the last six months.

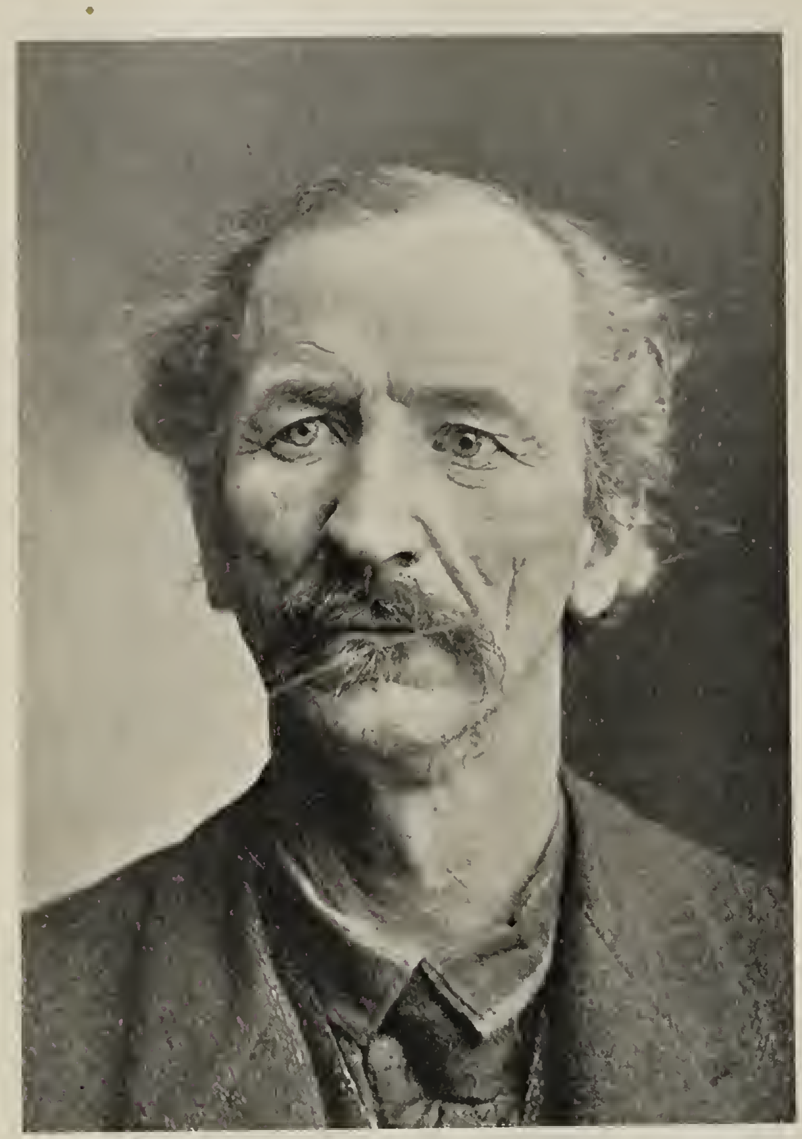

FIG. 2.

C. C., aged thirty, referred by Dr. Holden, of Sauk Rapids, December, 1897. Injury to upper lid and eyeball some years ago. He has now anterior staphyloma and a tumor attached to the cornea of about the size of half a pea, which looks like granulation tissue. The eye is inflamed. Has sympathetic irritation but not sympathetic inflammation.

Operation.—The parts were rendered as aseptic as possible. The ocular conjunctiva severed all around the cornea and dissected up from the underlying tissue. A cataract knife was then inserted just back of the corneo-scleral junction and pushed through to the opposite side, coming out at the corresponding region, and the superior half of the cornea severed. The scissors were then used to complete the removal of the cornea. The contents of the sclerotic coat were scooped out, including the chorioid, retina, lens, ciliary body, and the head of the optic nerve. A V-shaped piece was removed from the sclera above and below to enlarge the opening and to give a convenient shape to the edges that they might be properly approximated when sutured. Next the hæmorrhage was stopped by sponges of cotton dipped in hot sterilized water. The inside of the cavity was carefully searched for any remaining bits of chorioid or other tissue which would interfere with healing. The cavity was dried with plain sterilized gauze and a hollow glass globe inserted. The edges of the sclerotic were sutured vertically with about ten sutures of No. 5 iron-dyed silk, which remain permanently, and the conjunctiva sutured horizontally over this. Dry sterilized cotton and a tight bandage were applied. It will be observed that no antiseptics were used after the preliminary preparation. It is the custom of some to use bichloride solutions during the operation, and to dust in iodoform. These are irritants, especially the latter, and I believe that they are largely responsible for the violent reaction that usually follows this operation. This wound healed with *no pain, no swelling, no reaction,* and is shown in Fig. 1.

CASE II.—J. M. J., aged fifty-four. Referred by Dr. Alford, of Huron, South Dakota. The history shows that following a blow he lost the sight of the left eye by corneal ulceration, of which he had repeated attacks. He has now large anterior staphyloma. Vision = P. L. Eyeball tender at times and liable to frequent inflammation.

April 6, 1898.—Patient prepared as usual, and the same operation performed as detailed above. *No pain, no swelling, no reaction.* Shown in Figs. 2 and 3.

This case was shown to my class at the university after the glass eye was inserted and they were asked to make a diagnosis. They all failed, and were surprised to learn that the man wore an artificial eye.

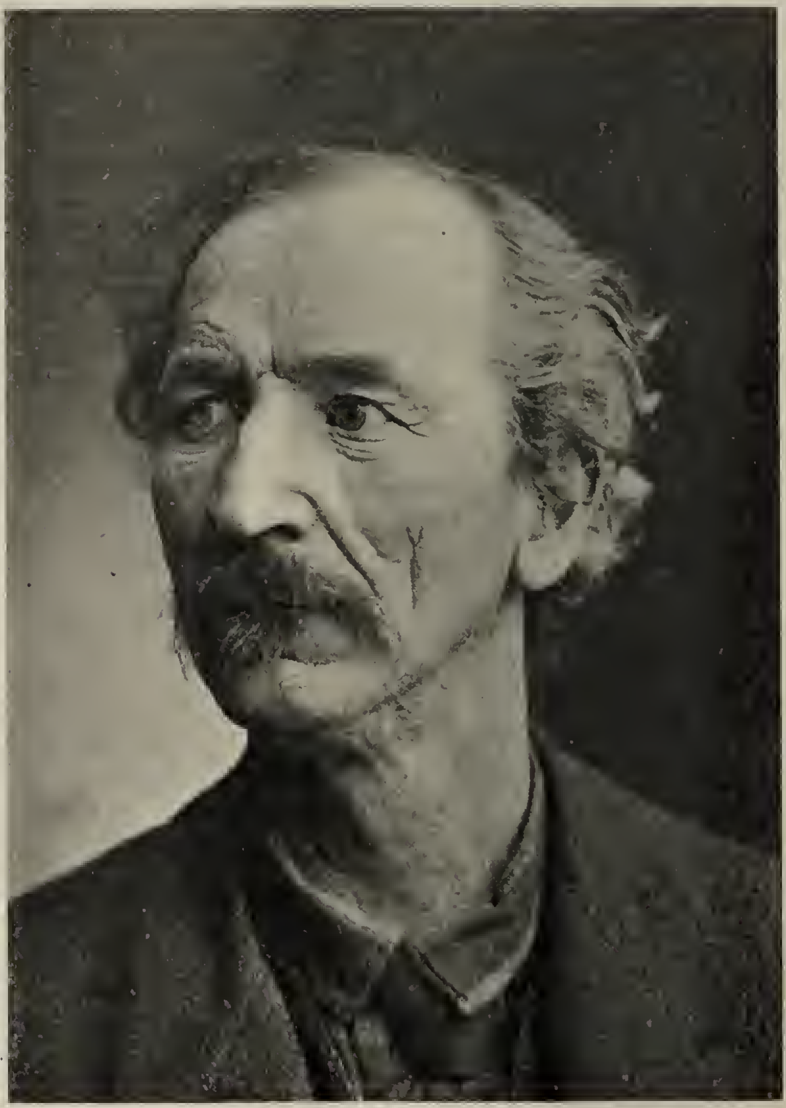

FIG. 3.

CASE III.—W. M., aged twenty-one, lost his sight from a purulent infection two years and a half ago. Has had several painful attacks of iridocyclitis since, the good eye always showing sympathetic irritation. Has now a severe iridocyclitis in the poor eye, extremely painful and tender to touch, and sympathetic inflammation in the good eye. Immediate removal of the blind eye advised, but consent was not obtained for two days, during which time everything possible was done to reduce inflammation, and with some gain. On May 28th the patient was prepared and a Mules's operation performed as before described, a pressure bandage being applied. Following this there was some swelling and some throbbing pain for a day, which gradually subsided, but no more reaction than usually follows an ordinary enucleation, and there was no secretion. It was not necessary to make hot or cold applications, or to give an anodyne. The sympathetic ophthalmitis promptly subsided. This case I here present to you for inspection (Fig. 4).

Fig. 4.

The appearance of these cases demonstrates the advantage of this operation. Swanzey, Fox, Bickerton, Buller, Frost, and others have performed a great many of these operations and are enthusiastic in their praises, do not fear substituting it for enucleation in sympathetic ophthalmia, and have had no cases where the ball has been broken afterward; but realizing this possibility some are substituting a silver ball. Dr. J. Herbert Claiborne,* of New York, has made some experiments on rabbits' eyes with the object of substituting some unyielding substance for the glass or silver ball, but so far has been unsuccessful. I do not see the necessity for such a substitute in Mules's operation.

Some operators use catgut in place of silk to stitch up the sclera, but, owing to the fact that this is liable to become absorbed before firm union has taken place and allow the ball to come out, silk seems safer and has not in any of my cases caused irritation.

304 Dayton Building.

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* J. Herbert Claiborne. *Journal of the American Medical Association*, November 21, 1896.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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(*Continued from page 80.*)

Inasmuch as in tabes we have not, as after section of a dorsal nerve root, a complete degeneration following the continuation of all the fibres corresponding to it within the spinal cord, but rather an elective degeneration of the dorsal funiculi, certain only of the intramedullary continuations of the dorsal roots being involved in the disease process, at least in the early stages, it seems to me that one of two views has to be accepted for the explanation of its origin. Either this is to be sought in a slow intoxication of the cord, the toxine being one that influences deleteriously the sensory regions of the cord and by preference only certain parts of these, the individual bundles which succumb varying to a certain extent in different cases of the disease, or the toxic process is exerted in an elective way in the spinal ganglia, or possibly on the whole of the peripheral sensory neurone, certain only of the peripheral sensory neurones being affected, at least at first, and accordingly certain only of the fibres of the dorsal funiculi inside the cord. The former view has been supported by Erb, Strümpell, Möbius, and others. A result of poisoning somewhat similar to that assumed in this doctrine of the origin of tabes has been observed in certain other intoxications.

Nothing can be more obvious than that certain groups of neurones in a given individual are more susceptible than others to a given toxic agent; more than this, the same group of nerve cells in two individuals may react very differently to similar doses of the same poison. Our daily experience with the effects of alcohol, coffee, tea, and certain anæsthetics upon different individuals and upon ourselves under different circumstances are of interest in this connection. The toxines of syphilis, although we are entirely ignorant as to their nature, show a decided preference for certain parts of the cerebral cortex, other areas being less often affected. Hampe's observations concerning the differences in the psychic disturbances following carbon-bisulphide poisoning in different individuals are very convincing in this regard, as are also the careful psycho-pharmacological investigations of Hoch and Kraepelin concerning the caffeine and ethereal oils in samples of tea. It is Flechsig's idea that these variations in vulnerability of different groups of neurones, and of the different portions of the individual neurones, are to be traced back in large part to developmental conditions, a suggestion which is highly plausible in view of the evidence that can be brought forward in its favor. This evidence, however, can not be detailed here.

The answers to the questions which we have formulated concerning the events occurring in the various component parts when cut off from the main body of the neurone, and the effects of lesions of individual portions of the neurone upon the neurone as a whole, are, of necessity, as yet very incomplete. Sufficient evidence, however, is at hand to render clear the fact that the neurone *as a whole* is a trophic unit, and that any attempt to locate the trophic function exclusively in any one portion of it must assuredly fail. We have seen that we possess reliable observations which all favor the view that injury to any part of it also affects to a greater or less extent the remainder of the neurone, and that no portion of a neurone is capable of existence for any great length of time after the severance of its connection with the rest of the nerve unit. And after all, when one thinks of it, this is not so very astonishing; indeed, it is rather a matter of surprise that the fact should have been questioned, after the knowledge had once been gained that a neurone as a whole represents a single cell, for we have long known that even in such presumably little differentiated protoplasm as that possessed by an amœba, an injury (for example, with silver nitrate) to one portion of the cell body is speedily answered by phenomena which concern the whole of the unicellular organism. How little likely that a nerve cell, the protoplasm of which represents the highest example of differentiation along the lines of irritability with which we are acquainted, should remain uninfluenced by irritation or destruction of one of its integral parts!

Many facts might be added in connection with regeneration of nerve fibres and nerve cells which have more or less bearing upon the trophic functions of the neurones. On the regeneration of nerve fibres an immense amount of work has been done,[*] some very important contributions having been made by investigators in this country, especially by Howell and Huber.[†] It has long been known that on suitable apposition of the ends of a divided motor or sensory nerve, the axones of a central stump may grow out again to the periphery and function may again return. In the event of the reestablishment of connection and function, the regressive alterations which begin to appear in the central portions of the neurone almost immediately after section (Nissl) gradually give place again to the normal appearances. Regeneration of severed nerve fibres within the spinal cord and brain is, unfortunately, very much less complete than in peripheral regions.

Whether a nerve cell once entirely destroyed can have its place adequately filled by one formed by division from another nerve cell is a question of vital interest. The researches of Tigges, Mondino, Coën, Cattani, and Popoff are of interest in this connection. The newspapers have recently contained the most exaggerated and ludicrous accounts of the significance of the experiments of Vitzou, of Bucharest.[*] According to his researches, there may be an actual new formation of nerve cells in the brain, and it is his opinion that the restitution of function after ablation experiments is to be attributed, not as Luciani and Tamburini think to the existence of secondary centres, but directly to the newly formed nerve tissue. This view is not shared by Tedeschi,[†] of Pisa, although this investigator also asserts that he has demonstrated the possibility of a regeneration of the nerve cells (Fig. 103). It is highly desirable that these studies be repeated and extended, especially as the recent researches of Tirelli [‡] on the spinal ganglia, and of Monti and Fieschi [#] on the sympathetic ganglia, go to support the prevalent view that in adult animals ganglion cells once destroyed are not regenerated.

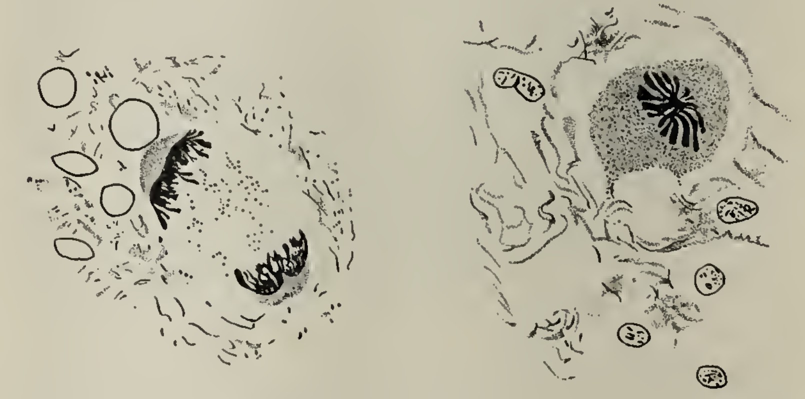

Fig. 103.—Caryocinetic figures in nerve cells in brain of dog three days after introduction of foreign body. (After Tedeschi.) Fixation in Flemming's mixture, saffranin staining.

Of these phenomena of regeneration it may be said briefly that they emphasize most strikingly the cellular nature of the neurones and accord in nearly every particular with what *a priori* might have been expected.

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[*] Compare the excellent review and critique of the bibliography up to 1895 by Stroebe, H. Die allgemeine Histologie der degenerativen und regenerativen Processe im centralen und peripheren Nervensystem nach den neuesten Forschungen. Zusammenfassendes Referat. *Centralbl. f. allg. Path. u. path. Anat.*, Bd. vi, 1895, Nos. 21 and 22, pp. 849 to 960.

[†] Howell, W. H., and Huber, C. A Physiological, Histological, and Clinical Study of the Degeneration and Regeneration in Peripheral Nerve Fibres after Severance of their Connection with the Nerve Centres. *Journal of Physiology*, vol. xiii (1892), pp. 335 to 406, and vol. xiv (1893), pp. 1 to 51; also Huber, G. C. A Study of the Operative Treatment for Loss of Nerve Substance in Peripheral Nerves. *Journal of Morphology*, vol. xi (1895), No. 3, p. 629.

[*] Vitzou, A. N. La néoformation des cellules nerveuses dans le cerveau du singe consécutive à l'ablation complète des lobes occipitaux. *Compt. rend. de l'Acad. d. sci*, Par., 1895, cxxi, 445–447; and in *Arch. de physiol. norm. et path.* Par., 1897, 5 s., ix, 29–43, 1 pl.

[†] Tedeschi, A. Anatomisch-pathologische und experimentelle Untersuchungen über die Regeneration des Nervengewebes. Vorl. Mitth. *Centralbl. f. allg. Path. u. path. Anat.*, Bd. vii, 1896, S. 449; also Anatomisch-experimenteller Beitrag zum Studium der Regeneration des Gewebes des Centralnervensystems. *Beitr. z. path. Anat. u. z. allg. Path.*, Jena, 1897, xxi, 43–72, 3 pl.

[‡] Tirelli, V. Dei processi riparativi nel ganglio intervertebrale. *Ann. di freniatria e scienzi affini*, vol. v (1895), p. 9.

[#] Monti, A., et Fieschi, D. Sur la guérison des blessures des ganglions du sympathique. *Arch. ital. de biol.*, t. xxiv, fasc. 3, 1895, p. 401.

I have purposely laid particular stress upon the unity which characterizes the trophic functions of the neurone, because the Wallerian doctrine of trophic centres has been so ingrained in our minds that it is difficult to disabuse ourselves of the erroneous portions of it. I hope, however, that in making this point I have not given rise to the impression that all portions of the neurone are of equal value from the standpoint of nutrition. Such an idea would probably involve a fallacy even greater than the one from which we are being emancipated. Exactly the part played by the dendrites, by the cell body, and by the axone in the nutritive processes it is as yet impossible to say; but that each has an important function is certain, and that the rôle of the non-medullated portions of the neurone is somewhat different from that of the medullated seems very likely.

We have now to turn our attention for a short while to the phenomena of irritability as manifested by the neurones, and shall return later to consider the relations of the trophic functions to the nervous functions proper.

The Irritability of the Neurones.—The physiologist of the present day sees in the functions of the nervous system, even in those which are most complicated, only certain manifestations of energy. Moreover, he believes that in neurones, as in all other cells of the body and as in the world generally, the law of the conservation of energy during transformation holds, and consequently regards the phenomena of irritability, as exhibited by a neurone or by groups of neurones, as the kinetic representative of the potential forces of the cells and their food stuffs. The metabolic activities and the vital manifestations of the cell are concomitant processes—another example of the inseparable connection which exists between what we term matter and energy. There has been in many quarters a certain amount of hesitancy in accepting the view that the capacities of the nervous system, particularly those of the brain, are dependent directly upon the chemical and physical alterations which are continually going on within its constituents—a hesitancy which, though it has in the past proved a serious obstacle to progress, is happily now fast disappearing. For the plant, all the evidence goes to prove that under the influence of sunlight and heat marked chemical and physical changes take place within it which we recognize in its vital processes. In the animal, be it granivorous, carnivorous, or, like man, omnivorous, it is the chemical energy introduced as food which represents in the main the source of the energy of the organism. The recent accurate calorimetric studies of Rubner * are of much interest in this connection, and demonstrate in a most convincing way the applicability of the law of the conservation of energy in the domain of animal life. While, however, our present knowledge suffices to permit the recognition in groups of living cells of these broad general laws, which were formerly thought by many to be applicable only to inanimate nature, it must be admitted that in no single instance are the details of the transformations of energy known to us in any degree of completeness. We have not as yet discovered very much that is definite concerning the storing up of energy inside the individual neurones, and our information relating to the discharges of energy in these structures is even more scanty.

The physiologists have been struggling for fifty years or more to gain an insight into the nature of what they call nerve impulses, by which is to be understood the occurrences inside axones—for example, at the time when we have good reason to believe that they are functionally extraordinarily active. Their efforts have supplied us with a multitude of data, physical and chemical, interesting enough, no doubt, but which can serve as only the barest prolegomena to an explanation of the essence of the occurrences. If we are so badly informed concerning these elementary and fundamental phenomena we may very well be content to be modest for some time to come in our claims as regards a physiological psychology. It is by no means impossible that in the nervous system forms of energy are concerned which do not exist outside the animal body and which yet remain to be recognized and studied.

It would be easy enough to outline rapidly the most salient points with which we need to be better acquainted. The differences in neurones in different species of animals, the influence of heredity upon the structure of the neurones, the automatic activities in these cells, if indeed they have any which are absolutely automatic, the changes in neurones resulting from chemical and physical alterations in their environment, their powers of adaptation, and many other questions present themselves, the solution of any one of which would bring about a great advance in our knowledge. Truly, to find out the properties of a single neurone would be a task appalling enough, but when we remember that of the millions of neurones in one individual perhaps no two are just alike, the quest would seem hopeless. But instead of burying ourselves in pessimistic reflections, or being discouraged by what is at present unattainable, by what may perhaps forever remain to us unknowable, we may profitably turn to the consideration of some of the points which lie more within our ken.

One point, self-evident enough when one's attention is directed to it, but which often appears to have been overlooked in connection with the neurones, is the unremitting character of their activity. With a metabolism so complicated as that occurring within the nerve units it is inconceivable that there can be any period in which alterations in chemical structure, and consequently energy transformation, are not going on. From moment to moment, throughout all the hours of the day and night, analytic and synthetic processes are taking place, associated with the alterations in physical forces which necessarily accompany these changes. In common with everything that lives, the neurones know no absolute repose. As I have said, in speaking of their metabolism, periods of extravagant activity may alternate with periods of more economic change, but total rest is inconsonant with continuance of existence. We are forced to believe that what we ordinarily speak of as the passage of a nerve impulse represents, as it were, a stormy process in the nerve fibre, and that just as absence of a storm does not mean absence of weather, there are in all probability minor alterations, currents if you will, passing to or fro or passing to and fro in a given nerve fibre in the intervals between the more violent excitations. With increasing knowledge the importance of centripetal impulses which fall below the threshold of consciousness and of centrifugal impulses insufficient to call forth visible muscular contractions is becoming more and more evident. In a healthy individual perhaps the majority of the impulses passing from the periphery into the nerve centres have no share in the composition of the mental pictures, or serve to make up only a vague background for what is focal in consciousness, but these subconscious stimulations are doubtless of decisive significance for the nutrition of the elements concerned and for the processes of subconscious coordination. Similarly, the myriads of impulses passing to the muscles without producing marked contractions in them must of necessity have to do not only with the proper metabolism of the motor neurones, but also with the nutritive processes in the muscles themselves. Indeed, there is much evidence to show that the nutrition of the muscles can be kept up very well in the absence of active muscular contractions as long as these less violent impulses pass regularly to them, but as soon as the latter are cut off the muscles speedily undergo atrophy. This fact is often extremely well illustrated in cases of hysterical patients, where, as is well known, there may be inactivity of certain muscles for very long periods without any very marked atrophy. By means of very delicate graphic methods it can sometimes be shown that the muscles in such patients are innervated when corresponding movements are thought of, just as in a healthy individual the hearing of the word "tower" is often associated with nerve impulses to the eye muscles, which tend to make the individual look up. The different tracings yielded by the automatograph during various psychic processes may be mentioned as interesting in this connection.

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* Rubner, M. Die Quelle der thierischen Wärme. *Ztsch. f. Biol.*, Bd. xxx, 1894, pp. 73 to 143.

The importance of the continuous passage of impulses along the sensory nerves for the carrying out of all complicated movements of the muscles, long emphasized by the observations upon tabes and also upon cases in which there have been lesions of the trigeminus, has been made even more strikingly evident by Mott, Sherrington, and others who experimented upon monkeys in whom the dorsal roots of certain of the spinal nerves had been cut. In such animals, although practically all the motor neurones (except the few possible motor axones of the posterior roots) are intact, and the memory traces of previous movements must be believed to still exist, movements of the limbs innervated by the corresponding segments of the spinal cord, those which are complicated as well as many which are quite simple, are only very inaccurately carried out. The continuity of the nerve excitations can therefore scarcely be insisted upon too forcibly, and I am inclined to agree fully with Goldscheider when he says, "Es herrscht eine zeitliche Continuität von Erregungen in allen Bahnen des Nervensystems." As Donaldson,* writing in this connection, beautifully puts it: "In this picturing the entire nervous system as a sensitive mechanism; it is evident that it must respond to the surrounding stimuli as does the water of a lake to the breeze; and such is the relation between the central system and its environment that the breeze is always blowing and the waves of change always chasing one another among the responsive elements. If there are no waves, then the cells are dead. The breeze still blows, but it falls on a frozen surface, on cells chilled and rigid beyond the power of response."

The influence of the arrival or non-arrival of external stimuli to the neurones upon their trophic and nervous functions will be referred to a little later. If among external stimuli we class not simply those outside the body, in which event a very minute fraction of the whole number of neurones would be directly accessible to external stimuli, but all those external to the neurone, including those arriving through the lymph which bathes it, or by means of the processes of other neurones which enter into relations of contact or contiguity with it, we shall come to the conclusion that the limits of genuine spontaneity of action on the part of neurones are very narrow; indeed, some authors would deny its existence altogether. Von Lenhossék, for example, says: "Man darf den Satz wohl als gesichert betrachten, dass es keine Nervenzelle giebt, die ihre Nervenwirkungen aus sich selbst heraus, ohne äussere Impulse, spontan entfalten konnte." The reflex actions are very obviously dependent upon external influences, as are also the instinctive reactions, and what we call volitional movements are, when analyzed, apparently only reactions to external influences modified by memories. We must not lose sight of the fact, however, that there may be periods of considerable length intervening between the arrival of the external influence and the discharge of energy which it determines or helps to determine, just as we know that the springs of conduct often lie far removed from immediate acts. And it is just here that the laws bearing upon the summation of stimuli * assume an especial interest, although for want of space they must be passed by now without discussion.

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* *Op. cit.*, p. 284.

The doctrine of the specific energies of nerves, since the time of its formulation by Johannes Müller, has taken a prominent place in nerve physiology. The view of Müller has been much misunderstood and often misstated, and many modifications of it have been suggested. It has been left for the neurone doctrine to explain, if it can, why it is that on stimulation of the retina or of the optic nerve, for example, the response always occurs in one and the same manner; no matter whether the stimulation be by normal methods or by mechanical or electrical means, the sensation of light or of color alone is yielded; or how it happens that when a "cold-point" in the skin is stimulated, whether it be with ice, the prick of a sharp toothpick, an electrical current, or a piece of hot wire (paradoxical cold reaction of von Frey), the sensation of cold always results.

(*To be concluded.*)

THE POINTS OF DISTINCTION BETWEEN CEREBRAL SYPHILIS AND GENERAL PARALYSIS OF THE INSANE.

TWO LECTURES DELIVERED TO THE MEDICAL STAFF
OF THE ILLINOIS EASTERN HOSPITAL FOR THE INSANE.

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LECTURE II.

(*Concluded from page 380.*)

MENTAL SYMPTOMS.

WHEN we come to a consideration of the mental states of general paralysis of the insane and cerebral syphilis, we encounter still greater difficulties in drawing clear-cut distinctions and eliciting diagnostic contrasts than was the case with the somatic abnormities. No one psychic symptom of either affection is of very great importance. As with the bodily signs, so here, it is especially the general course of the disease, the grouping or succession of mental symptoms, and more particularly the association of certain psychic and somatic manifestations, that are of value to the diagnostician. After simply stating, then, that neither disease ever produces a psychic symptom that may not be found in the other, what pertains to purely mental signs may be noted with considerable brevity.

One of the most helpful differences lies in the mode of onset. General paresis shows itself most insidiously, attacking first the higher faculties, gradually invading the lower, and impairing last the mental acts of routine existence that have become nearly automatic. For instance, a physician may exhibit almost imbecility in judgment of current events and an utter lack of ethical sense and yet continue his professional work without striking errors. A painter and decorator whom I examined could tell accurately and almost instantly the number of rolls of paper required to paper rooms of different dimensions, or the cost of a given job of painting, but was entirely unable to solve the simplest arithmetical problems pertaining to other lines of business.

This gradual downward invasion of mental capacity and preservation of daily exercised mental functions is apt to be missing in syphilis. There is not the nice gradation of psychic degeneration that marks the general paralytic, who may have lost all his customary regard for science, art, ethics, and sociology, be absolutely devoid of sympathy for his dearest friends, and yet exhibit considerable business acuity and a tremendous activity in his customary occupation. The victim of cerebral lues is oppressed by a more general hebetude; his faculties and capacities are more uniformly clouded—excepting always such defects as may be due to focal disease, as aphasia, word deafness, etc. Even when progressive mental impairment is almost the only result of brain syphilis, the creeping advance of dementia paralytica is wanting. Just as we have seen the case to be with the physical disabilities of brain syphilis, so is it with the mental; the disease in its onward march lacks uniformity of movement. It becomes worse by fits and starts, by greater or lesser leaps. There is sudden aggravation of all the symptoms and not rarely sudden improvement, even in the absence of treatment, or these rapid changes may affect only one or a few of the symptoms. The dementia of syphilis may make its appearance not only rapidly but even suddenly, a kind of accession scarcely to be seen in paretic dementia. Brain lues, for instance, may announce itself by a gradually deepening stupor; a stupor from which the patient can ordinarily be roused, but into which he immediately relapses. Sometimes, however, it deepens into coma. In either event it may last for days or even weeks. This sort of thing as a curtain-raiser does not occur in dementia paralytica. Numbers of observers have called attention to cases of general paralysis that in the beginning are scarcely to be distinguished from hypochondria. A general feeling of ill-being, constant solicitude regarding the internal organs, vague pains and discomforts to which the patient attributes great importance, and the absolute futility of the physician's reassurance, characterize these cases. In some instances this incipient mental depression of general paralysis may closely simulate melancholia, with or without well-defined delusions. These are clinical pictures that may occur in syphilophobia, but do not belong to brain syphilis.

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* *Cf.* Du Bois-Reymond. *Ueber die Auslösung von Reflexbewegungen durch eine Summe schwacher Reize*, 1880; also the review of this subject by Exner, S. *Entwurf zu einer physiologischen Erklärung der psychischen Erscheinungen*, 1894, Cap. ii, S. 49.

In quite a different class of paretics the incipient stage is marked by mental eagerness and restlessness—a hyperactivity without hyperacuity, which has been insisted upon by Morean, Régis, Ball, and others. The lesions of syphilis cause no such mental state. Exaltation of the sexual instinct (and possibly sexual power), not rare in the beginning of dementia paralytica, is not caused by brain lues, and the same may be said of impotence. This latter statement, of course, does not apply to cases of syphilis in which there is general hebetude, great pain, or disease of the spinal cord. A long "prodromal" period (one to five years) resembling neurasthenia, characterized by rapid fatigue, lack of vitality, irritability, indecision, treacherous memory, unrefreshing sleep, dull headache, vague neuralgias, poor circulation, loss of flexibility and normal timbre of the voice, indicates general paralysis and not syphilis. Thomsen * says that the general paralytic may show simply a change in character for from two to five years before the real outbreak of the disease, a mode of approach that could not be due to syphilis.

After the onset, as I have already repeated, the course of cerebral syphilis is not only more irregular but also more rapid that any but the galloping cases of general paralysis, and these constitute a minute proportion of the whole. Indeed, the course of the syphilitic affection may loosely resemble that of typhoid fever, influenza, or acute miliary tuberculosis, producing in a few weeks or even days a condition of prostration and incoherence that is attained by general paralysis only after many months. Hence, if a given case present a mental condition entirely comparable to that of advanced dementia paralytica, but which has developed within a few weeks, this disease is to be safely excluded. Destructiveness and filthiness may appear early in syphilis; in general paresis, the latter comes comparatively late, and the former is generally a simple restless activity leading to tearing of the clothing, bedding, etc., while in syphilis there may be a tendency to smash things generally, or even homicidal impulse, without the grandiose conceptions of paretic mania.

The further course of psychic disorder in these two organic brain diseases offers more or less contrast consonant with the general rules already laid down. In spite of the existence of several types of general paralysis and of the numberless irregularities, almost eccentricities, observed in individual cases, there is still something of unity and uniformity that molds the disease into a definite entity. In spite of the wonderful fidelity with which cerebral syphilis may copy the symptom-complex of dementia paralytica, this imitation is essentially coincidental only, and nearly always transient. Instead of morbid changes diffuse as to location and tolerably uniform as to character and progress (general paralysis of the insane), those of syphilis are multiple as to location, various as to character, and hence uncertain as to progress. From the beginning to the end the general paretic continues his downward way. It is true that the progressive deterioration may be broken by episodic interruptions—epileptoid, apoplectoid, or maniacal attacks, that mask for a little the ordinary features of the disease; but these are transitory and affect the general course only by hastening it, not by changing its tenor. Brain syphilis, on the other hand, is as whimsical in its psychic manifestations as in the grouping and progression of its somatic signs, and a dementia like that of general paralysis, when present, is only one of the phases of the disease or only one part of the mental aberration. In other words, a long course of gradually increasing dementia, even if marked by maniacal outbreaks or temporary aggravation following convulsive or stuporous seizures, belongs to general paresis and not to syphilis. In the latter disease there may be dementia, but there will be added to it a degree of irritability, excitation, hallucinatory confusion, apathy, or stupor incompatible with paretic dementia. Moreover, the dementia may suddenly improve, to be replaced presently by a mental state approximating paranoia, or by mania with homicidal tendency, or by mild delirium, or by a deeply somnolent condition that may be likened to that of a very drunken man, and which has been emphasized as a product of brain syphilis by almost all writers since Heubner. A recent and an older case will illustrate:

A man, aged forty-three years, had complained of headache for nearly a year, and six weeks before I saw him with Dr. C. E. Manierre, he had begun to exhibit a general hebetude. This increased until, at the time of my visit, he seemed to be in a profound stupor; but by shaking him and speaking loud and sharply he could be aroused and was then quite rational. By keeping him "waked up" we succeeded in getting an accurate history of infection three years before, during an illness of his wife, including the location of the chancre, which had been unusual, the character and location of secondaries, etc. In other words, although the man was apparently unconscious and almost comatose, it was possible to rouse him, and when roused his comprehension and memory were good. As soon as we desisted in our efforts, however, he at once returned to his deeply somnolent condition. On large doses of mercury and iodide he improved with remarkable rapidity.

A young man seen some fourteen years ago, when admitted to the hospital was able to walk, but was in a state of stupid indifference, unable to give an account of himself and inclined to resent persistent questioning. Without attacks of any kind, he rapidly lapsed into semicoma, from which only a strong faradaic current or pressure on the supraorbital nerves could rouse him. When roused, however, he seemed at once to comprehend his surroundings, but struck at me viciously (apparently because I had hurt him), turned over like a very weary or sleepy person, and promptly relapsed into

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* *Allg. Zeits. für Psych.*, vol. lii, p. 889.

his former profound stupor. He recovered rapidly and completely on active specific treatment.

Syphilis may also induce a mental condition like that of a person less profoundly intoxicated. The patient, although he seems apathetic and dull, is easily stirred, but uncertain in his reaction. In successive moments, without apparent cause, he may be affectionate, insulting, lacrymose, reverential, and bellicose. To be sure, the ordinarily amiable general paralytic is subject to almost unprovoked accesses of violent passion and may melt in tears over a trifle, but, even late in the disease, he rarely exhibits the shifting instability sometimes shown by the insane syphilitic. Be it remarked, however, that these characteristics do not serve to divide the mental disease of cerebral syphilis from that due to tumor and other gross lesions.

Very prominent among the mental symptoms of paretic dementia are always counted the delusions of grandeur, but I call attention to them principally to utter a warning against giving too much weight to their absence, or even presence. The vital importance of the diagnostic question under consideration relates almost entirely to a comparatively early period of both diseases, and at this stage of general paralysis delusions of grandeur are frequently absent; much more frequently absent, I believe, than is usually thought and taught. Whether or no some writers are correct in their opinion that the simple form of dementia paralytica is relatively more frequent than formerly, I can confidently say that it is by far the most frequent variety seen by me. Of the last twenty-five cases of general paralysis that I have seen in private, dispensary, and hospital (not asylum) practice, not one has exhibited typical delusions of grandeur. The nearest approach to it was in the case of one patient who frequently boasted of his conquests in the feminine world and also, on one occasion, of whipping several persons in a free fight at a house of ill fame. The statement regarding his attractions for (certain) women was true, as he spent money on them lavishly. The other asseveration was an exaggeration, as he had merely created a disturbance.* In addition to this very general absence of grandiose ideas in the early stage of general paresis, it should be noted that they may be present and full-fledged in cerebral syphilis. The general air of contentment and self-satisfaction, that comes earlier and more frequently in general paralysis than do the delusions of grandeur, is also more frequent in cerebral lues. For instance, I have had under my care for the last year a young man of thirty, who came to me with left hemiparesis, general mental failure, impaired speech, and double optic neuritis. Specific infection had taken place about six years previously and the cerebral symptoms had appeared about a year before. He was far from realizing his condition then, but as mentality improved under treatment he became very cheerful and well satisfied, and to-day, although decidedly below par mentally and physically, he always reports himself as "first-rate," and says that he is a "better man than ever he was," and is busy with a couple of inventions of which he promises great things. This is an undoubted case of brain syphilis, and yet his mental state is almost exactly that of many general paralytics. It is, perhaps, apropos to remark that Jastrowitz,* Oppenheim,† Bruns,‡ and Williamson # have called attention to the fact that in tumor of the frontal lobes there is often a tendency to illogical cheerfulness or hilarity, with an inclination to jest, make puns, etc. I have seen this condition strikingly developed in a case of tumor of the right frontal lobe in a young lady of twenty years. But aside from mere baseless cheerfulness, inclination to be facetious and the like, quite a number of cases of gross brain syphilis have been recorded in which typical delusions of grandeur occurred.

But having accepted the postulate that these delusions are frequently wanting in general paresis, that their absence is of scarcely any diagnostic value, and that they may occur in syphilitic disease, it is proper to add that the presence of typical fatuous delusions of grandeur, with absence of all signs of gross brain disease, is strong evidence in favor of general paralysis; and if they continue for a considerable time without much change and without the intrusion of other forms of mental trouble (depression, mania, stupor, etc.), the inference is strengthened to a practical certainty. I have been unable to find the record of such a case due to brain syphilis; neither have I seen or heard of one. I may here add that the greatly exaggerated hypochondriacal delusions, not rare in general paralysis, such as a belief by the patient that he is dead, that his whole body is rotting away, that the abdominal or thoracic viscera are entirely wanting, and the like, are most exceptional in syphilitic insanity.

Somewhat related to the foregoing mental symptoms of general paralysis and assisting to distinguish it from syphilis is so-called "mental facility." The patient accepts without sufficient criticism and exercise of judgment what occurs to his mind or what is said to him. He is easily led into any conviction and from one subject to another. Clouston says that a general paretic is about the only person in an asylum who can not see that

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* Since writing the foregoing, I have seen six additional cases, and one of these patients was the subject of typical but not greatly inflated delusions of grandeur. He, however, had already had the disease about a year and a half or two years, as shown by impaired memory, diminished business efficiency, and irrational irritability, and furthermore, as nearly as I could learn, the expansive delusions had made their appearance only a day or two before. [At the time of reading the proof I have seen three more cases in which delusions of grandeur were present. This makes a total of thirty-four cases, with so-called characteristic delusions in only two.]

* *Verein für innere Med.*, Berlin, 1888.

† *Arch. für Psych.*, vol. xxi.

‡ *Deutsch. med. Wochenschrift*, 1892, No. 7.

Brain, 1896, summer and autumn number.

some of his fellow patients are insane. This susceptibility is lacking in the syphilitic dement, who is, indeed, more apt to resent than to accept. In short, to use the parlance of the day, the paretic is "suggestible," while the cerebral luetic is apathetic or irritable.

Allow me to mention what I consider to be another fallacy. It is frequently said that ordinarily a general paretic is not conscious of his condition. This is certainly not true of the disease in its incipiency. Or, perhaps, I had better say that the assertion is literally correct, but is very misleading. It is quite true that the patient practically never is possessed of a just estimate of his condition, but in my experience he is *always,* in the beginning, aware of mental and physical disability, and not very rarely is apprehensive of losing his mind. The patient alluded to in a preceding footnote, after nearly two years of the disease, and in the presence of delusions of grandeur, told his sister the day before he was brought to me that something was the matter with his head and that he feared he was going crazy. Even when to a single question the patient responds that he is very well or that his memory is all right, more careful interrogation readily elicits the admission that his memory is not trustworthy, that physically he is not so vigorous as formerly, or even that his judgment is not reliable. Often the patient will acknowledge this or that disability, but immediately add some more or less foolish explanation. It is nevertheless true that a cerebral syphilitic is apt to comprehend his condition better than a paretic dement. I suppose this is because his malady shows a larger proportion of physical, as compared with psychic, impairment.

The general paretic and the cerebral syphilitic alike are liable to maniacal outbreaks, and in this as in all other manifestations there is no sure criterion marking one from the other. Still, there are differentiating traits to be regarded. The mania of syphilis is apt to be simply an exhibition of excitement or brute violence, without the delusions of grandeur and rapid play of ideas that are almost sure to accompany the maniacal attack of dementia paralytica. Indeed, it may be said of the psychic disorders of these two affections that although both are due to organic brain disease, and marked especially by a general dementia, yet the mental abnormities belonging to the earlier stages of general paralysis more closely resemble the so-called neuroses and psychoses—neurasthenia, hypochondria, mania, melancholia, etc.—while the mental episodes of syphilis more nearly approximate the delirium of other gross brain disease, of the acute infectious diseases, or of acute intoxications, tumor, meningitis, thrombosis, typhoid fever, acute alcoholism. For instance, a young man of eighteen, mentioned by Cornil,* was thought at first to have typhoid fever, then tuberculous meningitis, and then uræmia. He finally had a convulsive attack, followed by coma, in which he died, and the post-mortem examination revealed a gummatous pachymeningitis. A similar course of events is mentioned by Oppenheim, who says that a certain number of these patients at the Charité (Berlin) pass successively through the wards for nervous diseases, for the insane, and for violent patients. Like the headaches, the mania or delirium of syphilis may appear suddenly in the night or may be characterized by nocturnal exacerbations.

Not only is the mental derangement of brain syphilis atypical as regards general paralysis, but it does not conform to any other type of mental alienation; it is not a consistent mania, paranoia, or melancholia. If, for a time, it closely simulates one of the types, it is inconstant in this as in all other mimicry and some alien element is soon introduced. As the nature of a syphilitic paralysis is often first recognized by its clinical inconsistencies, so is a syphilitic pseudo-paresis frequently betrayed by its motley garb. It will have in its symptom-complex something of the paranoiac, the hypochondriac, the maniac, the hebephreniac, the hysteric, or the circular lunatic. And I might again mention the frequency of the alternation of these episodes of delirium, dementia, or mania with a stuporous or sleepy state. Nearly all systematic writers mention it. For instance, Mairet * says: "However, there is one symptom which, when it is present, is of importance; that is the condition of intellectual depression which sometimes accompanies the (syphilitic) dementia. Of course, lesions other than syphilitic ones may produce this stupor (stupidity), but I know of none that produces it to an equal degree and with equal rapidity." Such an aberrant course of events is not difficult to distinguish from an enduring condition of intellectual dullness and moral perversion, accompanied by the happy content and complacent self-satisfaction so frequent in general paralysis. When this state of affairs is interrupted by epileptoid or apoplectoid attacks, these are mere incidents momentarily thrust upon the scene; there is no change of the entire drama. Even the maniacal outbreaks of general paralysis are ordinarily simply a violent exacerbation of the previous condition. There is an accentuation of former lineaments; an outburst of previously existing ideas; slightly overweening self-esteem expands into limitless delusions of grandeur.

Intense hallucinations of the special senses or of general sensation are rather more characteristic of syphilis than of general paresis. Mairet † says that "in ordinary general paralysis hallucinations are exceedingly rare, if, indeed, they occur." This is a greatly exaggerated statement. Kaes ‡ finds hallucinations exceedingly frequent, but there can be no doubt that it often takes a very careful investigation to discover them—in other words, they are not obtrusive and do not constitute a prominent feature of the symptomatology. The hallucinations of syphilitic disease are, as a rule, easily explainable by the presence of irritating lesions of the nervous mechanism subserving special senses or of the ordinary central or peripheral sensory tracts.

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* Quoted by Lamy. *Loc. cit.*

* *Loc. cit.*, p. 139.

† *Loc. cit.*, p. 147.

‡ *Allg. Zeits. für Psych.*, vol. liii, p. 79.

It is possibly worthy of special mention that, owing to the oscillating course of syphilis, there may be transient lapses of memory without much other disturbance, and these mental trippings are afterward evidenced as mnemonic lacunæ—that is, with an apparently good memory, certain days or weeks are quite blotted from the patient's recollection. This is said to also occur in general paralysis, but it is very unusual at the best and is nearly always connected with a seizure of some kind.

So far as I have been able to learn, the childish pleasure derived by the general paralytic from lascivious speech and conduct is wanting in cerebral lues.

In leaving this part of the subject, I must again insist that the intellectual derangement of brain syphilis is generally only a fragment of the symptom-complex, although it may be by far the most striking or the only obtrusive sign of brain disease, and that it is the accompanying somatic signs and general course of the affection rather than any trait or traits of the psychic irregularity itself that serve to stamp the trouble as specific. Rumpf,* writing ten or twelve years ago, said that no case of mania due to syphilis had been recorded in which other symptoms of this disease were wanting. Although I would not venture to make any such sweeping statement regarding the simulation of general paralysis by syphilis of the brain, yet it may safely be averred that a painstaking consideration of all physical and mental symptoms in each case will leave remarkably little room for error, and that the diagnostician may feel as safe here as he ever does where the question is not definitely settled by bacteriological, chemical, or microscopical examination.

THERAPEUTIC DIAGNOSIS.

Despite such a hopeful statement as the foregoing, or perhaps because of it, I must add that the physician is sometimes driven to attempt a diagnosis *e juvantibus*—by means of treatment. The fuller his information and the more careful his work the less frequently will this be necessary, and it should always be considered the last resource, not the first, as I am sorry to say is too frequently done. And let me impress upon you that the therapeutic test is no more infallible than the various somatic and psychic symptoms already considered. It is unreliable in several ways.

First, it should never be concluded that a given case is not one of brain syphilis because the disease has not responded to antisyphilitic treatment already administered. It is even possible for cerebral lues to develop *de novo* under the constant administration of mercury; as witness the following case:

About two years and a half ago a married man of thirty, while on a spree, contracted syphilis. Upon the appearance of the chancre he immediately consulted a physician, who put him on the ordinary therapeutic dose of the protiodide of mercury, which he took regularly. Four months after the first sign of the sore he had a series of typical Jacksonian fits, the last of which left him weak on the right side and with slight aphasia. Active inunctions of mercury with the internal administration of potassium iodide caused rapid disappearance of all the symptoms, and he has remained well ever since.

Now, if brain lesions will develop during the course of inadequate specific treatment, how much more, when once established, will they fail to disappear under like conditions! In many of the older writings and not a few of recent date (notably those of Mickle and Savage) we may read of brain syphilis or suspected brain syphilis being treated by such ridiculously small doses of iodide of potassium as five or ten grains three times daily, and of conclusions being drawn from the lack of effect of the remedy. To be able to say, then, that the results of specific treatment are *nil,* or nearly so, mercury and iodide must both be administered in *large* doses.

Secondly, a negative result or minimum result of even heroic antisyphilitic medication may prove nothing. After a certain stage specific treatment has but slight effect on specific lesions. Potassium iodide can not restore an artery badly damaged by syphilitic arteritis, much less can it renew the integrity of tissues softened from arterial occlusion. A gumma that has become sclerosed, with cheesy degeneration in the centre, can be removed only by the knife, and an organized membrane the result of syphilitic meningitis is refractory to all medication. More than this, there is occasionally a case of cerebral syphilis in which granulomatous tissue continues to form, and which progresses to a fatal termination in spite of all the mercury and iodides that the patient can bear.

Thirdly, it is also true that no inconsiderable number of general paretics show some improvement under treatment for syphilis, and on rare occasions this improvement is very material. Most alienists know of one or more of these striking cases. Some of them are, no doubt, simply coincidences; in some the betterment is due to improved hygiene, control, and other general measures; in some, probably, to the action of the medicine in relieving œdema or to some action not yet understood.

All these facts must give us pause, then, in drawing conclusions from the effect or non-effect of treatment. Nevertheless, valuable information may sometimes be obtained in this way, and when it comes to a decision as to treatment, it goes without saying that the patient should be given the benefit of the doubt. Let me repeat, please, the benefit of the *doubt*—a doubt that still persists after every effort has been made to clear up the diagnosis. The indiscriminate administration of large doses of mercury and iodides (and small doses are *never* in order) in every case that could by any stretch of medical imagination be construed to be of syphilitic origin is only to be condemned, and condemned with a vigor worthy of a righteous cause.

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* *Loc. cit.*, p. 279.

Venetian Building.

FOREIGN BODY IN THE LARYNX,

AND A

MODIFICATION OF KIRSTEIN'S AUTOSCOPY.*

By E. FLETCHER INGALS, M. D.,
CHICAGO.

J. M., a boy, three years of age, was brought to Dr. Rhodes and myself on the 7th of January, 1898, with the history of having drawn a shoe fastener into the larynx four weeks previously, since which time he had been aphonic, even when attempting to cry; but there had been only a moderate amount of dyspnœa, although the child had considerable difficulty in sleeping on account of the choking. An effort made, at the time of the accident, to dislodge the foreign body had been followed by some bleeding. There was no history of any previous disease, and the appetite and digestion remained good. I attempted to inspect the parts by means of the laryngoscope, the tongue being drawn well forward by a special depressor; but I was unable to see anything below the epiglottis on account of the free secretion and the difficulty in restraining the patient. Upon passing my finger behind the epiglottis I could feel the foreign body in the vestibule of the larynx. As there had been no material change in the symptoms during the preceding four weeks, I directed the parents to bring the child to my clinic a few days later, but to apply to me immediately if any difficulty in respiration occurred in the meantime.

On the 12th of January the child was brought to my clinic, at Rush Medical College, and completely anæsthetized with chloroform. The patient was placed upon his back with his head hanging over the end of the table; I took a seat on a low stool at his head, and by means of an ordinary light and the laryngoscopic reflector endeavored to examine the larynx with the aid of a vaginal retractor about four inches long, used in a manner similar to that tried by J. Solis-Cohen in lieu of Kirstein's autoscope. I had had the retractor cut off and the end bent slightly backward to adapt it for this purpose, but I found that it was too short, and the end was so much bent that I could not get it behind the epiglottis, which rested against the pharynx; therefore I was unable to see the lower portion of the larynx, though I had a perfect view of the parts as low as the retractor would reach. Failing in this, I attempted, by passing my finger down to the larynx (as in doing intubation), to direct a forceps so that I could catch the foreign body; but in this I also failed. I then did a laryngo-tracheotomy, dividing the cricoid cartilage and two of the upper rings of the trachea. Through the opening I introduced a Trousseau bent tracheal forceps, and with the finger of my left hand in the mouth, touching the upper portion of the larynx, crowded the foreign body upward until I was able to work it out with the finger. The body proved to be a shoe eyelet hook (Fig. 1).

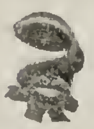

Fig. 1.

In performing the tracheotomy, following the course that I usually pursue in such operations, I introduced through each side of the cut in the trachea a strong silk ligature, the ends of which were tied together, forming loops by which the edges of the opening could be pulled apart. I allowed these loops to remain, so that if swelling should occur in the larynx by them the interne, after cutting a couple of stitches, could easily draw the two sides of the opening apart and introduce a tracheal tube if necessary. I then closed the wound in the neck, the loops being brought out between the cut edges at the centre of the wound. The child was placed in a warm room at the Presbyterian Hospital and went on without unfavorable symptoms for three days, when slight subcutaneous emphysema was noticed. I therefore directed that the external wound be partly opened to prevent greater accumulation of air in the cellular tissue. The loops had in the meantime been removed. The next day a temperature of 103° was observed, and I found that pneumonia had developed in the lower lobe of the right lung. This ran a favorable course, and at the end of two weeks the child was discharged perfectly well.

I have since had the retractor modified, as shown in accompanying cut, Fig. 2.

Since I wrote this paper, two communications from Kirstein have appeared in the *Berliner klinische Wochenschrift*, 1898, pages 158 and 255. The first was the report of a demonstration of his new tongue depressor. He stated that the complicated instrument which he first invented, known as the autoscope, is now obsolete, and that the laryngoscopic tongue depressor takes its place. In making the examinations he uses an ordinary reflector, or electric headlight. For demonstrations he attaches an electric spatula lamp to the tongue depressor.

The second communication was an article in which he minutely describes his new laryngoscopic tongue depressor, the most important features of which are a down curve to the last five centimetres of the spatula, the total drop being one centimetre, and a notch in the end of the spatula designed to give place for the ligamentum glosso-epiglotticum medium. Kirstein says that these apparently insignificant details are the results of many experiments. He recommends that the handle be made short as practicable, and he deprecates a glistening metallic surface as the reflections appear to obscure the autoscopic image. After reading his articles, I had

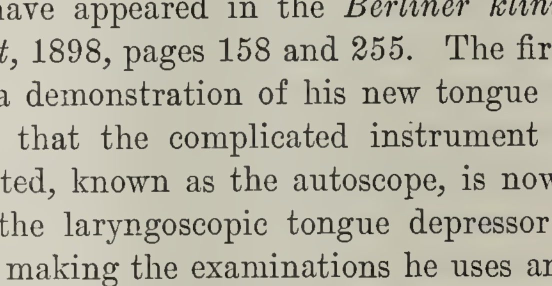

Fig. 2.

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* Read before the American Laryngological Association at its twentieth annual congress.

my instrument again altered, giving it the curve and the notch in the end recommended by Kirstein, but I retain the flanges near the angle designed to prevent the patient's mouth from closing to obscure the field of vision. I am satisfied that this is an important point. I have used this modified instrument on children under chloroform, and obtained excellent illumination of the larynx, the patient being placed in the position already described. From a drawing in Kirstein's article, it is shown that he places the end of the laryngoscopic tongue depressor upon the central glosso-epiglottic ligament and crowds it downward and forward so that the epiglottis lies flat against the posterior surface of the tongue depressor. In attempting to use the instrument on a physician, who wished it tried in his throat, I placed the end on the laryngeal surface of the epiglottis and crowded it forward; but I was unable to get a satisfactory view of the larynx, because it caused a severe spasm of the glottis with much pain, which lasted for some time afterward. Kirstein also recommends his autoscope or laryngeal tongue depressor as an aid in introducing the œsophagoscope. He does not use an anæsthetic, but I am confident that the majority of patients that come under my care would not tolerate the use of this instrument without either local or general anæsthesia.

The instrument appears to me destined to be of great value in examining the throats of young children, and it appears probable that it will often enable us to remove foreign bodies or laryngeal tumors through the natural passages that would otherwise demand tracheotomy or thyreotomy.

In a recent case of extensive laryngeal papilloma, I was able to get a good view of the parts by the aid of this instrument, but on account of broad attachments of the tumor and the great dyspnœa I did not think it expedient to take the time necessary for treatment in this way, therefore resorted to thyreotomy.

34 Washington Street.

HYDATIDIFORM MOLE.*

By JAMES C. KENNEDY, M. D.,
VISITING SURGEON TO ST. MARY'S AND ST. CATHERINE'S HOSPITALS, BROOKLYN.

The subject of this specimen was Mrs. M. O., married, a native of Norway, twenty-two years of age, and the mother of two children, the youngest being one year old at the time of her admission to St. Catherine's Hospital, which was December 1, 1896.

In July, 1896, the patient failed to menstruate, and did not menstruate for the two following periods. At this time she had the gastric disturbances peculiar to pregnancy; she also noticed an increase in the size of her breasts. In October, 1896, about the date when her menses should have appeared, she had a discharge from the uterus of a bloody and watery character (according to her own description), which lasted for one week, and then stopped for a short time, began again, and continued at intervals of a few days up to her coming into my service.

During this time she complained of pain in the back and right ovarian region, her breasts continued to enlarge, but she did not observe quickening. On investigation it was noticed that the patient was anæmic, had a weak and rapid pulse, and almost a continuous discharge from the uterus of a serosanguineous fluid. She was hyperæsthetic in the extreme; so much so, indeed, that anything like a satisfactory examination without an anæsthetic bordered on the impossible.

While kept under observation her temperature varied between 98° and 101°, her pulse between 95 and 115. Her diet was light but nutritious. The medication consisted of ergot in small doses, frequently repeated, and heart stimulants. Under anæsthesia, the rigidity of the abdominal muscles being absent, the uterus appeared to be as large as at the eighth month of pregnancy. On palpation a marked sense of fluctuation was convincing as to the presence of fluid in the uterus. Fœtal heart sounds could not be detected. On vaginal examination the cervix was found to be soft, and evidences of her previous labors were present. By passing the fingers around the *cul-de-sac*, with the left hand on the fundus of the uterus, fluctuation could be distinctly made out; there was no solidity to be found. The woman's bad general condition, coupled with the above signs and symptoms, demanded, in my judgment, an immediate emptying of the uterus.

Under the strictest antiseptic precautions the cervix was hooked down with a tenaculum, a Godell's dilator passed into the internal os, and the cervix dilated as rapidly as was consistent with safety. As soon as the fingers were subsituted for the steel dilator there was a free discharge of the fluid above mentioned, accompanied with two or three small cysts similar to those found in the specimen. The diagnosis was now clear. The hand was introduced, the uterus emptied (following which there was considerable hæmorrhage), its walls curetted by means of the finger and a Thomas's dull wire curette, then irrigated with a 1-to-1,000 bichloride-of-mercury solution, packed, and drained with sterilized iodoform gauze; the vagina loosely packed with the same material. A sterilized pad placed over the vulva, kept in place by means of a T-bandage, completed the dressing. The mole when removed was sufficient to fill an ordinary tin basin. The drainage and packing were removed within the next twenty-four hours. The uterus was irrigated daily with a 1-to-2,000 bichloride-of-mercury solution for seven days, when the pulse and temperature became normal, and remained so. The patient left the hospital on the twelfth day following the removal of the mole.

It is generally conceded now that hydatidiform mole is a proliferative degeneration of the chorionic villi; that the origin of this degeneration seems to be maternal; that among the maternal predisposing causes syphilis holds an important place. Just how the vesicles constituting the hydatidiform are formed is not satisfactory to all. Since the origin of this degeneration seems to be maternal, the degeneration of the chorion must antedate and produce the death of the fœtus. According to Darland and Gerson, from a study of one hundred reported cases, the most favorable age is between twenty and forty, sixty-eight per cent. having occurred between these ages; they also found that uterine hæmorrhage was a common symptom, and that there was a great tendency to septic intoxication after delivery. Their studies show a mortality of ten per cent.

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* Read before the Brooklyn Medical Society, November 19, 1897.

A healthy fœtus and a hydatidiform mole have been known to develop side by side. This would lead us to believe that the degeneration of the chorion was due to fœtal disease. The weight of authority, however, seems to be that hydatidiform mole does not result from disease of the embryo. Retained placenta can not become affected with hydatidiform mole—conception is necessary to the development of hydatidiform mole.

The degeneration affects the villi of the chorion within the first ten weeks of pregnancy.

Volkmann reports an interesting case where the degenerated villi had invaded the uterine blood sinuses, and by pressure led to so extensive an atrophy and absorption of the uterine walls as to leave only a thin, transparent sæptum between the mole and the peritoneal covering of the organ. Schröder reports two cases of this character, in one of which the cystic degeneration was attended by fatal peritonitis and the other by rupture of the uterus and death from hæmorrhage into the peritoneal cavity.

SOME RESULTS OF A YEAR'S EXPERIENCE WITH SUPERHEATED AIR.*

By A. GRAHAM REED, M. D.,
PHILADELPHIA.

A YEAR'S work with the Sprague hot-air therapeutic apparatus has demonstrated that its use is by no means confined to the treatment of what is generally understood by the terms rheumatism and gout. Its successful application covers a wide range of diseases, particularly of bronchial and asthmatic difficulties, general neurotic conditions, tonsillitis, conjunctivitis, etc., while it is almost a sovereign remedy for sprains or bruises and synovial effusions. Nor has it often been disappointing in its action in the usual types of gout and rheumatism. Even where tophi have formed, the solidifications are frequently softened and carried off through the excretory organs.

The skin and kidneys are stimulated by the hot blood, circulation is restored to the affected part, sleep returns to the sleepless, and the general economy is rejuvenated.

Among some hundred and fifty or more cases that have presented themselves, there have been some that on first sight seemed to be of obscure origin, but which have been distinctly proved on investigation to be some form of goutiness. Chlorosis, anæmia, asthma, diseases of the throat and of the chorioid coat of the eye are often though not always the resultants of the lithæmic tendency, and they as well as ovarian inflammations have been among the maladies yielding to this form of treatment.

In chest and pelvic diseases the patient is put into the body machine, an apparatus consisting of a metal or treatment section about thirty inches long, with a closed canvas extension for the feet and a canvas curtain at the free end, from which the head protrudes; it being comfortably pillowed, a pleasant sleepiness is frequently experienced by the patient. The heat is diffused over a larger surface of metal than in the leg machine, and is showered down through a great number of minute openings on to the patient's body, which is covered by a bath robe. In this machine a temperature of 250° or 260° F. seems sufficiently high to obtain desired results. Perspiration is profuse, the lymphatic circulation is stimulated, and the joints and ligaments become more supple.

A Mrs. H. S., aged sixty-three years, had well-marked chlorosis, the tendency having been inherited from her mother. She was treated in the body machine at a temperature of 240° to 260°. After three or four baths the chlorotic symptoms gradually declined; the pallor left the face; the shortness of breath and annoying palpitations disappeared, and the heated blood pumped through the system carried health and strength to all parts of the body.

A Mr. J. M. R., fifty-eight years of age, had rheumatic gout, manifesting itself in head, throat, eyes, liver, and knees. After seven hot-air baths, the head and eye symptoms disappeared, and after fourteen others, at a temperature from 300° to 336°, the knees became pliant, and the man was able to walk twenty-seven squares.

Carlsbad and other springs had been tried in vain.

Mrs. S. T., a singer of note, had a gradually increasing inflexibility of the vocal cords, persistent inflammation of the chorioid coat of the eye, and stiffness of the ankle joint. In nine treatments the flexibility and pure quality of the voice returned and the eyes resumed their normal condition, while the mental depression disappeared with its cause. The deposits in the foot and ankle softened up and full use of the parts was restored.

Age does not seem to be much of a hindrance to recovery. For instance, a Mrs. S., over eighty years old, had rheumatism for the last twenty-five or thirty years, but was very much worse during the last twelve months. Extensive tophi had developed in the knees, and she had not been down to her meals for five years. After four treatments the "creakiness" disappeared, and on the day of her sixteenth hot-air bath she took a walk of seven squares. She was discharged perfectly well and apparently a much younger woman. An average temperature of 320° was employed in her case.

Mr. T. J., a young man of twenty-two years, suffered from anæmia; hands and feet were icy cold, even in summer. The circulatory system was stimulated to healthful action in one treatment, and he has since remained normally warm, now a period of six months.

Mrs. A. S. A. has been a sufferer for many years with distressing paroxysms of asthma. From November to May she received nineteen treatments, with the results that the attacks are far less frequent and less violent, and there is every prospect of freedom from the trouble by continued perseverance.

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* Read before the Philadelphia County Medical Society, June 8, 1898.

Miss L. A. M. was the unfortunate possessor of a gouty ovary; six treatments at a temperature ranging from 300° to 362° made her apparently as well as ever.

Miss R. M. was a victim of the same trouble, but in greater degree. It was only with the greatest difficulty that she could walk upstairs, the suffering was so intense. She was entirely relieved in eleven applications of the hot air, and immediately afterward assumed a responsible position. She was given a temperature from 280° to 330° F.

Mrs. R., sixty years of age, was a case of chronic angina pectoris, with atheromatous condition of the arteries and renal insufficiency. Had much pain in the left arm. The heat seemed to lessen the arterial tension, and the unpleasant symptoms gradually subsided. In seven treatments she considered herself fairly well, but sufficient time has not yet elapsed to test the permanency of the relief.

Miss C. E., aged fifty years, had a gouty stomach, with inaction of the liver and kidneys, and had suffered from insomnia for years. In three treatments she was so improved as to think it unnecessary to continue, and was well up to the last time heard from.

It is found impossible to prognosticate the number of applications of the superheated air, as the resilience of the system and its susceptibility to curative influences can seldom be prejudged, but it should scarcely be expected that diseases of many years' standing should be overcome in two or three hours of counteractive effort.

Traumatic gout yields admirably to the hot-air method, and sprains, bruises, and the soreness of dislocations, serious bicycle accidents, and the like, are quickly overcome by its stimulating properties. Many that came halt and limping, and fearful of a long siege of pain and disability, have left the office rejoicing in the full use of the limbs again.

As regards the effect on chest affections, a remarkable case was that of a lady with lobular pneumonia of the right lung. After several days of distressing cough, she was placed, March 20th, in the body machine for an hour. The congested and inflamed lung was immediately relieved, the cough suddenly left, and up to this time, June 1st, has not reappeared. Chronic bronchitis has also been wonderfully responsive to this treatment.

Dr. D. came to the office with an acute attack of pleurisy; was put in the body machine and the temperature carried to 260°. In an hour the pulse went from 88° to 100° and the body temperature to 100.6°. The difficulty of breathing was relieved in twenty minutes, and the case was entirely cured in an hour. There has been no return.

The blood becomes heated from one to five degrees F., and this seems to be the therapeutic factor. The heat stimulates to action the clogged-up vessels and congested tissues and incites healthy metabolism. Profuse diaphoresis is promoted without the unpleasant head symptoms usual in a steam bath, as the patient breathes the ordinary air of the room. The dilatation of the blood-vessels and the flow of blood in the skin are greatly increased, and we have every reason to believe that the same hyperæmia exists in the subcutaneous tissues. After removal from the machine, in which the patient is usually kept an hour, another hour or more, if necessary, is allowed for the drying off, the contraction of the skin, the falling of the temperature to the normal, and to the reclothing for exposure to the outdoor air.

Muscular rheumatism is generally amenable to this mode of treatment, but when stubborn is a cause for perseverance rather than discouragement. Many cases of long standing are now pursuing vocations that had been resigned from disability. The following are notable instances:

The Rev. Dr. H., aged fifty-six years, had rheumatic fever, which left him some months later with stiffened hands and arms and some functional heart trouble, causing dyspnœa at times and inability to exert himself in any way. Had persistent insomnia, nervous depression, dyspepsia, constipation, dryness of the skin, and urinary insufficiency, finally culminating in a cyclonic storm of rheumatic fever again. After a few treatments the hands straightened out and the rigid fingers could again hold a pen, to his great delight, for he was a writer of some distinction.

At each of his twenty-five baths, extending over a period of about six weeks, there was decided gain, even in the heart symptoms, and the treatment, which he rather feared at first, became a positive luxury. This was ten months ago and he retains his improved condition.

In fact, all cases, so far as heard from, have kept what they gained, excepting in so far as they have returned to errors of diet and lack of exercise. As a matter of course, the originating causes may induce a return of the trouble. Very frequently when a backslider feels an admonitory symptom he returns for a prophylactic bath.

A Mr. M. H., aged fifty-one years, was an intractable case of eczema of three years' standing; the burning and itching were relieved and the swelling of the skin subsided in three treatments, given three days apart. After six months there has been no return.

Sciatica of several months' standing, lumbago, and torticollis have been cured in one application, but there are forms of rheumatism and goutiness which require many and frequently repeated treatments, taxing the utmost skill of the physician and the perseverance of the patient. Yet, by repeated and well-directed efforts, the soreness is nearly always relieved and the pliability of the affected part restored in some degree.

Several cases of rheumatic arthritis, that king of terrors in the world of lithæmic diseases, have been treated with more or less success; more as regards alleviation of the soreness and general symptoms, but less as regards restoration of mobility to the joints involved. In all instances where persistent effort is made, progress of the disease has been checked and relief from acute suffering obtained, but the one thing certain about this disease is that it can not be permanently relieved in one or two treatments; there must be a long-continued fight for life, or rather for comfortable existence.

Women are more subject to this affection than men, but the following was a very marked case in the latter sex:

A prominent man from a neighboring city had "enjoyed" this particular trouble for over thirty years. It commenced early in life in the thumb of the right hand, and steadily progressed till nearly every joint in the body was involved and the left leg became shorter than the right. He is now fifty-nine years old. He took fifty-three treatments ranging over a period of nine weeks, finally considering them not only a curative agency, but a luxury, and he is now more comfortable than for many years. He said he derived more benefit from the hot-air baths than from any of the celebrated springs and baths of Europe and America, and he has been to all of them. Of course, he can never discard his crutches nor be rid of the deformities attendant on the disease, but he expresses himself as being more comfortable than for twenty-seven years.

A professor in a western college was a victim of arthritis deformans and came for treatment last June. He was obliged to sit with his legs straightened out, and for a year had been unable to feed or dress himself and could not rise from a chair without help. He was treated in the leg machine at a temperature varying from 280° to 340°. The diaphoresis was excessive; his temperature would rise from two to four degrees during the hour, and the hot blood coursing through the swollen limbs reduced the swelling and relieved the pain. After twelve baths he was able to feed himself and ride a bicycle six miles. After twenty-five treatments he was so much improved that he went north to the Adirondacks, where he carried out various exercises prescribed for him, such as chopping and sawing wood, pitching quoits, etc. The improvement continues to the present time.

An elderly lady, a case of rheumatoid arthritis of twenty years' standing, was brought to the office with feet and hands, legs, and arms swollen and twisted. The knees were twenty-two inches and a half in circumference and were reduced an inch at the first treatment. At the end of the third she could close the hand, and after a few more she took six steps without her crutches, and shortly afterward accomplished the feat of going downstairs forward instead of backward. She became quite comfortable, though the deformities remain.

Showing that the disease is not confined to middle life or old age is a very marked case of a young married woman. In fact, its victims are generally attacked in early life. She was fast becoming rigid by the deposits of osteophytes around the ends of the bones of the hands and arms, and to some extent of the knee. She realized the importance of putting forth every effort, and for the last five months has been faithful to her numerous appointed hours for treatment and to every item of advice as to diet and general circumspection. The result is that she now does her own work and attends to every detail of her household affairs.

In the course of the fourteen hundred treatments given during the last twelve months, many exceedingly interesting types of disease have been examined, and the great majority have been relieved, the results showing that we have not fathomed all that superheated dry air is able to do for the ills of humanity. The failure of an apparatus to run to a very high temperature must certainly curtail its usefulness. Not that this mode of treatment is a panacea by any means, but that it has been proved to be far reaching in its direct and correlative tendencies. Acting as well on deep-seated tissues and internal organs as on the periphery of the body, it becomes a most valuable adjunct to medical and surgical treatment.

228 North Twelfth Street, *June 4, 1898.*

A CONTRIBUTION TO
THE STUDY OF HYSTERIA IN CHILDHOOD
AS IT OCCURS IN THE UNITED STATES OF AMERICA.

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This country, like all the others of the universe, can not claim entire immunity from hysteria in childhood. While it can with certainty be maintained that this peculiar affection dates back to the earliest development of the American generations, it is almost impossible to determine the exact year of its primary occurrence. The erroneous name given this disease, the superstitions which veiled its cause, and the almost miraculous chain of fabulous events which were attached to its course and termination, had all contributed their share toward its obscuration, so that hysteria, its nature as well as its cure, was synonymous with witchery and sorcery, making it a subject entirely out of the domain of medicine. No wonder, then, that its early history can only be traced from scanty accounts in daily papers which, like our present sensational journalistic sheets, exaggerated matters to an extent of ridiculousness wholly unworthy of belief or even imagination.

One of the first documents of this kind appeared in a New England paper, in 1688,* and read as follows: "Four children of John Goodwin, of Boston, remarkable for their piety, honesty, and industry, were in the year 1688 made the subject of witchcraft. The eldest, a girl about thirteen years old, had a dispute, about some linen that was missing, with a laundress whose mother, a scandalous Irishwoman of the neighborhood, applied some abusive language to the child. The latter was at once taken with 'odd' fits which carried in them something diabolical. Soon afterward the other children, a girl and two boys, became similarly affected. Sometimes they were deaf, sometimes they were blind, sometimes dumb, and sometimes all of these. Their tongues would be drawn down their throats, and then pulled out upon their chins to a prodigious length. Their mouths were often open to such an extent that their jaws were distorted and were then suddenly closed with a snap like that of a spring lock. The like took place with their shoulders, elbows, wrists, and other joints. They would then lie in a benumbed condition and be drawn together like those tied neck and heels, and presently be stretched out, and then be drawn back enormously. They made piteous outcries that they were cut with knives, and struck blows, and the plain prints of wounds were seen upon them. At times their necks were rendered so limber that the bones could not be felt, and again they were so stiff that they could not be bent by any degree of force."

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* Cited by Hammond. *Spiritualism*, p. 227, 1876.

This description leaves, I believe, no room for doubt that the cases in question were typical cases of hysteria resulting from violent anger and emotion in the eldest child and imitation in the two others.

The next authentic account is offered by Rev. Dr. Davidson.* While relating the proceedings of a Kentucky camp meeting, in the year 1800, the writer remarks that "small children had taken part in the religious ceremonies, which consisted in part in the following feats: Simple jerking of the arms from the elbow downward. The head was thrown backward with a celerity that alarmed spectators, causing the hair, if it was long, to crack and snap like the lash of a whip. The children would bounce from place to place like a football, or hop round with head, limbs, and trunk twitching and jolting in every direction. Sometimes the head would be twitched right and left to a half round with such velocity that not a feature could be discerned."

This hysterical method of worshiping seems to have been "contagious" in character, for about the same time several such epidemics are recorded, foremost of which is that reported by Rev. John Wilkinson,† who realized the morbid basis of the religious ceremonies. It may be noted here that this contribution seems to be the first one ever published in an American medical paper. "This disease," the divine begins, "made its appearance early in the summer of 1803, and increased in its effects with astonishing rapidity until the latter end of that season. I have known some persons as young as six or seven years of age, and others, I think, upward of sixty affected. . . . There is scarcely one girl in ten between the age of ten to twenty that has not had or now has the exercise. . . . The paroxysms continued from a half to an hour and upward. The agitation consisted in twitching, retching, groaning, jerking, and laughing. Premonitory symptoms were: Compression or weight in the chest or about the heart. The motion gives relief. No other complaints of corporeal pains are made. They all agree in asserting that during these exercises the senses remain in full vigor, and that even in their silent exercises they know everything that is passing about them. They also say that their mental faculties during the paroxysms are preternaturally active and strong. . . . When a person is in the silent exercise, if a pin or a needle be introduced through the skin, it will cause no emotion or complaint, but will produce the sensation of pain."

Epidemics of this kind occurred also in 1835,* 1846,† and 1870,‡ but for the sake of brevity we will omit their full discussion.

It may thus be seen that the existence of hysteria in childhood for many centuries previous is a matter beyond dispute; it passed, however, unnoticed by the medical profession. Indeed, adhering, as the physician so firmly did, to the view that hysteria was an affection resulting from a certain mobility of the sterile uterus, the report of a case of hysteria in a young child, especially a boy, had been ridiculed by the medical profession, no matter how typical the case might have been.

Centuries have thus passed offering rich harvests to the enterprising quack, who, taking advantage of the shortsightedness and modesty of the doctors, proclaimed and advertised extraordinary cures and filled his pockets wonderfully. An end, however, had to come. The same impetus which revolutionized the whole field of medicine, struck the deathblow to the old-time theories of hysteria. European lights led the march, and Americans soon followed them. Hammond appeared with an interesting volume on spiritualism in which the various phases of hysteria were carefully elaborated upon. Typical cases of hysteria were reported soon after by Jacobi, Gray, Shaffer, Dessau, Jones, Carreau, Lee, Gillette, Kempf, Forchheimer, S. Weir Mitchell, Bemiss, Wolfe, Mills, Putnam, Ayres, Sachs, Rotch, Upshur, Riesman, Eshner, and Burr.

Treatises on this subject have been contributed in most of the modern text-books on practice of medicine and pædiatrics, so that hysteria in childhood—only a few decades ago a source of revenue to the quack and charlatan and of degradation to the regular physician who ever attempted to penetrate its mysteries—is to-day a subject of much controversy, attracting general attention. Theories are being expounded by almost every teacher of medicine, all endeavoring to elucidate the real nature of this obscure disease, all admitting, however, that the solution of this question must be intrusted to the future. Two views are prevalent at present—viz.: 1. That hysteria is a psychosis; 2, that it is a neurosis. Those who hold that hysteria is a psychosis base their opinion upon the observation that, no matter how complicated the symptomatology is during the life of the patient, no lesions accounting for it can be demonstrated after death. This is certainly true, but it is equally true that the negative results on the post-mortem table are to a great extent due to our limited knowledge in histology, pathology, and bacteriology. "Further refinement in staining methods in which there has been so remarkable an advance in the past decade may make possible the detection of changes in nerve cells that at present elude closest scrutiny by existing means of investigation." * This and like statements are frequently being made by those who adhere to the "neurosis theory" of hysteria. These authors lose sight of the fact, however, that analogous hysterical manifestations may be induced by hypnotism and suggestion—artificial psychical influences—and that not infrequently trifling emotional disturbances incite symptoms organic in nature, such as an arrest of menstruation, mammary secretion, etc.

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* *History of the Presbyterian Church in Kentucky.*

† *Philadelphia Med. and Phys. Journal*, pp. 87-96, 1805.

* Account of the Seven Protracted Meetings in Berkshire County, Mass., by the Rev. D. D. Field. *Boston Recorder*, April 3, 1895.

† Cited by Hammond. *Loc. cit.*

‡ Cited by E. Hardinge. *Modern American Spiritualism.*

The *pros* and *cons* of both theories are evidently quite manifold and subject to disproof; hence, before attempting the decision of this difficult controversy, the writer deems it proper first to recall to mind the normal functions attributable to the highest centre of the nervous system, the mind.

The *mind* is defined † as the intelligent power of man; the aggregate of phenomena presented by the functional activity of the brain, a force which manifests itself by intellect, feeling, and will.

By *intellect* is understood ‡ the faculty of the human mind (soul) which preceives or understands, or which receives or comprehends the ideas communicated by the senses . . . ; the faculty of thinking (herein being included the reason, memory, imagination, etc.).

Feeling comprises # the special senses: touch, taste, smell, hearing, and sight; susceptibility, nice sensibility, excitement, emotion, etc.

Emotion || is a sensation excited by an idea and directed toward an object, and accompanied by some bodily commotion, such as blushing, trembling, weeping, or some slighter disturbance not manifest to a second party. Under violent emotion all the muscles of the body may be affected.

Will △ is defined as the power of the mind to determine its thought to the producing, continuing, or stopping any action so far as it depends on us.

To recapitulate: The normal functions of the mind consist in receiving, associating, interpreting, conveying, and controlling impressions without any disturbance or difficulty.

Supposing that the causes which are operative in the production of hysteria are powerful enough to institute a morbid comprehension of the ideas communicated to the mind by the lower centres, an abnormal interpretation would be the result, which would excite a succession of faulty actions of one or all of the normal faculties of the higher centres. For instance, a slight sensitiveness along the spinal column, being interpreted by the unsound intellect as a severe pain, would result in a violent emotion—agitation of some or all the muscles of the body, tonic and clonic convulsions, etc.—which would not be controlled by the will, as this power is supposed to be working under the same erroneous impression. Or a deep puncture of the skin with a needle, if erroneously interpreted as a mere touch with the finger, would leave the centre of feeling entirely indifferent toward it, and no attempt would be made on the part of the higher centres to avoid another exposure of the body to the same painful treatment. Examples of this kind may be multiplied almost *ad infinitum,* all tending to explain the hysterical phenomena as effects of psychical derangements. As normal functions always presuppose healthy organs, it naturally follows that the functional disorders observed in the various types of hysteria are necessarily based upon morbid nutritional changes in the nervous system. Hysteria may, therefore, be considered a neuropsychosis, manifesting itself in an array of functional disturbances of one or all of the higher centres (intellect, feeling, and will), with secondary changes in the lower ones, underlaid by a morbid condition of the nerve substance. Whether this defect lies in the neurone, in the nerve cell, in the nerve fibre, or in all of them; or whether this defect is due to a mere apathy or disturbance of the chemico-molecular composition of the nerve substance, are questions as yet awaiting correct solution. Dr. Preston* believes that in hysteria the protoplasm of the nerve cells becomes used up, and the nerve cells become exhausted to such a degree that an ordinary stimulus can not arouse their activity, and they in turn can not excite the lower centres. While this theory is plausible in hysterical motor or sensory paralysis, it fails to explain hysterical convulsions and hyperæsthesia, where the functions of the nerve centres are exaggerated instead of diminished.

More ingenious, although far from being indisputable, is the "theory of the movement of the neurones" advanced by Rabl-Ruckard. In a recent personal communication, Professor F. X. Dercum,† the American authority on this subject, says: "The explanation that I suggested for motor or sensory excitement in hysteria was that the motility of the neurone was much increased. Hysterical catalepsy or contracture would be explained by supposing that the approximation of the terminal processes of the neurones is greater than normal, and that in this way the transmission of energy would be abnormally facilitated. Possibly an irregular and fitful interchange of energy might account for convulsive phenomenon. Hyperæsthesia could perhaps be accounted for in a similar way by supposing an abnormal approximation of the processes and greater consequent facility of transmission of impressions. I ought, how-

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* Eshner. *Loc. cit.*

† *New Sydenham Society's Lexicon.*

‡ *American Educator; Encyclopædia,* 1897.

# *Ibid.*

|| *Century Dictionary.*

△ Locke. *Human Understanding,* book ii, chap. xxi.

* *Hysteria and Allied Neuroses,* 1897.

† Cited by Dercum. *American Medico-surgical Bulletin,* vol. xi, No. 8, 1897.

ever, to add that the recent investigations of Apáthy on the structure of nerve cells and nerve fibres have thrown some doubt upon the correctness of the modern interpretation of the neurone, and the whole matter is still to be regarded as *sub judice*."

The ætiology of hysteria in childhood is as obscure as the pathology. The great significance laid upon heredity as an ætiological factor has, we believe, been overestimated. Reasoning from the definition of heredity—"the tendency manifested by an organism to develop in the like of its progenitors" *—the offspring can inherit the tendency to the same or to a very closely allied disease of the progenitors only. A tuberculous parent may procreate children with a tuberculous diathesis. Not infrequently children of such parentage are born entirely free from any tendency, owing to the kind provision of Nature to exterminate the weak and permit the survival of the fittest only. If this were not so, most orphans would be suffering from the various constitutional diseases which destroyed the lives of their ancestors. It is therefore doubtful whether hysteria, a functional, completely curable disease, may be transmitted from parent to child; and it requires quite a stretch of the imagination to assume, as many authors do, that chronic lung, heart, or kidney disease of the parents predisposes to hysteria in the children. It is much more rational to consider hysteria a disease acquired through a faulty environment and education. A child, seeing the mother frequently undergoing certain hysterical performances, will fall into the habit of imitating, consciously or unconsciously, the same exhibitions, and this habit, if often indulged in, will gradually result in an aberration of the normal cerebral functions. Just as natural is the presumption that an hysterical mother, unable as she is to control her own feelings and actions, is certainly incapable of resisting vigorously those of her offspring, allowing them, therefore, to deviate from the proper course. The too anxious submission to the whims and caprices of young children and the resentment on their part if their notions are not fully gratified, implants in them a disposition toward grumbling and complaining, qualities which form the primary germ of hysteria. Undue licentiousness in the child, if not reprimanded early, often overreaches the borderline of mental soundness; explosion of temper frequently touches the threshold of insanity. If, besides, such methods of education are being adopted which either overexert or depress the unstable nervous system at too early an age, a hyperæsthetic or dull state of the mind develops that is likely to yield to one or all mental derangements. We refer especially to the error committed by parents in forcing upon young children, in addition to the usual school education, the knowledge of music, painting, emotional recitations, and theatricals under the name of elocution, the reading of sensational novels, and the instillation of religious superstition, which deprives the child of its natural power of thinking and reasoning, keeping it in a constant dread of eternal punishment and the like. The relation which superstition bears to the development of hysteria is, in part, strikingly illustrated by the hysterical religious epidemics referred to above, and by the ceremonies exercised by the colored race during their camp meetings.

Next to faulty environment and education, alcoholism in childhood forms the most frequent cause of hysteria. It is perhaps mere speculation on the part of the writer to assert that the great frequency with which hysteria is met with in France is a result of the consumption of large quantities of alcoholic beverages. Prolonged use of alcohol depresses the functions of the nervous system, exerting a detrimental effect upon the intellect, power of perception, emotion, and will; and while many authorities enumerate infectious diseases among the ætiological factors, it may be contended that it is mainly the various alcoholic stimulants administered, as a rule, during the course of these diseases which seem to diminish the normal controlling power of the brain.

As further predisposing causes we may add prolonged disturbance of the sexual, digestive, or circulatory system—in short, anything that lowers the vitality and imparts a continuous direct or indirect irritation of the higher or lower nervous centres.

As exciting causes we may mention, among many others, trauma, fright, violent anger—in fact, anything that produces a sudden commotion. The effects of the exciting causes depend, however, upon the maturity of the predisposing ones—*i. e.*, upon the power of resistance of the patient. "The blow which brings a feeble body to the ground rebounds without effect from a massive frame" (Strümpell).* Regarding trauma as an ætiological factor, Strümpell says that the cause of hysteria is often hidden by some attendant circumstance. If, for example, a woman falls into the water or gets burned, or tumbles downstairs, and thereupon develops hysteria, the mistake is often made of ascribing the disease to "catching cold," or to the injury received, although really it was the mental excitement which produced it. What is very remarkable in such cases is that the special attendant circumstances at the time of the psychical disturbance often influence the localization of the hysterical phenomena; that part to which attention was particularly directed at the time, not infrequently becomes later on the seat of nervous disturbance.

Of the cases under discussion, twelve children developed hysteria through imitation, six after trauma, six after sudden fright and emotion, two from masturbation, two after infectious diseases, one from malarial infection. In the other sixty-three cases no ætiology could be ascertained.

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* Foster's *Dictionary*.

* *Text-book of Practice of Medicine*, 1894.

Among the cases of hysteria in childhood under fifteen years of age, so far reported in this country, one child was a year and a half old, one two years, three were three years, four four years, four five years, three six years, four seven years, seven eight years, twelve nine years, fourteen ten years, seven eleven years, eight twelve years, ten thirteen years, and nine fourteen years old. Of five cases, the age is not stated. Of the ninety-two cases, sixty-one were of the female, thirty-one of the male sex.

To enter into a minute elucidation of all the phenomena of hysteria is a task impossible to be pursued in a paper of this kind. The writer will therefore merely allude, in the order of their frequency, to the principal symptoms of hysteria in childhood as observed by American authors only.

(*To be concluded.*)

Therapeutical Notes.

An Ointment for Syphilitic Coryza in the Newborn.—The following formula is given in *Nord médical* (*Journal de médecine de Paris,* August 7th):

℞ Calomel	1 part;
Vaseline, Lanolin, each	5 parts.

M. For swabbing the nasal passages.

Leistikow's Lotion for Itching of the Scrotum.—The *Weiner medizinische Blätter* for July 7th gives the following formula:

℞ Corrosive sublimate	0.75 grain;
Alcohol, Chamomile water, each	375 grains;
Chloroform	5 drops;
Cherry-laurel water	1,500 grains.

M.

A Suppository for Infantile Dysentery.—The *Wiener medizinische Blätter* for July 14th gives the following, taken from the *Jeshenedelnik,* 1898, No. 4:

℞ Neutral aluminum and potassium sulphate	3 grains;
Lead acetate	0.3 grain;
Cacao butter	300 grains.

M. Divide into ten suppositories. One to be employed every three hours.

Solanine as a Sedative.—A. Geneuil (cited in the *Journal de médecine de Paris* for July 10th) recommends solanine as one of the best of analgetics and as a substitute for morphine in cases of excitement, spasm, or pain. The dose is not mentioned.

Treatment of Mosquito Bites.—The *Lancet* for August 27th, in an "annotation," states that the intense irritation caused in some persons by mosquito "bites" may be promptly relieved by the application of ipecacuanha, either the "vinum," or the powdered root made into a paste with water or vinegar, being used.

THE
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Edited by Frank P. Foster, M. D.

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THE ARMY MEDICAL SERVICE.

We have before intimated that it was largely themselves that the people had to blame for whatever shortcomings might turn out to have been shown in the care of the health of our soldiers. It will be remembered that at about the time of the breaking out of the war with Spain Congress provided for an extensive immediate increase of the regular army. It failed, however, to make provision for a commensurate augmentation of the medical corps, although earnestly besought by the surgeon general to do so. Then came the call for volunteers, and we soon had in various camps a force of nearly three hundred thousand men. Even then the regular medical corps was not expanded; medical officers barely sufficient in number to serve our little army of about twenty-five thousand men were all we had to depend upon for attending to a force nearly twelve times as large, save for the volunteer medical officers. Now, a volunteer medical officer may be never so learned and accomplished in all that goes to make an efficient practitioner in civil life, but he is almost sure to lack military training, and that is equivalent to saying that at some point or another he will be found weak in actual service, no matter how good his intentions may be. We recognize that there are exceptional men who, coming from civil life, grasp military ideas promptly, and we do not doubt that a number of such men have entered our army since the outbreak of the war; but that does not go far to do away with the general inadequacy of the civilian who has but recently been made a military officer. The prosecution of war is not a mere matter of fighting qualities; it is a science, and a progressive science at that. Our Army Medical School is not a mere ornament; it is a most necessary institution, designed to teach the newly appointed assistant surgeon many things which the degree-conferring school has not taught him, but which it is indispensable for him to know if the army is to profit by the best that is in him.

Besides the numerical insufficiency of our trained military surgeons, we have had to contend with inadequate numbers of volunteer medical officers and the various non-commissioned officers and enlisted men serving under them. "The surgeons," says our special commissioner, to whose report on Camp Wikoff, published elsewhere in this issue, we would refer the reader, "were on many days able to do little else than keep the record of admissions and discharges." Surely they should be spared such a purely clerical duty when their professional services are so much needed by the men from Santiago. "The force of nurses and orderlies," our commissioner goes on to say, "was much less adequate, however, than that of doctors." In short, it is the old story of being expected to make bricks without straw. Camp Wikoff, we are aware, can not justly be compared to such a general hospital at the base as is a feature of well-organized armies, for the conditions under which it was established were altogether anomalous. Still, such a hospital most readily suggests itself for comparison. For a British army general hospital at the base, for example—one intended to accommodate five hundred patients—the allowance, we are informed, is as follows: A deputy surgeon general in command, with a surgeon major as secretary, eighteen other medical officers, a quartermaster, eleven Nursing Sisters, three sergeants major, thirteen staff and other sergeants, a bugler, twelve corporals, ninety-four privates, and twenty-five batmen, or soldier servants. In other words, there is a force of twenty medical officers, a hundred and forty-nine non-commissioned officers and men, and eleven women nurses to take care of five hundred patients, and that, too, ordinarily under conditions far less taxing to the force than those that have necessarily prevailed at Camp Wikoff. The responsibility for the discrepancy between such an array and ours does not lie with the surgeon general of the army or with the system on which the medical service of the army is organized, in so far as its organization is not hampered by legislative restrictions. It lies with the people. Let them make it plain to their representatives in Congress that at last they realize the niggardliness with which the medical corps of the army has been treated, and are resolved that the mistake shall be remedied.

THE LIMITATIONS OF MILITARY MEDICAL AID.

In another column we publish an account of the medical arrangements of the British forces operating in the Soudan. Each brigade has five field hospitals allotted to it, and the cavalry division and the artillery corps one each, making a total of twelve field hospitals in all. The establishment of a field hospital consists of four medical officers, one quartermaster, and forty-five non-commissioned officers and privates; so that the entire force represents forty-eight medical officers, twelve quartermasters, and five hundred and forty rank and file of the medical corps. Some ten additional medical officers with the regiments or employed on the lines of communication raise the total of surgeons to fifty-eight. In addition to this will be a stationary hospital of two hundred beds (not one hundred, as stated in the *Lancet*) at Atbara, the establishment of which consists of a brigade surgeon with eight medical officers, a quartermaster, a sergeant major, and seventy-five rank and file of the Royal Army Medical Corps. In addition to this there will be, we presume, although it is not so stated, the usual complement of one "bearer company," consisting of three medical officers, a quartermaster, and sixty-six non-commissioned officers and men, attached to each brigade, whose duty it is to apply first aid on the scene of action and to clear the front of wounded by removing them to the dressing station, whence they are carried rearward to the first field hospital. And this is the provision for a force not a quarter the size of that employed in our operations in Cuba.

In spite, however, of this apparently lavish provision, when viewed in comparison with our own, the *British Medical Journal* for September 3d utters the following significant warning: "The fact of the matter is that our little wars, with only a handful of wounded to be dealt with, have rather spoiled both officers and men, who expect the luxuries of civilization in the heart of the Soudan. War can not be made with rose water, and should we ever engage in a European war, the sick and wounded may have to learn a sad lesson of real suffering and privation, when the number of wounded to be dealt with may be so great that hours, if not days, may elapse before they can all be attended to."

In another column of the same issue the editor says: "The battles of the future between troops armed with quick-firing weapons of long range and precision must produce a number of wounded men so enormous that it will be quite beyond the means of any existing medical service of any army of any country effectually to deal with them at once. The romance of war has gone, and we have only its horrors. The modern surgeon can do a great deal more for his wounded man when he gets to him than his predecessor could do. But he will not get to him because he will be overpowered by numbers. It is doubtful whether the public understands all this, but it may not be inopportune to call attention to it, because men's eyes are still dazzled by the false glamour of war, and there is a comfortable disposition to believe that organization is now so good that, between the medical services of the armies and the Red Cross societies, the wounded will be quickly treated. They will not be quickly treated, simply for the reason that in a big European war they would be so numerous that no organization now existing or likely to be called into existence would be able to deal with them."

We commend these words to the consideration of those in this country who are apparently prone to imagine, in spite of Colonel Senn's assurance to the contrary, that war *can* be conducted in parlor cars and clubhouses, and to censure the medical department for not accomplishing the impossible.

MINOR PARAGRAPHS.

THE RESPONSIBILITY FOR THE CONDITION OF OUR SOLDIERS.

It is with the greatest pleasure that we quote *in extenso* in another column a leading article from the *Boston Medical and Surgical Journal* for September 1st. It embraces so fully, and expresses so aptly, the views on this subject that we hold and have expressed all through, particularly in regard to the fatuity of thinking that soldiering consists simply of pugnacity on the military side, and an acquaintance with mere technical work on the departmental side, differing in no wise from the same technical work as applied to masses in civil life, that we give it in full. We further desire heartily to indorse the statement that it is the regulars who win the battles, in this as in every country, while the volunteers often unfairly come in for the lion's share of glory and public sympathy. The soldier is more than a mere fighter; to be of any good he must be a technically scientific fighter; and this applies especially to the superior officers. The recent splendid achievement of Sir Herbert Kitchener in the Soudan shows what can be done by a military scientist. Here was a large force operating in a desert country as evil in one way as was Cuba in another, landed with practically no casualties or sickness at the fighting point; and fierce as the fighting undoubtedly was, the British loss was insignificant, while that of the Arabs was enormous. Moreover, in the midst of the desert the medical arrangements worked to perfection. Why? Because Sir Herbert Kitchener and his staff knew that questions of camp sanitation, personal hygiene, and care of his men, even such details as investigating the condition of their shoes, the proper time to rest, the safe amount of marching, the need of carriers and attendants, etc., are as much a part of the soldier's training and duty as personal courage, discipline, and tactical skill on the field of battle.

CASIMIROA EDULIS.

This rutaceous tree, the *zapote blanco* of the Mexican Pharmacopœia, was made the subject of examination by Professor Maisch, of Philadelphia, twelve years ago. He wrote of it, in the *American Journal of Pharmacy* for April, 1886, that the fruit was anthelminthic; that the pulp of the fruit was said to be hypnotic, though unwholesome; and that the seeds were regarded as poisonous. Now, according to the *Therapist* for July 15, 1898, a new hypnotic, analgetic, and antithermic has been extracted from the seeds. Long experimentation, it says, and tests on several hundred persons have established its action and its freedom from secondary effects, and determined its toxic dose. It seems "to favor natural sleep, from which one wakes refreshed" in from four to six hours, and its use is especially appropriate in insomnia from cerebral excitement or alcoholism.

CONGENITAL FISSURES OF THE CERVIX UTERI.

Dr. Karl Heil, of Darmstadt (*Centralblatt für Gynäkologie,* 1898, No. 19; *Wiener klinische Wochenschrift,* August 18th), has observed in quick succession three cases of congenital notches of the cervix uteri, all on the left side. Such an abnormity is perhaps of no importance clinically, but one may readily see that, as Heil suggests, it may be of great importance from a medico-legal point of view, for possibly a fissure of this sort might be taken as evidence of abortion, and disgrace and criminality imputed to an innocent woman. Further investigation of the subject on a large scale is plainly to be desired.

VAGINAL PULSATION AS AN EARLY SIGN OF PREGNANCY.

Vaginal pulsation is again brought forward as an early sign of pregnancy by Dr. G. Reusner (*St. Petersburger medicinische Wochenschrift,* 1898, No. 24; *Deutsche Medizinal-Zeitung,* August 18th), who says that the pulsation of the lateral uterine arteries in the posterior vaginal vault is of a different character from that observed in women who are not pregnant, and also different from that of other arteries in the same woman. The *Zeitung's* abstracter, Dr. C. Freudenberg, remarks that the author does not make it very clear what the difference is.

THE INTERNAL SECRETION OF THE TONSILS.

Dr. G. Masini (*Clinica medica italiana,* May, 1898; *Gazette hebdomadaire de médecine et de chirurgie,* August 14th) has been experimenting with an extract of the tonsil of the dog and that of the calf. After administering subcutaneously to a guinea-pig seven or eight grains of the extract for each kilogramme of the animal's weight, he has found a notable increase of arterial pressure, with characteristic oscillations like those following the use of suprarenal extract. It is not maintained very long, and it is followed by a drop to less than the normal pressure. At the same time the action of the left ventricle is accelerated and then retarded. Extracts of tonsils that had long been inflamed or hyperplastic proved of no effect. The author concludes that one of the functions of the tonsil is to furnish an internal secretion capable of causing augmentation of the arterial pressure.

BONY CHANGES IN CHRONIC JAUNDICE.

F. Obermayer (*Wiener klinische Rundschau,* 1897, Nos. 38 and 39; *Centralblatt für innere Medicin,* August 27, 1898) reports five cases of hyperplastic osteitis following chronic icterus. In four of them there was cirrhosis of the liver, and they might sustain Gilbert and Fournier's theory that the toxines that produce cirrhosis give rise to the bony changes also; but in the fifth case the jaundice was due to cicatricial closure of the ductus choledochus, so that the chronic cholæmia must alone have been the cause of the bony changes.

THE ACTION OF THE RÖNTGEN RAYS ON THE PERSPIRATION.

The *Centralblatt für innere Medicin* for August 27th somewhat ambiguously credits to the *Comptes rendus* (of what, is not stated), 1897, No. 17, an article in which L. Lecercle says that, having repeatedly observed in himself and one of his assistants a decided but transitory dryness of the palm of the hand after long experiments with the Röntgen rays, he has experimented with regard to the matter on rabbits, and found that, under the influence of the rays, the cutaneous transpiration became less and less and finally ceased altogether for a considerable length of time.

HYPERLEUCOCYTOSIS INDUCED WITH GUAIACETIN.

Gmünd (*Münchener medicinische Wochenschrift*, 1898, No. 8; *Wiener klinische Wochenschrift*, August 18th) has continued some experiments begun by Risel. In a number of dogs and rabbits, seven in all, he has found hyperleucocytosis after the administration of guaiacetin by the mouth, most decided in about six hours after the drug was given. An increase of the germicidal power of the blood was not observed so constantly.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 10, 1898:

DISEASES.	Week ending Sept. 3.		Week ending Sept. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	181	24	143	49
Scarlet fever	55	5	61	4
Cerebro-spinal meningitis	0	3	0	5
Measles	38	4	41	5
Diphtheria	90	24	86	13
Croup	7	4	2	2
Tuberculosis	98	140	159	172

Where the Responsibility for Cuban Disaster Lies.—The following weighty words of Lieutenant-Colonel Senn (*Journal of the American Medical Association*, September 10th) deserve the careful attention of the irresponsible and self-constituted critics who are clamoring so loudly about the inevitable consequences of a war which they prematurely forced on, and for the disastrous effects of which these same critics are morally responsible: "Colonel Charles R. Greenleaf, chief surgeon of the army in the field, accompanied General Miles on his trip from Guantanamo to Porto Rico, and has been with the army ever since. He was long enough in Cuba to gain a full insight into the horrors created by infectious diseases, which so constantly follow large armies, especially in a war of invasion. He was amazed when he saw to what extent yellow fever had broken out in the few weeks the troops had been in Cuba. There was no difficulty in tracing the disease to a total lack of precaution on the part of the general in command. Colonel Greenleaf had given his directions and advice before the army left Tampa, but they were not heeded. Owing to want of cooperation on the part of the general officer commanding, the medical officers found themselves powerless in preventing and combating the dreaded disease. Colonel Greenleaf's prompt and energetic action on his arrival in Cuba did much in repressing this disease, but it was too late to guard against a general outbreak. The many recent graves in Cuba containing the remains of the victims of this disease are the best proof of what will happen when the leader of an army ignores the health and comfort of his men. In planning the Porto Rican invasion, General Miles availed himself of the invaluable services of his chief surgeon. The expedition was well supplied with medicines, hospital stores, and medical officers to meet all possible emergencies. The result has been that the army has been so far singularly exempt from disease, with the exception of typhoid fever and the effects of heat, both beyond the control of the medical officers. Since his arrival in Ponce, Colonel Greenleaf has been the busiest man in the army. He has not been content in simply issuing his orders from headquarters, but he has attended in person to the execution of every detail. He has visited the camps and the hospitals and exercised personal oversight over the distribution of hospital supplies, instruments, and medicines. Anxious to serve the sick and wounded, impatient when face to face with a slow, hesitating subordinate, he has more than once performed temporarily the duties of an ordinary hospital steward, to furnish a much-needed object lesson. His work will justify the confidence reposed in him when he was appointed to the high and responsible position he holds during this war."

The American Association of Obstetricians and Gynæcologists.—The eleventh annual meeting will be held in Pittsburgh, on Tuesday, Wednesday, and Thursday, September 20, 21, and 22, 1898, under the presidency of Dr. Charles A. L. Reed, of Cincinnati. Besides the president's address, the programme includes the following papers: Septic Infection of Ovarian Cystoma, by Dr. Charles G. Cumston, of Boston; Recent Experiences with the Alexander Operation, by Dr. H. E. Hayd, of Buffalo; Nursing in Abdominal Surgery, by Dr. Joseph Price, of Philadelphia; Carcinoma of the Breast, by Dr. W. F. Westmoreland, of Atlanta; Operative Technics for Intraligamentous Ovarian Cystoma, by Dr. Tod Gilliam, of Columbus, Ohio; Organization of Major Operations in Private Practice, by Dr. W. G. Macdonald, of Albany; Explanation of the Character of the Temperature in Appendicitis, by Dr. Robert T. Morris, of New York; Pathological and Clinical Phases of Gallstone, by Dr. A. H. Cordier, of Kansas City; Some Facts in Regard to Uterine Fibroids, by Dr. H. D. Ingraham, of Buffalo; Albuminuria complicating Gynæcological Operations, by Dr. Rufus B. Hall, of Cincinnati; Extra-uterine Pregnancy; Mature Fœtus borne Twelve Years, by Dr. W. J. Asdale, of Pittsburgh; The Surgical Treatment of Morbid Conditions involving the Broad Ligaments, by Dr. A. P. Clarke, of Cambridge, Massachusetts; The Surgical Treatment of Intussusception in Infants, by Dr. H. Howitt, of Guelph, Ontario; The Relation of Nervous Affections to Diseases of the Female Pelvic Organs, by Dr. B. Sherwood Dunn, of Boston; Ureteral Anastomosis, by Dr. George H. Noble, of Atlanta; The Graver Forms of Nerve Disturbance due to Organic Changes in the Genital Organs, by Dr. W. H. Humiston, of Cleveland; Some of the Complications following Vaginal Hystero-salpingo-oophorectomy in Pelvic Suppuration, by Dr. F. Blume, of Allegheny, Pennsylvania; The Question of Intra-abdominal Drainage, by Dr. Edwin Walker, of Evansville, Indiana; A Report of a Case of Double

Uterus and Vagina, with Pregnancy in One Horn; Excision of the Vaginal Sæptum, by Dr. F. Blume; Some Clinical Observations based on over One Hundred Abdominal Sections for Ovariotomy, by Dr. X. O. Werder, of Pittsburgh; Remarks on Methods of Hæmostasis, by Dr. Walter B. Chase, of Brooklyn; The Past and Present Surgery of the Gall Bladder and Bile Ducts, by Dr. William H. Myers, of Fort Wayne, Indiana; The Treatment of Granular Erosion of the Cervix by Ligature of the Cervical Blood-vessels, by Dr. Tod Gilliam; The Relation of Rectal to Pelvic Disease and to Nervous Disorders in Women, by Dr. Joseph M. Mathews, of Louisville; The Treatment of Endometritis, by Dr. William A. B. Sellman, of Baltimore; and Tuberculous Peritonitis, by Dr. J. B. Murphy, of Chicago.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending September 10, 1898:

Small-pox—United States.

Livonia, N. Y.	During July	1 case.	
Waverley, N. Y.	During July	5 cases.	
Albuquerque, New Mexico.	Aug. 2–Sept. 4	52 “	
Put-in Bay, Ohio	Sept. 6	26 “	
			(Originated among negroes brought from Asheville, N. C.)

Small-pox—Foreign.

Antwerp, Belgium	Aug. 6–13	1 case.	
Antwerp, Belgium	Aug. 13–20	2 cases,	1 death.
Rio de Janeiro, Brazil	July 22–29	2 “	
Bombay, India	Aug. 2–9		1 “
Madras, India	July 23–29		1 “
Awamori Ken, Japan	July 28–Aug. 16	44 “	9 deaths.
Fukushima Ken, Japan	July 28–Aug. 16	1 case.	
Oita Ken, Japan	July 28–Aug. 16	1 “	
Yamagata Ken, Japan	July 28–Aug. 16	1 “	
Christiania, Norway	Aug. 13–20	1 “	1 death.
Odessa, Russia	Aug. 13–20	2 cases.	
St. Petersburg, Russia	Aug. 6–13	1 case.	
Warsaw, Russia	Aug. 6–13		6 deaths.

Cholera—Foreign.

Calcutta, India	July 16–23		6 deaths.
Madras, India	July 23–29		36 “
Madras, India	July 29–Aug. 5		38 “
Aichi Ken, Japan	July 28–Aug. 16	8 cases,	5 “

Plague.

Bombay, India	Aug. 2–9		85 deaths.
Calcutta, India	July 16–23		4 “

Yellow Fever—United States.

Franklin, La	Sept. 5	1 case.	
			(12 cases to date and 1 death.)
Franklin, La	Sept. 6 and 7	6 cases.	
			(3 in camp and 3 in town.)
Franklin, La	Sept. 8		1 death.
			(30 cases to date and 2 deaths.)
Orwood, Miss	Sept. 3	9 cases.	
Orwood, Miss	Sept. 5	3 “	
Orwood, Miss	Sept. 6	3 “	
Taylor, Miss	Sept. 5	6 “	
Taylor, Miss	Sept. 6	4 “	
Taylor, Miss	Sept. 7	3 “	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 23–29	18 cases,	13 deaths.
Port Limon, Costa Rica	Aug. 16–24		2 “
Kingston, Jamaica	July 31–Aug. 6	1 case,	1 death.
Tampico, Mexico	Aug. 21–28		40 deaths.
Vera Cruz, Mexico	Aug. 18–25		4 “

Dr. Pepper Honored in Mexico.—The citizens of Mexico still honor the name of Dr. William Pepper, the first president of the Pan-American Medical Congress. The goodwill and friendship of those people for him has recently been shown in the city of Mexico, at a great public celebration in which President Diaz and other high dignitaries took part, at which time those present paid tribute to the memory of Dr. Pepper.

Philadelphia Likely to Use Schuylkill Water for Some Time to Come.—After weary months of waiting for councils to prevent the large number of deaths from typhoid fever simply by filtering the dirty Schuylkill water, after dozens of resolutions passed by physicians of the city, and after many indignation meetings held by the public, it now looks as if the people of Philadelphia would be forced to yield to a scheme set on foot by a corporation and be content to drink the stuff which their charity gives. However, in order to combat the contemplated scheme, a committee from the Municipal Grange has been appointed, of which Dr. S. Solis-Cohen is a member, who will devise such a plan as, it is hoped, will checkmate any new move made by the Schuylkill Valley Water Company or its secret agents.

A Medical Man on the Commission to Investigate the Conduct of the War.—The appointment of Dr. W. W Keen, of Philadelphia, as a member of the commission is sure to give satisfaction to the medical profession, for he is known far and wide as a conscientious man and a distinguished surgeon.

The Cost of Medical Education in Great Britain.—We cull from the "educational number" of the *British Medical Journal,* August 27th, the following data, which may prove interesting for a comparison with the requirements in this country:

"The fee paid to medical schools for the full curriculum, the 'composition fee,' varies a good deal, and ranges from a little under £100 to a little over £150; the difference, however, when spread over five years is not very considerable, and we do not think that very much weight should be attached to this point in choosing a school. From £30 to £50 must be added for various necessary additional expenses—for extra classes, materials used in practical work, instruments, books, and subscriptions to clubs. So that it may be roughly estimated that the sum paid by the medical student for his education should not exceed about £200, and may be made perhaps about £50 less. The fees to be paid for degrees or diplomas vary very much, but they may be set down perhaps at about £50.

. . . .

"As has been observed, the cost of living varies very much in different places. It is, for instance, decidedly lower in Aberdeen or Edinburgh than it is in London; but we may, perhaps, assume that a fair average will be about £100 a year, provided that the student lives free of expense during the Easter and summer vacations. To this must be added a suitable allowance for clothing and traveling expenses."

From this it will be seen that the estimated minimum, allowing £500 ($2,500) for five years' maintenance during the curriculum, and say £20 ($100) a year for five years for incidentals, total $500, will enable a student to get his diplomas for from $3,900 to $4,250; but, as the editor says:

"On the whole, it should not be expected that a student should be able to pass through the prescribed curriculum and obtain the necessary degrees or diplomas for an expenditure of less than £1,000 ($5,000), and it must be recognized that this amount is very likely to be exceeded. In former times it was sometimes possible for the student to earn something during the last year or two of the curriculum, but this has now become extremely difficult, and the attempt ought not to be encouraged. The five years now prescribed is all too short a period within which to crowd the immense number of subjects with which the student is expected to become familiar."

Homesickness among Soldiers.—The *Corpuscle* for September quotes from the Chicago *Tribune* for August 22d the following pertinent remarks of Lieutenant-Colonel Senn concerning the importance of keeping up free communication between soldiers on foreign service and their friends at home, which is particularly necessary where a large proportion of them are amateurs in military life. As we have repeatedly urged, a man is not necessarily a good soldier because he is a plucky and determined fighter. Soldiers are a distinct class of beings, and, sneer as we may at the idea of a military caste in other countries, it is just that military caste which gives the special qualities that are called for in a good army. For a campaign against any weighty antagonist is in its result a complex of very many details and conditions, and not merely a question of pugnacity and pluck. Colonel Senn says:

"Nostalgia (homesickness), a common affection among unseasoned troops, becomes more prevalent in proportion to the distance between home and the seat of war, as we had abundant opportunity to observe during the present war. The depressing effects of this common ailment have a decided influence in increasing the rate of mortality of the sick and wounded and in impairing the effectiveness of the fighting line. Nostalgia is a contagious disease, not in the sense we use the word contagion ordinarily, but when once established in camp it increases rapidly by suggestion. The onset and spread of this common ailment of camp life are promoted by interruptions of the mail service, the only medium of communication between the soldier of the command and his distant home. Among the many sins of omission of those in charge of management of the present war was a glaring neglect to provide for the much needed and anxiously looked-for mail facilities. If those who have the management of this branch of the government service in charge could be made to understand what an occasional letter from home will do in keeping up the spirit of the citizen soldier, nostalgia would have been less prevalent and its effects less disastrous during the present campaign. From the time I left Fortress Monroe for Cuba, July 3d, until I arrived in New York from Porto Rico, August 19th, I received only two letters of the probably two hundred sent to me during this time."

Changes of Address.—Dr. Casper Stock, to No. 202 East One Hundred and Fourteenth Street, New York; Dr. Seymour Oppenheimer, to No. 706 Madison Avenue, New York.

Rats as Food in Relation to the Growth of Hair.—According to the *Medical Age* for August 25th, a Chinese gentleman advocates the use of the rat as an article of diet, and makes the following remarks on its properties as a hair restorer: "What the carrot is to a horse's coat a rat is to the human hair. Neither fact can be explained, but every horseman knows that a regimen of carrots will make his stud as smooth and lustrous as velvet, and the Chinese, especially women, know that rats used as food stop the falling out of hair and make the locks soft, silky, and beautiful. I have seen it tried many times, and every time it succeeded."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 30 to September 14, 1898:*

BOECKMAN, EDUARD, Major and Chief Surgeon, United States Volunteers, is honorably discharged from the military service of the United States.

FULLER, LEIGH A., First Lieutenant and Assistant Surgeon, will report to WOODHULL, ALFRED A., Lieutenant Colonel and Deputy Surgeon General, for duty in the Josiah Simpson United States General Hospital at Fort Monroe.

SWIFT, EUGENE L., Major and Brigade Surgeon, United States Volunteers, will proceed to Camp Wikoff, Montauk Point, N. Y., for duty.

TEN EYCK, BENJAMIN L., Captain and Assistant Surgeon, will proceed to Willet's Point, N. Y., for duty.

TURNER, R. L., Major and Surgeon. The extension of his leave of absence is further extended one month.

VAUGHAN, GEORGE T., Major and Brigade Surgeon, United States Volunteers, is honorably discharged from the military service of the United States.

A board of officers, to consist of BACHE, DALLAS, Colonel and Assistant Surgeon General; LAGARDE, LOUIS A., Major and Surgeon; BUSHNELL, GEORGE E., Major and Chief Surgeon of Division, United States Volunteers; DESHON, GEORGE D., Captain and Assistant Surgeon; and MUNSON, EDWARD L., Captain and Assistant Surgeon, is constituted to meet at the Army Medical Museum Building, Washington, on Monday, October 10th, for the examination of candidates for admission to the medical corps of the army.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 14, 1898:*

ATLEE, S. W., Surgeon. Detached from the naval hospital at Philadelphia and ordered to the *Boston.*

BAKER, J. W., Surgeon. Ordered to duty at the recruiting rendezvous at Chicago.

CRAWFORD, M. H., Surgeon. Detached from the *Boston.*

KIVALEBERGER, C. P., Assistant Surgeon. Ordered to the naval hospital at Philadelphia.

LOVERING, P. A., Surgeon. Detached from the *Oregon* and ordered to the *Lancaster.*

M'CLURG, W. A., Surgeon. Detached from the *Richmond* and ordered to Washington.

MOORE, A. M., Surgeon. Detached from the recruiting rendezvous at Chicago and ordered home.

RUSH, W. H., Surgeon. Ordered to remain at the Mare Island Hospital.

STEPHENSON, F. B., Surgeon. Detached from the *Lancaster* and ordered to the *Oregon.*

WINSLOW, G. T., Medical Director. Detached from duty at Washington and ordered to the Boston Navy Yard.

Society Meetings for the Coming Week:

MONDAY, *September 19th:* New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *September 20th:* American Association of Obstetricians and Gynæcologists (first day — Pittsburgh); New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Connecticut River Valley Medical Association (Bellows Falls, Vermont); Baltimore Academy of Medicine.

WEDNESDAY, *September 21st:* American Association of Obstetricians and Gynæcologists (second day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, *September 22d:* American Association of Obstetricians and Gynæcologists (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational).

FRIDAY, *September 23d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Births, Marriages, and Deaths.

Born.

BALLANCE. — In Harrisburg, Illinois, on Friday, September 9th, to Dr. and Mrs. John W. Ballance, a son.

Married.

BROWN—MCADAM.—In Barker, N. Y., on Wednesday, September 7th, Dr. Clayton M. Brown and Miss Elma M. McAdam.

OWSLEY — BOLING. — In Tarrytown, N. Y., on Thursday, September 8th, Dr. Frederic Diller Owsley and Mrs. Marie Madeleine Boling.

TILLINGHAST—KELLOGG.—In Bennington Centre, Vermont, on Thursday, September 8th, Dr. Joseph R. Tillinghast, of New York, and Miss Mary B. Kellogg.

Died.

FORMAN.—In Auburn, N. Y., on Tuesday, September 13th, Dr. Eugene S. Forman, in the fifty-first year of his age.

KUHN.—In Brooklyn, on Monday, September 12th, Dr. Joseph H. Kuhn, aged thirty-four years.

MUSSEY.—In Paris, on Thursday, September 8th, Dr. William Lindsly Mussey, of Cincinnati.

NICHOLS.—In Sapphire, North Carolina, on Saturday, September 10th, Dr. James E. H. Nichols, of New York, aged forty-one years.

ROBERTSON.—In New York, on Wednesday, September 7th, Dr. Thomas Seton Robertson.

TROWBRIDGE.—In New York, on Saturday, September 10th, Dr. George R. Trowbridge, in the forty-fourth year of his age.

Special Articles.

CAMP BLACK.

[*A Report by our Special Commissioner, dated September 8th.*]

THE condition of Camp Black was made the subject of special investigation on September 8th. The sensational statements in some of the daily press about the damage done by the recent storm, the camp being under water, tents torn up, etc., found no confirmation on a personal visit by your commissioner at noon the next day. There were no evidences apparent of any such mischief, and he was assured that the reports were untrue; had they been true, it seems very unlikely that in the few hours that had elapsed there should have been no evidence thereof remaining.

The camp is well and admirably situated on a large plain many miles in extent, and would appear fitted for the establishment of an American Aldershot, if the proposed large increase in the American standing army should be carried into effect. The ground formation consists of a few inches only of peaty earth, below which, for very many feet, is loose, permeable gravel, gradually sloping toward the sea. There is an admirable water supply at Hempstead, from which water is conveyed to the camp in iron mains, thus rendering it no more liable to contamination than that in any large city.

A great sewerage system discharging into the sea has been constructed for Hempstead and reaches to within two miles of the camp; and it would be an easy matter to connect the sewerage system of a permanent encampment therewith. There is ample space not only to provide permanent quarters for a large body of troops, but to afford excellent opportunities also for exercising and manœuvring them.

The hospital accommodation consists of twenty-six wards formed by double tents, the average accommodation for each ward being about ten beds. By placing only two tents end to end, a thorough and efficient ventilation is secured. The method of pitching the tents, by means of a rail placed between two adjacent tents to which the guy ropes from each tent are attached, originated with Major Wilcox, United States army, the medical officer in charge, and is very advantageous, giving considerable stability, and increasing the facility for ventilation by free manipulation of the flies.

The sinks had unfortunately been constructed on the farther side of the camp from a drainage point of view; but this had been done before Major Wilcox arrived to take charge, and they were hardly near enough in any event to be a source of danger, especially when well disinfected.

A special sink was constructed as far away as the limitation of hand carriage would permit, for the reception of typhoid dejecta, and this was covered with lids which were kept closed, to minimize the danger arising from flies. The sinks throughout were well dusted with chloride of lime.

At the time of your commissioner's visit there were 4,300 men in camp. Of these, 161 were in hospital and 248 on the sick list in quarters. The third death since the establishment of the camp had taken place that morning from typhoid fever, and, according to the report of Assistant-Surgeon Pouchey, there were thirty-three cases of well-defined typhoid in camp. The mode of its introduction is problematical; but it is to be noted that one company of the Two Hundred and Third Regiment was recruited from Watertown, in which district typhoid fever appears to have been endemic for over a year, and singularly enough the majority of the cases of typhoid fever occurred in the Two Hundred and Third. It is suspected that among that company may have been some cases of ambulant typhoid. The water supply certainly was not at fault, for its analysis proved in every way satisfactory, and, being brought in iron mains, local contamination was impossible.

As regards the state of the patients in hospital, everything appeared to be in good condition. The wards were well ventilated, the cots comfortable, there was no overcrowding, and there seemed to be absolutely nothing to complain of. Major Wilcox spoke very highly of the services rendered by the Red Cross nurses.

The dispensary was, on the whole, well supplied with drugs and materials of all kinds. A sensational report appeared in one of the papers that some private gentleman had had to supply fifty dollars' worth of drugs, which could not be obtained from the authorities. Among these were orphol and tannigen. It must be obvious to the meanest capacity that some limits must be put to the personal predilections of individual surgeons for particular preparations; and the surgeon who can not content himself with using the preparations supplied in the government schedule, issued with careful forethought by the medical department, is unfit to hold the position of a military medical officer, and should confine himself to private civilian practice in a large city. A well-trained military officer learns to adapt himself and his treatment to circumstances, and therein lies one of the points you have been constrained on more than one occasion to urge—namely, that an army is really better off under the care of an adequate number of trained military medical officers of fairly average scientific attainments than of civilian practitioners of the most brilliant capacity, untrained from a military point of view, unless they possess a special aptitude for adapting themselves to an organized condition. The same remark applies to shortness of supplies. It is all very well to blame "red tape"; but "red tape" there must be in every organization of any kind whatsoever. It is simply another name for business administration. The fault lies with those executive officers of minor grade who will not take the trouble to master the details, and act upon methods which, if properly carried out, facilitate instead of impeding the dispatch of business. What business man would blame his methods if some of his employees would not take the trouble to master the ordinary routine of his concern, but insisted each one on doing everything in the office or warehouse in the way that seemed most convenient to him? The administration of an army camp is just as much a special business as the administration of a commercial concern; and it is as absurd to expect the one as the other to work smoothly if the subordinates will not take the trouble to master the details of procedure which, once mastered and complied with, produce the most favorable results with the least possible cost of money and labor.

So far as could be seen, there seemed but little ground for any outcry against the condition of Camp Black, and your commissioner is of the opinion that it compares favorably on the whole with any large foreign encampment in more permanently organized European armies.

CAMP WIKOFF.

[*A Report by our Special Commissioner, dated September 8th.*]

THE activity of the daily press in catering to the public taste for sensational reports about the condition of affairs at Camp Wikoff may, by this time, have opened the way for a short description of this remarkable settlement and a conservative criticism of some of its features.

As it stands to-day, Camp Wikoff is a marvel of constructive energy and ability. No one can fail to be impressed by the evidences of the enormous labor that has in three weeks transformed this barren spot into an extremely busy city of some eighteen thousand inhabitants, with many miles of roads, a water system, a telephone system, a very large transportation outfit, thousands of comfortable framed "tented" dwellings, as well as the chief feature, three enormous hospitals, with many regimental branches. Passing over the stages of imperfection, most of which are no longer visible, the camp at Montauk, as a piece of construction, is undeniably one of the great achievements of the war.

As regards the site, it is difficult to see how any available locality could better fulfill the requirements, one of which, it must be remembered, is the *isolation* of the Santiago forces. This has been accomplished within three hours and a half of New York, in a climate unsurpassed on the coast or probably in the country, on land lying at a considerable elevation and free from extensive marshes, mosquitoes, and continual dampness. What it does not possess is a good supply of water and the perfect natural drainage of a mountain side.

It is a nearly universal opinion among the troops and the medical fraternity here in camp that the selection of this site was remarkably fortunate, and one can not view with much patience the fanciful criticism of Surgeon-General Sternberg's decision in locating the camp at this point.

The water supply has from the first been a difficult problem. The water is pumped from a well some twenty feet deep, into which the water filters from a large fresh-water pond through a few rods of sandy soil. It is first pumped into large tanks, from which it is distributed through pipes to various points in the camp. The supply has usually been abundant, but on one occasion at least the disabling of a pump cut off the supply and fever patients suffered considerably for a few days. Owing to lack of help, water has often been lacking where most needed. Dishes have been washed in Apollinaris water, and typhoid patients have had to be bathed in the same fluid; but usually the supply has been ample and satisfactory for every purpose except drinking. As for the quality of the water, every one familiar with Long Island pond waters knows that these waters are unfit for drinking purposes, and commonly cause diarrhœa. It needs no chemical or bacteriological analysis to prove that the Montauk water is no exception to the rule. Although clear when freshly drawn, it becomes discolored and tastes stale after standing for twelve hours. It is impossible to boil all that is needed for drinking in regimental camps, so that nearly every one who did not suffer from diarrhœa on his arrival, and who drank the water, was subsequently attacked with diarrhœa of more or less severity.

Apparently no cases of typhoid fever are as yet traceable to this source, but regimental camps and sinks skirt one edge of the pond. The majority of the camps and the hospital are probably too far removed from the pond to drain seriously in that direction. The report of the government chemist on the water will be awaited with interest, but can hardly add much to our present knowledge. The bacteriological state of the water ought to be carefully followed, however, while the troops remain here.

The extent of the sickness at Camp Wikoff can hardly be appreciated by one who has not followed affairs at the hospitals and regimental quarters.

Probably no army has ever been more completely ruined by disease than the American forces were while at Santiago and during their transportation to Montauk, and Camp Wikoff has been from the first an enormous infirmary. The hospitals have handled over seven thousand patients, nearly all of whom have been seriously, and many hopelessly, sick. In addition to these cases, in each regimental camp there have been from a hundred to two hundred men constantly on the sick roll, while a very considerable portion of the remainder ought to be under the care of a physician. But the American soldier appears to be a much better fighter than patient, and an appallingly large number of these men keep on their feet until they collapse with dysentery, pernicious malarial fever, or typhoid fever. Comparatively few men have passed through the campaign without some illness, and it is no exaggeration to state that half of those who have arrived here deserved hospital care at once. In the face of such demands, which possibly could not have been anticipated to their full extent, it is not to be wondered at that the hospital facilities were, for a considerable time, hopelessly inadequate. Hundreds of the sick had to be received at the general hospital, given a bed for a night or two, and then transferred as fast as possible, and very much faster than the character of their illness would ordinarily warrant. The general hospital would have to have been of twice or three times the capacity of the present one had all the sick been held until fully ready for safe transfer, and it is a matter of considerable doubt if it came within the range of possibility to supply hospital accommodations of such extent within the time available. It is certain that the work of construction was energetically pushed. Nevertheless the chief feature of life at the hospitals during the first three weeks was the incessant rush of sick men into and out of their beds. The surgeons were on many days able to do little else than keep the record of admissions and discharges. Only the immediate wants of the sick could receive attention. Fortunately, the diseases encountered were, with few exceptions, only malarial fever, typhoid fever, and dysentery, and hypodermic injections of quinine, cold baths, and rectal irrigations could be administered with little delay and fair accuracy. The force of nurses and orderlies was much less adequate, however, than that of doctors. In fact, it must be admitted that for a considerable period effective therapeutics in every case was out of the question. As the number of doctors and nurses gradually increased and the supply of drugs and other material became more accessible, the real medical assistance rendered to the sick rapidly improved, and to-day it may be said that few patients fail to receive all medical necessities, while most of them are abundantly supplied with luxuries and enjoy a good many of the refinements of modern therapeutics. Nevertheless, the real abuse at Camp Wikoff, and the only one of serious importance, has been the frequent and injudicious transfer of patients seriously ill and of doctors and nurses in charge of them, and the consequent failure of many of the sick to receive effective medical attention at once.

The work of the Red Cross in this emergency has been absolutely indispensable. Hospital supplies of every description have been furnished by the society in very large quantity and at times when the government stock was entirely inadequate. By the aid of this and other societies very serious complications have been avoided, and are still being guarded against. Their work is now being directed principally to the regimental hospitals.

The sanitary management of the hospitals has passed through several stages of imperfection.

From the first, the sinks have been pretty thoroughly disinfected with copperas and chlorinated lime, and have been frequently changed in location. No serious danger from this source can reasonably be feared. The care of the dejecta of typhoid patients was for some time not strictly sanitary, and infected bedding accumulated in heaps near the wards, but all dejecta are now flooded with a five-per-cent. solution of formalin and all bed linen and the bed clothing of patients is promptly burned. The morgue has, of course, escaped the notice of all the visitors from Washington, as well as the permanent officials. It is a ludicrous exhibit, but no one seems to care.

On the whole, the history of Camp Wikoff thus far illustrates from a medical standpoint some of the best and some of the worst results of the American lack of system, combined with general efficiency, and the result is probably as good as the past policy of the government and the interest of the public in army medical matters deserve. Most of the suffering that has been experienced at Camp Wikoff has been the necessary result of the hurried campaign in a pestilential climate. Very little of it has originated here. It is an invariable rule that where large numbers of sick are gathered in one place many scandalous conditions prevail, and it does not appear that these have been much more numerous or more sensational than at most large city hospitals, and certainly not more than in campaigns by other nations undertaken under hurried and unwonted conditions.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of June 1, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

Penetrating Wound of the Abdomen; Peritonitis from Infection through the External Wound.—Dr. Alexander B. Johnson reported such a case. He said that in times past wounds of the peritonæum were regarded as particularly dangerous; now we considered this membrane as one possessing peculiar powers which enabled it to limit and to eliminate infections.

The following case would serve to illustrate the fact that in apparently slight injuries of the peritonæum grave dangers might exist, and serious complications arise, unless promptly met by operative interference: A. M., forty years of age, an Irish laborer, had been admitted to the Roosevelt Hospital April 1, 1898. A few hours previously he had been stabbed in the abdomen and leg while quarreling. The patient was a large, robust man. There was a wound a quarter of an inch in length, and apparently an inch and a half deep, at the outer border of the right rectus muscle, about midway between the ensiform cartilage and the umbilicus. There were no signs of injury to the abdominal viscera. The wound was disinfected and dressed, drainage being with a shred of iodoform gauze. On the day following the patient had no pain or tenderness in the neighborhood of the wound, which was again packed. The next day the patient's temperature rose to 101° F. and the pulse to 120. He complained of abdominal pains and the abdomen was moderately distended, rigid upon the right side, and very tender upon percussion and pressure. During the afternoon of this day the patient looked severely ill, and exploration of the wound was made under nitrous oxide and ether anæsthesia, a vertical incision being made through the skin, with its centre at the site of the original wound. A considerable quantity of thin pus escaped from a pocket which led through the muscular layers of the abdomen. The wound in the skin was enlarged to a length of six inches, the fat layer being very thick. Further exploration showed that the suppurating tract led to a hole in the peritonæum, through which a small portion of inflamed omentum protruded. The external wound was thoroughly flushed with salt and water, and wiped dry, when a small amount of pus could be seen escaping through the hole in the peritonæum. On enlarging the peritoneal wound, an area six inches in diameter, including the transverse colon and the omentum, was found to be intensely red and coated with fibrin and a little pus. There were no limiting adhesions, and no perforation of intestine was found. The inflamed intestine and omentum were drawn out of the belly and thoroughly washed with hot salt and water, and replaced. The wound was then partly closed by suture of the several layers of the belly, except at the middle, where a strand of gauze was left in the peritoneal cavity for drainage. The patient required considerable stimulation after the operation, and his pulse became rapid and feeble on the following day, but with no rise of temperature above 100°. Signs referable to disturbance within the belly did not occur, but the external wound suppurated, so that the stitches were removed and the wound was not in a healthy granulated condition for two weeks. On May 1st there was only a superficial granulating wound, and the patient was allowed to walk out. He left the hospital on May 11th, with a fairly strong abdominal wall.

Thoracic Aneurysm with Unusual Symptoms.—Dr. ALEXANDER LAMBERT presented a specimen from a case of thoracic aneurysm, together with the following history: E. W., a moderate drinker, who had had no venereal disease other than gonorrhœa, had enjoyed excellent health with the exception of an attack of typhoid fever when fourteen years old. For the past six months he had been losing flesh. On May 6th, after having been out in the wet and cold, he had begun to have some pain in the chest, with slight cough and expectoration. There had been no chill or rise of temperature. On May 10th he had begun to have trouble in swallowing, and pain at the upper and lower ends of the sternum on trying to swallow solid food. On May 13th he had experienced a sudden attack of dyspnœa, and had had more or less dyspnœa ever since, especially at night. Since May 14th his deglutition had improved, and on coming under observation he was able to take solid food without any difficulty. Examination showed the patient to be well nourished and well developed. His face was anxious; he sat up in bed, and his breathing was of a peculiar stenotic character. Phonation was not impaired. The extremities were cold and cyanotic. The apex beat was in the fifth intercostal space at the nipple line; the heart action was extremely rapid but regular; there were no murmurs. The pulse was rapid, regular, and of slight tension. Over the entire right side of the thorax, both anteriorly and posteriorly, the percussion sound was normal, but the breathing and voice were rather high-pitched. Over the left side, in front, there was an area in which the percussion sound was nearly flat, and the breathing and voice were diminished. Over the upper part of the scapula there was a peculiar whistling character to the breathing, and over the rest of this side behind, while the percussion note was normal, the breathing and voice were diminished. On May 17th the patient's condition was generally improved; the breathing was less stenotic, and the area of flatness over the left lung was smaller. The patient's temperature ranged from 101° to 103° F. Death occurred on May 20th. On opening the thorax, at autopsy, the left pleural cavity was found to have been obliterated by recent thin adhesions. About one hundred cubic centimetres of cloudy yellow fluid were present. The upper lobe of the left lung was pale and slightly œdematous. The lower lobe was solid. The bronchi contained yellowish pus. There was slight peribronchial infiltration. The vessels were apparently normal. The upper lobe of the right lung was markedly congested and œdematous; the lower lobe was the seat of a hypostatic pneumonia. The pericardial cavity contained twenty cubic centimetres of clear fluid. The heart was of average size, and its muscle light reddish in color. The left ventricle was free from clot. There was marked atheromatous degeneration throughout the entire thoracic aorta. About eight cubic centimetres above the aortic valve, on the concave surface of the arch, was a large, recently organized clot, extending through the aorta into the middle mediastinum. This clot measured about ten cubic centimetres in diameter and was almost circular. Extending toward the concave surface of the arch, at the beginning of the transverse portion, was a rupture of the sac, measuring about three centimetres in diameter, and filled with partially organized clot. The right heart was dilated. The spleen was slightly enlarged and its capsule thickened. The stomach showed no lesion of its mucous membrane. The pancreas measured sixteen centimetres in length, and its tail was adherent to the spleen and vessels, and was markedly congested. The left kidney was decidedly enlarged, and its pelvis distended with clear yellow fluid, apparently due to obstruction at the beginning of the ureter. There was slight thickening at the proximal end of the ureter. Both kidneys presented evidence of passive congestion. A superficial examination showed no pathological change in the intestine. Examination of the abdominal vessels showed general arterial sclerosis.

Dr. JOHNSON said that a man had been brought to Roosevelt Hospital with a history of six weeks' illness, indefinite in character. There had seemed to be some obstruction of the left ureter; he had had severe pains in the loins, had passed but little urine, and had suffered from pains shooting into the testicle. When admitted he had presented the appearance of one suffering from severe sepsis. Dr. Delafield diagnosticated the case as peritonitis, and the man was transferred to the surgical ward. A large tumor was found on the left side, occupying the region of the loin, and seemingly larger than the head of an infant at term. The inference was drawn that it was a case of sarcoma. An incision was made, and what appeared to be a tumor was found in the bowel. At this juncture a severe hæmorrhage took place, necessitating the prompt packing of the opening. The patient died twenty-four hours later, and the autopsy revealed an aneurysm of the aorta and a large rupture at the transverse portion of the aorta. Neither of these had been suspected during life.

(To be concluded.)

Book Notices.

BOOKS, ETC., RECEIVED.

Renal Growths; their Pathology, Diagnosis, and Treatment. By T. N. Kelynack, M. D. (Vict.), M. R. C. P. Lond., Pathologist, Manchester Royal Infirmary, etc. With Ninety-six Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xiii–269. [Price, $4.]

Medical Diseases of Infancy and Childhood. By Dawson Williams, M. D. Lond., Fellow of the Royal College of Physicians of London, and of University College, London, etc. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xiv–634.

Guide to the Clinical Examination and Treatment of Sick Children. By John Thomson, M. D., F. R. C. P. Ed., Extra Physician to the Royal Hospital for Sick Children, etc. With Fifty-two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xvi–336.

Diseases of Women: A Manual of Gynæcology designed especially for the Use of Students and General Practitioners. By F. H. Davenport, A. B., M. D., Assistant Professor in Gynæcology, Harvard Medical School, etc. Third Edition, revised and enlarged. With One Hundred and Fifty-six Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xvi–17 to 391.

Hernies. Par Dr. Paul Berger, Professeur de clinique chirurgicale à la Faculté de médecine de Paris, etc. Extrait du *Traité de chirurgie*. Deuxième édition. Paris: Masson et Cie., 1898. Pp. 23 to 402.

The Ohio State Medical Society. Transactions of the Fifty-third Annual Meeting, held in Columbus, Ohio, May 4, 5, and 6, 1898.

Transactions of the Obstetrical Society of London. Volume XL. For the Year 1898. Part II, for March, April, and May.

The Association of American Medical Colleges. Proceedings of the Meeting at Denver, June 6, 1898.

A Contribution to the Study of the Symptoms of Chronic Urethritis. By Ferd. C. Valentine, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Diseases of the Lacrymal Passages; their causes and Management. By Leartus Connor, M. D., of Detroit, Michigan. [Reprinted from the *Journal of the American Medical Association.*]

Yellow Fever; its Diagnosis and Treatment By J. Edward Stubbert, M. D., of Liberty, N. Y. [Reprinted from the *Medical News.*]

The Best Methods of Surgical Sterilization. By Eduard Boeckmann, M. D., of St. Paul. [Reprinted from the *Journal of the American Medical Association.*]

The Pernicious Malarial Fever of the Tropics. By J. Edward Stubbert, M. D. [Reprinted from the *Medical News.*]

A New Method of Intestinal Anastomosis. By J. Shelton Horsley, M. D., of El Paso, Texas. [Reprinted from the *New York Polyclinic.*]

Hydrophobia; with a Report of a Case. By Gray G. Holladay, M. D., of Portsmouth, Virginia. [Reprinted from the *Virginia Medical Semimonthly.*]

Progress in Neurology. By C. H. Hughes, M. D., of St. Louis. [Reprinted from the *Alienist and Neurologist.*]

Medical Service and Medical Fees. By C. H. Hughes, M. D. [Reprinted from the *Alienist and Neurologist.*]

The Sanitary Salvage of our Soldiers in Cuba. By C. H. Hughes, M. D. [Reprinted from the *Alienist and Neurologist.*]

The Tuberculin Test in Cervical Adenitis. By Edward O. Otis, M. D., of Boston. [Reprinted from the *Medical News.*]

Some Results of the Administration of Thyreoid Extract on the Red and White Corpuscles and Hæmoglobin in Cases of Anæmia associated with Melancholia. By Samuel Bell, M. D., of Newberry, Michigan. [Reprinted from the *Physician and Surgeon.*]

Miscellany.

The Pay of Officers of the Royal Army Medical Corps of England.—We learn from the *British Medical Journal* for August 27th that on leaving the army medical school at Netley the candidate on probation receives a commission of lieutenant, the pay of which rank is £200 ($1,000) a year. The next grade is captain, and after five years' service the pay is £250 ($1,250) a year. A captain may be promoted to the rank of major after twelve years' full pay service; to qualify himself for this promotion he must at any time after his seventh year of service pass a special examination in surgery, medicine, hygiene, the duties of medical officers, hospital organization, military law, and the administration of the Royal Army Medical Corps. All officers under the rank of colonel must retire at the age of fifty-five; above this rank at the age of sixty, unless specially extended. An officer of ten years' service on full pay may be permitted to retire on a gratuity of £1,250 ($6,500); after fifteen years' service, £1,800 ($9,000); after eighteen years' service, £2,500 ($12,500).

The Ether Spray for Enlarged Spleen.—Dr. Moseneci (*Riforma medica; Pacific Medical Journal*, August), at the suggestion of Professor Raimond, sprayed the left half of the abdomen in twelve cases of enlarged spleen. From twenty-five to thirty grammes of ether were sprayed over the splenic area, once daily, through a Richardson's atomizer. Marked reductions in volume of the spleens were observed in all twelve cases. No bad results are recorded. As a rule, the affected area only was played upon; the remainder of the abdomen was covered with cotton wool.

The Inhalation of Oxygen in Morphine Poisoning.—Dr. David T. Playfair (*Lancet*, August 27th) reports an interesting case of morphine poisoning. The patient had taken thirty grains of acetate of morphine, and, when seen at 10.40 A. M., was lying on her back in a comatose state, from which it was impossible to rouse her, although the interrupted current when applied to certain parts caused some slight muscular contraction, and the conjunctival reflex was not absolutely lost. The face was livid almost to complete grayness, and the fingers were ashy gray as far as the second joints. The pupils were contracted and did not react to light. The stomach was washed out with permanganate of potassium solution, ether was injected hypodermically, a pint of strong coffee with an ounce of brandy introduced into the stomach, hypodermic injections of atropine and strychnine were given, ammonia and amyl nitrite were employed, but none of these measures apparently possessed any value. Artificial respiration produced little or no alteration of color or pulse, cyanosis being intense and the pulse exceedingly feeble. About 12.45 P. M. the inhalation of oxygen was begun. In a very short time the cyanosis was much less marked and the pulse stronger. There was, however, no indication at 3.20 P. M. of natural breathing. One thirtieth of a grain of strychnine was injected, an enema of hot bovril administered, and frequent injections of ether were kept up. The inhalation of oxygen was continued. At 5 P. M. the patient's condition seemed utterly hopeless. There had been no sign of natural breathing for about five hours and a half, the pulse was getting much weaker, and the cyanosis became intense if the oxygen was stopped. Some improvement set in shortly after this, and about 6 P. M. the patient began to make an occasional slight inspiratory effort—about one exceedingly feeble gasp a minute—and the color became lighter. At 7 P. M., however, the end again seemed to have come, and we expected death to occur at any moment. Still the pulse could be detected, and the treatment was uninterruptedly carried on. Half an hour later (at 7.30 P. M.) indications of respiration of Cheyne-Stokes character began to show themselves at intervals, and the color had much improved. At 8.10 P. M., very slow, shallow breathing having commenced, artificial respiration was stopped for twenty-five minutes, oxygen still being continued. At 8.35 P. M. natural breathing again threatened to cease, and for five minutes artificial respiration was resorted to, a period of twenty-eight minutes of natural breathing following, at about twelve per minute. Again this ceased, and artificial respiration was resumed for twenty minutes. At 9.50 P. M. natural breathing seemed tolerably established, though it was still of the Cheyne-Stokes type. The color for the last hour or more had been decidedly improving, there being now distinct redness of the lips and cheeks. Application of the interrupted current at this period caused very considerable muscular contraction. Inhalations, with artificial respiration at intervals, were kept up, and at 10.40 P. M., to the doctor's astonishment, the patient opened her eyes, answered questions, and swallowed some coffee.

She ultimately recovered. The author says artificial respiration by Silvester's method without oxygen quite failed to remove the intense cyanosis or to strengthen the pulse. The gas was administered by passing into the mouth a vulcanite nozzle attached to a tube leading from the cylinder, an India-rubber regulating bag intervening. At each inspiratory movement a stream of gas was allowed to flow, the tube being pinched close during the expiratory movement. This was kept up, with the exception of the two intervals of natural breathing mentioned, for about nine hours and a half. Altogether about eighty cubic feet of oxygen were used. During the very short intervals when the supply was stopped on account of a change of cylinder, or when the œsophageal tube was passed, the lividity rapidly deepened and the pulse as rapidly got weaker. In about half a minute after resuming the oxygen marked improvement took place as regards color and strength of pulse.

The author is of opinion that the oxygen acts not only as a heart stimulant, but has a direct antagonizing effect upon the poison.

The Mental Condition of the Subjects of Ovariotomy.—M. Gallois and M. Beauvois (*Bulletin médical*, July 24th; *Revue du praticien*, August 15th) say that the troubles observed in those who have undergone ovariotomy are not dependent upon hysteria, since they are not accompanied by the stigmata of that condition, but resemble a neurasthenia of an entirely different clinical aspect from known neurasthenic states. This deserves to be individualized from its ætiology alone, and might be designated by the name of anovarian neurasthenia. It is characterized by corporal and mental apathy, by great irritability with sadness, and sometimes delusions of precaution, reaching almost to the verge of insanity. The memory is enfeebled and the sleep disturbed by nightmare. It is not rare to find an ovariotomized person complain of pains in the head or other parts of the body, more particularly in the abdomen, and of digestive troubles. The suppression of the menses does not always mean the disappearance of the sexual instinct. These mental troubles in the ovariotomized are not always constant. It is difficult to estimate their frequency. It seems that young women operated upon in the fullness of their sexual life are more subject to them, and that neurotic women or hypochondriacs, far from being ameliorated by ovariotomy, have their condition aggravated. The duration of this particular kind of neurasthenia seems to be long, ten years in a patient who continues to experience the same troubles to forty-seven years, a period corresponding to the menopause. The predisposition in women already mentally degenerate, the idea fixed on the loss of the sexual organs, perhaps the loss of intra-abdominal equilibrium consequent on the operation, and finally the suppression of the internal secretion of the ovarian gland, are the principal ætiological factors of this special state.

Ovariotomy ought in the author's opinion to be reserved for lesions gravely compromising the health or the life of the sick, and women who call for this operation should be warned that they risk becoming very unfortunate.

Pregnancy with an Unruptured Hymen.—M. Daniel Albespy (*Gynécologie*, August 15th) reports the case of a young woman, twenty-three years of age, who assured him she had only had intercourse once with her lover, which had proved very painful and had not permitted of penetration. He found the hymen intact and with a very small orifice capable only of being entered by a sound. Labor began next day, and after the discharge of the amniotic fluid the membrane was incised, and a speedy parturition without evil sequelæ followed.

A Naked Colony.—According to the *Gazette médicale de Paris* for August 13th, there is in the village of Veldes, in the Oberkrain, Austria, a hundred miles from the Adriatic, and in the midst of the Julian Alps, on the shores of a quiet lake, a singular colony of people in search of health. These people dwell in huts of wood situated in the open and exposed to all the winds. There are no windows, but a large opening through which pass the breezes of the Adriatic. The inhabitants not only dwell in the open air, but are absolutely naked. The Austrian government has appointed a physician to this extraordinary assemblage, and everything is conducted with the strictest propriety. The sexes are separated. The writer suggests that for such a community to be successful in France it would be "necessary to introduce the American custom of the mingling of the sexes," and he adds that probably morality would lose nothing.

Marriages between Cousins.—Dr. John Inglis (*Columbus Medical Journal*, August 16th) says: 1. In the marriage of cousins-german the effect upon offspring will follow the law of heredity, the consanguinity *per se* being *nil*. 2. Given high physical, moral, and intellectual development, the effect of the union would be beneficial rather than otherwise. 3. Special talents, either for good or evil, may be developed by intermarriage. This was the case in the historic musical family, the Bachs, where the musical talent was developed to a high degree of excellence. 4. In an effort to compare one hundred cases of marriages between cousins-german with one hundred average marriages where no relation existed, he took by lot from a physician's case book, who had practised in a town of fifteen hundred inhabitants for thirty years and knew their family histories well, the names of one hundred families, and had this physician give him the record of these one hundred marriages with regard to sterility, pulmonary, mental, and congenital diseases. These were then compared with the marriages of cousins. The latter showed a lower percentage of sterile marriages and a slightly lower percentage of mental diseases. In pulmonary and congenital diseases there was about the same percentage of difference in favor of the former. In all other particulars the difference amounted to as little as any such comparisons can. In the one hundred cases of those not related, seventeen per cent. were sterile; in the cousins-german, fourteen and a half per cent. These figures agree very nearly with Huth's investigations. 5. The objection to cousins marrying, so far as there is an objection, is on the ground that very few families to-day are free from some tendency to weakness along some particular line; and it is equally true of these and of all marriages that heredity takes the line of least resistance. A marriage between two healthy cousins coming of a line free from any hereditary defect is perhaps as fair as the average marriage. 6. But only carefully selected cases of first cousins should marry, and in no case where any hereditary moral or physical defect exists. 7. The early objections to such marriages were on religious, not scientific, grounds. Notwithstanding this, it is a significant fact that the Mosaic law permitted them.

These conclusions are in keeping with the most recent investigations of this subject, such as those of the younger Darwin and Huth, of England, and Holbrook, of New York, in stirpiculture.

Hospital Reports.—The following, from the *Medical News* for August 20th, deserves a widespread circulation. In a leading article it is stated that the example set by three large hospitals of this country—the Johns Hopkins, of Baltimore, the Massachusetts General, of Boston, and the Presbyterian, of New York—should have a larger immediate following. The writer goes on to say that the presentation in well-printed form of unusual, interesting, or even a series of ordinary cases, occurring in hospital services, fulfills a didactic purpose of no mean value.

The educational worth to the hospital interne of accurate record-making and the careful taking of histories, essential to a published report of cases, is important, too. It draws him away from hackneyed lines, it sharpens his powers of observation, and augments the value of his clinical experience in proportion to his native ability and the watchfulness of his superiors. And the literary value of such efforts is not to be despised, a consideration for the future usefulness of internes trained to observe, to write, to teach.

The variety of subjects covered can be duplicated, we do not doubt, by any metropolitan hospital and by many such institutions, indeed, in smaller towns. Since the aggregate fund of hospital experience forms the basis of most teaching and of most medical knowledge, medical boards should feel it incumbent upon themselves to assist in the diffusion of medical learning by the systematic publication of the real medical and surgical work in their respective hospitals. We are far behind England, France, and Germany in this respect. Perhaps with our present advanced position among the nations of the world, we shall improve in the matter of hospital reports, too.

The Danger of Confounding Chronic Syphilitic Fever with Tuberculosis.—Dr. E. G. Janeway (*American Journal of the Medical Sciences*, September), in a paper read before the Society of American Physicians, reports six cases of loss of flesh, continued fever, night sweats, pain in the side, commonly the right side, etc., in which a diagnosis of tuberculosis had been made. Three of the cases had been sent to health resorts frequented by phthisical patients, but had manifested no improvement, and one had been ordered to such a resort. Upon an examination a history of bygone syphilis was elicited in five of the cases. The remaining one was that of a young child in whom a positive denial of syphilis on the part of both of the parents led to an omission of any cross-examination, though an enlarged liver led to a suspicion of syphilis, which was positively confirmed later, on autopsy. This was the only case that died. All the other five promptly improved under antisyphilitic treatment. Dr. Janeway concludes:

The consideration of the facts here narrated has convinced me that many physicians are not aware that fever may attend the late manifestations of syphilis, more particularly of visceral syphilis. The neurologist is sufficiently alive to the importance of always considering the possibility of syphilis being an ætiological factor in the obscure diseases of the nervous system, and he very generally gives the patient the benefit of a doubt, when uncertain, and attempts a diagnosis by the use of antisyphilitic measures. Moreover, the class of cases to which I have drawn your attention do not go to a syphilologist, but to the general or consulting physician, and this paper has been presented with the view of directing attention to the necessity of considering syphilis as a possible explaining cause of those obscure phenomena which are usually only considered to import tuberculosis, malaria, or sepsis. Moreover, I do not find that in the presentation of the subject the syphilologist directs attention specific enough to the possibility here presented. Ignorance of the fact that syphilis, in what is termed its tertiary period, may occasion a fever of long duration, malaise, emaciation, perhaps perspiration also, without of necessity presenting such definite local manifestations, either external or internal, as can be made out of such casual examination as often occurs when a patient seeks advice at the office of a consultant on one or a few occasions, is largely the explanation of the mistakes.

In two of the cases related it was not possible to state the situation of the disease after very careful examination. We must confess that not a few physicians are inclined, with the above assemblage of symptoms, to determine that tuberculosis must exist; and, having reached that decision, enough of that normal variation of physical signs will be made out to lead to the belief that the explanation has been found in certain pulmonary changes. Moreover, it has seemed to me that physicians having a strong belief that tuberculosis existed may have had an auditory illusion or hallucination. It is far wiser and better, to my way of thinking, to hold the mind in such a condition of attention in doubtful cases as shall admit of expression of doubt, than to attempt a positive diagnosis on insufficient data.

Atypical Appendicular Inflammation.—Dr. Hugh M. Taylor (*Maryland Medical Journal*, August 27th), after recording several erratic cases of this disease, concludes his paper by emphasizing the following points:

1. The frequent irregular course pursued by appendicitis, and consequently the number of surgical surprises it affords.
2. Our inability to ascertain which case is going to recede, and not advance from bad to worse.
3. That early operative interference is conservative, in that it limits the amount of surgery needed.
4. That the so-called operable case of not a few practitioners is, in fact, a case which has passed beyond the operable stage.

Treatment of Inoperable Sarcoma by Coley's Method.—Dr. W. B. Coley (*Medical Record*, August 27th), after discussing the subject freely as regards the use of the toxines as a prophylactic measure, the method of preparing the toxines and the technique of administration, the sterilization of the skin and needle, the duration and dangers of treatment, a review of the cases treated by him, with a summary of results, and an account of successful cases treated by this method by other surgeons, thus concludes his paper:

A careful study of my own cases as well as those thus far treated by other surgeons justifies, I believe, the following conclusions, which, I might add, are in almost perfect accord with those recently published by Moullin:

I. A considerable number of inoperable sarcomata, the correctness of the diagnosis of which is beyond question, have entirely disappeared under this method of treatment.

II. A large proportion of these cases have remained free from recurrence more than three years after treatment—the period which has generally been accepted as of sufficient length to justify their being regarded as permanent cures.

III. Different varieties of sarcoma differ widely as regards the manner in which they are acted upon by the toxines. The results thus far show the treatment to be most successful in the spindle-celled variety, one half of the spindle-celled sarcomata so far treated having disappeared. Round-celled sarcomata yield less readily, although a certain number have been successfully treated. No case of melanotic sarcoma has, up to the present time, shown more than slight improvement.

IV. The action of the toxines upon sarcoma must be regarded as a rapidly progressing necrobiosis with fatty degeneration. This action is not the result of inflammation, nor does it resemble the destructive action of a local escharotic, but it is rather specific in character, exerting a direct influence upon the tumor cells.

V. The specific action is further confirmed by the fact that several tumors have entirely disappeared when the injections were made subcutaneously remote from the tumor.

VI. This method of treatment is attended with a certain amount of risk, unless certain precautions are taken. The chief dangers to be guarded against are: (1) Collapse from too large a dose of the toxines or from injections into a very vascular tumor; (2) pyæmia from insufficient precautions as regards asepsis, especially in cases in which there is a granulating or sloughing surface. (That the risks are small is shown by the fact that in upward of two hundred cases treated personally death was caused by the injections in but two, one of which was so nearly moribund that no treatment should have been begun.)

VII. The use of small doses of the toxines for a short period after primary operation, as a prophylactic measure, theoretically has much to recommend it, and if proper precautions be observed the treatment should be practically free from risk.

VIII. The action of the toxines of erysipelas upon sarcoma, as shown by clinical results, is in strict accord with the known action of the living streptococcus of erysipelas; therefore the method has a perfectly logical and scientific basis.

Combination of Local Anæsthesia by Infiltration (Schleich) with the Employment of Orthoform.—Dr. Isidor Dreyfus (*Münchener medicinische Wochenschrift*, 1898, p. 527; *Gazette hebdomadaire de médecine et de chirurgie*, August 14th) has combined the employment of orthoform with Schleich's method in the following manner: He first makes an injection after Schleich's method, which permits the painless incision of the tissues. He then completes the anæsthesia, rendering it more profound and durable by powdering the wound with orthoform. This method is said to have given very satisfactory results.

The Medical Corps at San Juan.—Lieutenant Louis P. Smith, assistant surgeon United States army (*Journal of the American Medical Association*, August 27th), thus closes a letter detailing his own personal observations:

Personally present during part of the battle of San Juan, I was amazed and gratified not only at the intrepidity and dexterity of the regimental surgeons and their hospital-corps men while under fire, in dressing the wounded, but in witnessing how quickly the wounds of hundreds who were placed *hors de combat* were in a few hours protected by their comrades with sterilized first-aid dressings. The worst cases were treated at Major Wood's hospital, which was as near the front as the firing allowed. The others returned by ambulances or wagons to Siboney, where the second and third divisional field hospitals joined their forces. Here tentage for nearly a thousand patients had been erected. Of the necessary antiseptics, dressings, and instruments there was a sufficient supply, though much still remained aboard several transports impossible of access, and the hospital ship *Relief*, under Major Torney, United States army, arriving soon after the San Juan battle, brought a great quantity more. Only a few men in all reached the Siboney hospital without having previously received a first-aid dressing, and careful disinfection of wounds, dressings, or operations were proceeded with as rapidly as was consistent with the patients' safety. I can speak with great pleasure of the uniform carefulness and attention to surgical cleanliness on the part of my colleagues, even when ready to drop from exhaustion incident to days and nights of almost continuous work. But one amputation from bullet wound and the very few cases of infected wounds speak volumes for their care and skill.

Upon the scene now appeared for the first time representatives of Clara Barton's Red Cross, who, with a doctor or two and several trained nurses, lent an assistance duly appreciated. It must not be for a moment forgotten, however, that what they did—and no one appreciates it more than those they directly aided—was but a drop in the bucket to what had been done and was being done by the army organization. Suffering there was, of course. As Dr. Senn says: "War always has its hardships; it can not be prosecuted in parlor cars or clubhouses"; and in spite of all defects and omissions incident to our first hurriedly prepared invasion of a foreign land, history, I think, will show that after no previous battle were the wounded tended so quickly, and with such good results and so little suffering.

Primary Carcinoma of the Axilla.—The following are the conclusions arrived at by Dr. D. W. Graham (*Journal of the American Medical Association*, August 27th) in a paper on the foregoing subject: 1. Primary carcinoma of the axilla is probably more frequent than the small number of recorded cases would seem to indicate. 2. When present, it originates (*a*) in the large tubular convoluted sweat glands peculiar to this region, (*b*) in supernumerary mammary gland tissue more or less rudimentary, or (*c*) in the true skin; and as to relative frequency in the order named. 3. When the disease appears first in the axilla and later in the mammary gland, the most satisfactory and the most logical explanation is that there has been retrograde infection through the lymphatics from the axilla to the breast. 4. When the lymph glands and channels or other tissues between the axillary tumor and the mammary gland are at all infected, or suspected, the gland should be removed along with the tumor and the intervening infected tissues. 5. In any case in which the breast is not removed it should be carefully examined at short intervals for the first manifestations of disease.

The Lay Demand for Certainty in Medical Matters.—The general attitude of the lay mind which demands of physicians that which can only be obtained from exact sciences, and the rebuke to that claim administered by the supreme court of Iowa, is well shown in the following account from the *Journal of the American Medical Association* for August 27th of the judgment in Bixby *versus* the Omaha and Council Bluffs Railway and Bridge Company, where it was sought to introduce standard medical works in evidence. The theory of the plaintiff was that he had received a serious shock to his nervous system in a collision of a street car and a railway train, and that he suffered in consequence from symptoms indicating locomotor ataxia or some neurotic trouble, although at the time of the trial there was no objective or external evidence of any injury. One physician testified to the presence of such symptoms, while three others insisted that there existed no signs of any disease. Then the plaintiff was permitted, over the objection of the defendant, to read in evidence extracts from a number of admittedly standard medical works, the portions read to the jury treating of the symptoms, and not the cure, of diseases. But the supreme court of Iowa holds that this was reversible error. It says that the question is not whether the courts will use the helps of science in the investigation of truth. There is no controversy on that score. The authorities are agreed that the truths of the exact sciences, the established facts of history, and computations from fixed data may be proved by the works of reputable authorities. This is on the ground that all men assent to their correctness. But it points out that medicine belongs to the class known as inductive sciences. The data are constantly shifting with new discoveries, and the conclusion which may be considered sound to-day is repudiated to-morrow. A medical work may be standard this year, and obsolete next. And even the opinion of the same author changes in the different editions, owing to new discoveries and a better understanding of symptoms. These facts, with the added one of difficulty often experienced by those learned in medicine to determine from the books the nature and extent of injuries and diseases, the court insists, emphasize the necessity of cross-examination and the use of an oath, not only that the theory contained in the books may be known and understood, but that practical skill may apply the science of medicine in each case. Nor does it consider that the admission of medical treatises is authorized by section 4518 of the Iowa code, which says: "Historical works, books of science and art, and published maps or charts, when made by persons indifferent between the parties, are presumptive evidence of facts of general notoriety of interest therein stated." But the court suggests that the same reasoning does not apply to a case where a physician is employed to treat a patient according to a certain system, so that, in determining whether he has in fact followed that system, the books from which physicians of that school are shown to have derived their knowledge may be admissible, for these expound the very principles which he is alleged to have violated; and, under the circumstances, the books themselves would be better evidence than quotations from them. But in Alabama alone, it is said, are medical works received in evidence for general purposes.

Heredity and "Karma."—Dr. W. Matthews Ogle (*Charlotte Medical Journal*, August), in a paper on inheritance, says that another element for speculation, the notion of the occultists, or esoteric Buddhists, termed the "Law of Karma," needs a little explication in order that we may consider its bearing on heredity. The notion is that all human beings in this world undergo successive incarnations, preserving unconsciously their personal identity in all the changes of condition. Therefore every human being is the result of all the influences in all his previous conditions—that is, he is not the result of ancestral influences imposed upon him by descent, but of conditions in his former incarnations.

The form in which he shall reappear in the world is not determined by his visible ancestors, but by his conduct in his former lives. He may have been born into wealth or into poverty; in those days he may have been an African savage or a Roman dandy, a king or a beggar, or even a woman. But whatever he was, now in this present incarnation he suffers the penalty of all his misdeeds in all former states of being, or he enjoys the reward of good conduct in any of them. And it behooves him now to live the higher life—perhaps of expiation—in order that he may rise into a still higher life in the next unknown incarnation, and not sink into a lower. Therefore no effort is thrown away, and no act is without its infinite personal consequences. The Law of Karma, it is explained, is the law of the conservation of energy on the moral and spiritual planes of Nature. If we understand the position, a man, as to what is most important in his incarnations, does not take from his physical ancestors, he only inherits from himself. What he was in his former states he can not know except by observing what he himself is now. In this way the responsibility is shifted from our grandfathers to ourselves.

The Red Cross Badge.—According to the *Medical Record* for September 3d, Surgeon-Colonel W. F. Stevenson, of the British army, in his excellent treatise on wounds in war, defines the duties of the Red Cross Society. Very clearly he says: "The notion is far too common that the Red Cross is a civil distinction, that it is a sign which may be carried by private individuals and by members of non-military societies, indicating that they are qualified to aid sick and wounded persons; and the uses to which it has been and unfortunately is being put foster this misapprehension. Civil nurses wear it; it is placed on the labels of bottles of quack medicine, and its employment is often quite apart from military medicine and surgery. All this is wrong. Persons who in this way mark themselves or their goods with the Red Cross make use of a sign to which they have no right or title, and do it in absolute ignorance of the meaning of their actions. The Red Cross is as purely a military distinctive mark as is any regimental badge worn as a part of a soldier's uniform."

This is a necessary consequence of its origin, which was its appointment by the International Geneva Conference in October, 1864, which gained the assent of the representatives of the civilized military nations to the principle of universal protection for military hospitals as the distinguishing badge of such hospitals and parties as were entitled to this general protection on the field.

The Responsibility for the Condition of Our Soldiers.—We refer in a minor paragraph to the following excellent editorial from the *Boston Medical and Surgical Journal* for September 1st. The *Journal* says:

The American people, having undertaken a war known to involve great losses of life from climatic conditions, and finding that the natural result has occurred, and that great mortality has resulted among the troops, is naturally overwhelmed by an immense wave of sympathy for the soldiers, and demands a strict accounting from any of the officials who may have been responsible for any unnecessary sickness, suffering, and death.

There is now no question that a congressional investigation of the conduct of the war will take place, and it is well that the investigation should be held by Congress, as an investigation by a board appointed by the Secretary of War might be open to suspicion of unduly favoring that official.

In such a procedure as this the American people should not forget the fact that the country itself, as represented by Congress, may be found guilty of a not inconsiderable share of the responsibility for the evils which have occurred. As recently noted editorially in the *Boston Transcript*, Surgeon-General Sternberg, in a letter to the *Army and Navy Journal*, published recently, stated that he begged and implored Congress to give him power to increase the medical corps of the army to a real war footing, and that one of the last acts of that body previous to its adjournment was to reject the project he had drawn up with great care. Had he been given the power he asked for, he believes he could have made such an expansion of the medical service of the army that much suffering and great expenditures would have been prevented. Commissary-General Eagan points out to a critic of his department that the army ration is regulated by Congress, that it is in the law of the land, which neither he nor any other officer has a right to alter, however much they may think the dietary of the soldier unfitted to a peculiar service.

To quote the apt phrase of the editor, "It is as important to get at the truth as to get at Alger."

The policy which has been for thirty years persisted in by Congress, of maintaining the army on the smallest possible footing, and grudging the expenditure of a dollar to increase its numbers or efficiency, will, we suspect, be found to be largely responsible for the present unfortunate conditions. The machinery for taking care of a few scattered regiments of regulars doing police duty on our western frontier can not be expanded in a few weeks so as to adequately provide for an army of two hundred thousand men. Nor can such an army, hastily recruited of undisciplined volunteers, have one half the efficiency of regular troops. If this war has demonstrated any one thing, it is that it is the regular troops upon which we must depend to fight the battles of the nation.

It is the discipline of the men who know their business, who have been trained to fighting and, what is not less important, to camp life, upon whom the brunt of the campaign has fallen. It is largely to the lack of knowledge of the principles of camp sanitation, or at least the lack of enforcement of these principles by the volunteer officers, that the spread of typhoid in our camps has been due.

There is food for reflection in the fact that it is the regulars who win our battles and the volunteers who bring sickness into the camps by poor discipline and careless living, which fact, however, does not prevent the volunteers from coming in for the lion's share of glory and public sympathy.

Our national policy of continuing in time of peace as if we were never going to need an army has, it is to be hoped, received its deathblow. Unless we can feel assured that we as a nation shall in future have to undertake no further wars of humanity, it would be well for us to remember in time of peace to prepare for war. Then if war again becomes inevitable, we shall have a war department adequate to the care of large bodies of troops, one to which problems of transportation, supplies, and medical care shall be comparatively simple, and by which sanitation as applied to large bodies of troops is thoroughly understood. We shall also have an army equipped and disciplined for immediate effective service, and not be compelled to resort to the hasty, ineffectual, expensive, and fatal necessity of hastily equipping and organizing volunteers.

The Chicago Academy of Medicine.—The secretary, Dr. James G. Kiernan, writes to us that a publication recently issued by the Chicago College of "Osteopathy" contains the assertion that Dr. E. H. Pratt, the "orificialist surgeon," one of its faculty, is a member of the Chicago Academy of Medicine. Dr. Kiernan states that the person mentioned never has been a member, and is not eligible to membership.

The Kinematograph in Medicine.—In the *Journal* for September 3d we mentioned M. Marcel Baudouin's suggestions regarding the use of the kinematograph in medicine. In this matter Dr. J. Mount Bleyer, of New York, claims priority over M. Baudouin. Dr. Bleyer informs us that on February 28, 1895, he presented before the French Academy of Medicine a communication on the subject, an abstract of which was published in the *American Medico-surgical Bulletin* for September 15, 1895. Mention was made of it in the Paris *Temps* for March 20, 1895. These statements are the essential features of Dr. Bleyer's letter, which is too long for us to publish.

The Detention Camp at Egmont Key.—The special correspondent of the London *Lancet* (August 27th), writing from Egmont Key under date of August 9th, makes the following remarks anent the strictures that have recently appeared in some of the lay journals. He says: "The facts in the matter are briefly as follows: On the arrival of the steamship *Santiago* at quarantine on July 29th we were told we would be put on this key for detention. It was found upon inquiry that Dr. Geddings was not at the camp, having taken a sick steward that very morning to Port Tampa. He did not expect any sick to be landed here, but, on the contrary, had received positive instructions that this camp was not to be used for any such purpose, so there was no reason why he should not have been temporarily absent. He did not receive our urgent telegram until 9 P. M. on Friday. After that late hour he made arrangements for stores and many necessary things, which the sudden call for provision for one hundred and eighty-six men (mostly sick) demanded, and he had also to obtain formal permission from Washington to allow us to land and occupy the camp. He was on hand early next morning. We were landed quickly, without exposure or fatigue, and in an hour or two at most the sick, convalescent, and well were comfortably tented and given an abundance of good food. Dr. Geddings made constant rounds among the sick and well and saw that everything possible was done for them. In an incredibly short time he had a sufficient number of hospital stewards at work and things were running smoothly.

"From the first the food has been plentiful and well cooked and many delicacies have been provided for both officers and men and dispensed with a liberal hand. The camp has been kept wonderfully clean and every little detail has been looked after by Dr. Geddings himself. After the storm he took the officers (it so happened that the tents which they occupied had suffered most) and some soldiers into his own place and tenderly cared for all. During the night of the storm the chief steward (Mr. Peck) was out the entire night attending to the sick and Dr. Geddings was up very late.

"Both officers and men have improved greatly under Dr. Geddings's care and all are most thankful to him for his courteous and unremitting attention. I have shown this statement to the officers, including General Duffield, Major D. B. Wilson, Captain C. D. W. Wilcox, Lieutenant Mark L. Hersey, Major Thornton, Major Wessels, Lieutenant J. C. Reeves, and others, who heartily indorse what I write."

British Medical Arrangements for the Soudan.—In the present state of military excitement in this country, the following details concerning the medical arrangements of the British army in the Soudan, from the *Lancet's* special correspondent, dating from Fort Atbara, August 5th, and published in its issue for August 27th, may be of interest. The writer says:

"Surgeon-General Taylor arrived a few days ago from England, and the disposition of the various medical units was arranged. There are to be twelve field hospitals under the charge of majors of the Royal Army Medical Corps, a one hundred bedded hospital at the Atbara, and a three hundred bedded one at Abadia. The hospitals on the lines of communication will be established on the various steamers which will run between the front and the base hospitals, and a medical officer will be on board the new gunboats which will play an important part in the bombardment of Omdurman. The cavalry and the Royal Artillery have each a field hospital allotted to them, and this time there will be no want of medical officers or material. The Royal Engineers have been hard at work on the sun covers for the stretchers, and a very good shaded stretcher has been made on the same plan as the Indian 'dandy,' on which severe cases can be moved with the minimum of jolting and exposure. Several new sets of capital instruments (aseptic) with sterilizers have been served out to the field hospitals, and plenty of antiseptic dressings are available. The great difficulty will be the water for drinking purposes as we near Khartoum, as it is practically impossible to carry enough filters to supply the amount of filtered water needed for both brigades, but every precaution will be taken and the water will be boiled whenever practicable. It is intended to have a Pasteur filter for the field hospitals, but where transport is such a consideration it is not always possible to carry out good intentions. The health of the troops continues good, and, with the exception of a few scattered cases of enteric fever, there is practically no sickness, but the men are getting weary of the forced inactivity, and a move will do us all good. The one item which has not been decided on yet, so far as I know, is a hospital ship. This ought to be arranged for, as if we have any casualties and much sickness a properly equipped steamer at Alexandria, with all necessary medical comforts and nursing appliances, so that the patients could be put on board and taken straight to Netley, would be of inestimable value. This ship should be entirely for the sick and wounded, and should be ready at the close of the campaign. It is to be hoped that the general public will realize that upon this occasion the medical arrangements have been properly thought out and every item carefully looked after, and that if there is any breakdown it will not be the fault of the officers or men of the Royal Army Medical Corps."

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Original Communications.

A CONTRIBUTION TO THE STUDY OF HYSTERIA IN CHILDHOOD AS IT OCCURS IN THE UNITED STATES OF AMERICA.

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(Concluded from page 416.)

Spasmodic Affections.—Herein are included general convulsions—tonic, clonic, as well as choreiform; spasmodic affections of the larynx, contractures, catalepsy, and rotatory seizures. Convulsions form the most frequent manifestation of hysteria in childhood. Many minor attacks are either overlooked or attributed to dentition and indigestion. Twenty-four of the ninety-two cases under discussion presented convulsions as the main symptom. The fits varied in character and simulated, more or less, those of true epilepsy, as the two cases herewith related:

A. F., girl, nine years old, very delicate; mother died of valvular heart disease. She was brought to the hospital department of the Hebrew Sheltering Guardian Society Orphan Asylum in a seemingly unconscious condition. Face and hands were cold and blue; pulse scarcely perceptible. She moaned and breathed heavily, rolled her head from side to side, and now and then elevated her body about one foot above the level of the floor. Her hands were clenched, the forearm bent upon the arms and thrown over the chest. After undergoing this performance for from ten to twelve minutes she began to cry, opened her eyes, and complained of headache. Such an attack she had every morning about nine o'clock for twelve successive days. Laxatives and bromides had no effect in diminishing the severity or frequency of the fits; hypnotism was therefore successfully resorted to twice, and there was no recurrence of the attack for over six months. No hysterogenic zones or anæsthetic areas could be discerned.

G. S., boy, three years old; well developed; family history good, excepting one hysterical aunt who had been living in the same apartment. This little boy was seen by the writer in consultation with Dr. Labierna. The slightest provocation, such as a touch by a stranger, was productive of a fit of tonic and clonic convulsions of about two minutes' duration.

The head was thrown backward, the face was pale and covered with perspiration. The eyes were turned inward. Breathing was sighing in character. At times he voided urine involuntarily. If not disturbed, or when playing on the street, he would go along the whole day without an attack; and, again, if aggravated, he would have from twenty to forty convulsive fits in twenty-four hours. Upon the writer's advice, other remedies having failed to give relief, the child was sent to his grandparents, where he had forty attacks the first day, ten the second, and none from the third day up.

Hysterical spasmodic croup is next in frequency as an hysterical phenomenon, judging from the table annexed. Twenty-two cases are on record. They often occur in epidemics, and we never passed the dormitories of the above-mentioned orphan asylum without hearing dozens of children feigning croup, either to get a teaspoonful of cough syrup or to evade a well-deserved punishment. By far more important are the various hysterical contractures. The symptomatology is often so genuine that it not infrequently baffles the skill of the expert, especially if the case is of long standing, with a consecutive atrophy of the limbs from disuse. Of the cases under discussion, eight children showed signs of hip-joint disease, five of talipes, four of Pott's disease, and three of contracture of the upper extremities.

The girl under the writer's care was quite healthy. Her father and mother are dead; her brothers (three) are well and strong. She was brought to the hospital with a history of having had a hot quarrel with one of her companions. The hands were flexed rectangularly with the wrist, and she complained of severe pain whenever attempts at extension were made. As it was thought to be hysterical in nature, the faradaic current was applied and the suggestion made that the hands were gradually assuming the normal position. They did so after ten minutes. Two months later she was sent up again with the same trouble. This time, however, the contracture did not yield to the former appliance. She was hypnotized four times, and recovered within a week without any recurrence. An ophthalmoscopic examination by Dr. H. S. Oppenheimer revealed the presence of a slight atrophy of the optic nerve. This, we believe, stands in no relation to the hysterical seizure.

Catalepsy does not seem to be of very rare occurrence. Three cases are on record. One of them, observed by the writer, was partial and rather deceiving. The child, a boy of three years, whenever placed upon the table would stand there without the slightest motion as long as spectators were about him. Any limb raised, lowered, stretched, or bent would remain in the same position, and all the laughing on the part of his little comrades would produce no change in the expression of his face.

One case of rotatory seizures in a boy eleven years old has been reported by Dr. Mills. The boy would go round and round for two or three minutes at a time, fifteen to sixteen times during twenty-four hours. These attacks continued through three months. Nine months later he showed hysterical phenomena of a different character. His legs and arms were drawn spasmodically, and while rigid he was affected with a general tremor.

Sensory Symptoms.—Under this heading are classed the disturbances of sensation in general and those of the special senses. Painful sensations are experienced by almost all hysterical patients. Children complain, as a rule, of pain in the head and spine; painful spots may, however, be found all over the body. The tenderness may be superficial or deep. In six of the cases recorded the pain was very severe and gave rise to the erroneous diagnosis of rheumatism and multiple neu-

Cases of Hysteria in Childhood under Fifteen Years of Age reported up to Date by American Writers.

BIBLIOGRAPHY.	Sex and age of patient.	Supposed cause.	Principal symptom or the disease it simulated.
A. Jacobi, *American Journal of Obstetrics*, p. 218, 1876......	Female, 11.	(?)	Coxalgia.
" " " " " "	Female, 9.	(?)	Articular rheumatism.
" " " " " "	Female, 14.	(?)	Coxitis.
" " " " " "	Female, 8.	(?)	Articular rheumatism.
" " " " " "	Female, 5.	(?)	Articular rheumatism.
" " " " " "	Male, 8.	(?)	Multiple neuritis.
" " " " " "	Male, 6.	(?)	Spasmodic croup.
" " " " " "	Male, 6.	Masturbation.	Spasmodic croup.*
" " " " " "	Male, 4.	Imitation.	Spasmodic croup.*
" " " " " "	Male, 14.	Masturbation.	Partial paraplegia.
" " " " " "	Female, 9.	(?)	Convulsions; complete ptosis.
" " " " " "	Female, 10.	(?)	Paraplegia.
L. C. Gray, *Archives of Medicine*, New York, 1879–'80........	Female, 10.	(?)	Convulsions resembling those of epilepsy; chorea.
" " " " "	Female, 9.	Trauma.	Convulsions resembling those of epilepsy.
" " " " "	Female, 12.	(?)	Convulsions resembling those of epilepsy.
" " " " "	Male, 11.	(?)	Convulsions; one fit lasted four days; hæmianopsia.
N. M. Shaffer, *Archives of Medicine*, New York, 1879–'80.....	Male, 12.	Trauma.	Hip-joint disease.
" " " " "	Female, 5.	Trauma.	Contracture of one leg.
" " " " "	Female, 12.	(?)	Hip-joint disease.
" " " " "	Female, 10.	(?)	Hip-joint disease.
" " " " "	Female, 14.	(?)	Pott's disease.
" " " " "	Female, 14.	Trauma.	Pott's disease.
" " " " "	Male, 10.	Trauma.	Spondylitis; talipes.
H. Dessau, *American Journal of Obstetrics*, 1880.............	Male, 13.	(?)	Contracture of leg.
J. S. Carreau, *American Journal of Obstetrics*, 1881..........	Male, 8.	(?)	Convulsions.
Lee, *New York Medical Journal and Obstetrical Review*, 1882..	Female, 4.	(?)	Aphonia.
Gillette, *New York Medical Journal and Obstetrical Review*, 1882	Female, 1½.	(?)	Paralysis of upper extremities.
E. J. Kempf, *Medical News*, Philadelphia, 1883..............	Male, 10.	(?)	Epilepsy; five to twelve attacks a day.
F. Forchheimer, *Archives of Pædiatrics*, 1884	Female, 10.	(?)	Choreiform movement of muscles of face.
S. Weir Mitchell, *Lectures on Nervous Diseases*, 1885.........	Female, 13.	(?)	Hip-joint disease.
" " " " "	Female, 13.	(?)	Distressing vomiting.
" " " " "	Male, 11.	Imitation.	Epilepsy.
" " " " "	Male, 9.	(?)	Symptoms of meningitis.
" " " " "	Female, 12.	(?)	Spasmodic croup.†
" " " " "	Female, 10.	Imitation.	Spasmodic croup.†
" " " " "	Female, 10.	Imitation.	Spasmodic croup.†
" " " " "	Female, 12.	Imitation.	Spasmodic croup.†
" " " " "	Female, 12.	Imitation.	Spasmodic croup.†
" " " " "	Female, 8.	Imitation.	Spasmodic croup.†
" " " " "	Female, 12.	Imitation.	Spasmodic croup.†
" " " " "	Female, 12.	Imitation.	Spasmodic croup.†
Bemiss, *New Orleans Medical and Surgical Journal*, 1886.....	Male, 6.	Malaria.	Multiple neuritis.
S. Wolfe, *Medical Register*...................................	Female, 5.	(?)	Convulsions.
Ch. K. Mills, *Keating's Encyclopædia*, 1890..................	Female, 13.	(?)	Epilepsy.
" " " "	Female, 13.	(?)	Epilepsy.
" " " "	Female, 11.	(?)	Epilepsy.
" " " "	Female, 10.	(?)	Contracture of leg.
" " " "	Female, 2.	(?)	Catalepsy.
" " " "	Female, (?).	(?)	Convulsions.
" " " "	Female, (?).	(?)	Convulsions.
" " " "	Female, (?).	(?)	Blindness.
" " " "	Female, (?).	(?)	Blindness.
" " " "	Male, 11.	(?)	Rotatory seizures.
" " " "	Male, 7.	(?)	Convulsions, nocturnal.
" " " "	Male, 7.	(?)	Symptoms of meningitis.
" " " "	Male, 10.	(?)	Atypical typhoid.
A. Jacobi, quoted by Ch. K. Mills..........................	Female, 3.	(?)	Catalepsy.
Feldstein, quoted by Ch. K. Mills...........................	Female, 11.	(?)	Multiple neuritis.
J. W. Putnam, *Journal of Mental and Nervous Diseases*, 1892..	Male, 8.	(?)	Talipes equino-varus.
" " " " " " ..	Male, 7.	(?)	Aphonia, anæsthesia of larynx.
" " " " " " ..	Male, 9.	Fright.	Deafness.
" " " " " " ..	Female, 10.	(?)	Talipes; contracture of visual field.
S. Ayres, *Medical and Surgical Reporter*, 1893...............	Male, 8.	Emotion.	Convulsions.
J. H. Lloyd, *American Text-book of Diseases of Children*, 1895.	Female, (?).	Trauma.	Spinal caries.
B. Sachs, *Text-book of Nervous Diseases of Children*, 1896.....	Female, 9.	(?)	Convulsions.
" " " " " "	Female, 14.	(?)	Epilepsy.
" " " " " "	Female, 13.	(?)	Paralysis of forearm and hand.
" " " " " "	Male, 13.	Emotion.	Epileptic fits, as many as two hundred in twenty-four hours.
" " " " " "	Male, 14.	(?) ‡	Tympanites.
" " " " " "	Male, 14.	Imitation.‡	Tympanites.
J. M. Rotch, *Text-book of Diseases of Children*, 1897	Female, 10.	(?)	Aphonia; choreiform movements.
J. N. Upshur, *Virginia Medical Monthly*, 1896...............	Female, 8.	(?)	Dyspnœa.
D. Riesman, *Philadelphia Polyclinic*, 1897...................	Male, 9.	(?)	Tachypnœa, sixty-four respirations to the minute.
" " " "	Male, 13.	(?)	Tachypnœa, eighty-one respirations to the minute.

* Brothers. † All these cases occurred at the Church Home for Children, of Philadelphia, within six weeks. ‡ Twin brothers.

Cases of Hysteria in Childhood (continued).

Bibliography.	Sex and age of patient.	Supposed cause.	Principal symptom or the disease it simulated.
A. A. Eshner, *Philadelphia Polyclinic*, August 27, 1897	Female, 9.	Fright.	Trembling; active motion as in the process of walking on fours; fifteen to twenty attacks a day.
" " " " "	Female, 9.	(?)	Epilepsy.
" " " " "	Female, 7.	(?)	Hyperpyrexia.
" " " " "	Female, 14.	(?)	Epilepsy.
" " " " "	Female, 13.	(?)	Convulsions; on one occasion child slept for four days.
" " " " "	Female, 14.	Fright.	Catalepsy, each attack lasting from three to five days.
Ch. W. Burr, *Journal of the American Medical Association*, December 4, 1897	Female, 9.	(?)	Pott's disease.
Ibid	Female, 10.	Followed influenza.	Choreiform movement; dyspnœa.
Ibid	Female, 11.	Followed typhoid.	Hip-joint disease.
Ibid	Female, 10.	(?)	Talipes.
H. B. Sheffield	Female, 8.	(?)	Epilepsy.
"	Female, 3.	Imitation.	Epilepsy.
"	Female, 13.	Emotion.	Contracture.
"	Female, 5.	Fright.	Astasia-abasia.
"	Male, 4.	Fright.	Astasia-abasia.
"	Male, 5.	Fright.	Astasia-abasia.
"	Male, 9.	(?)	Blindness.
"	Male, 3.	(?)	Catalepsy.

ritis. While anæsthetic areas are quite often met with in hysteria in childhood, hysterogenic zones are very rare. Dr. Mills has found them in two cases. The writer has searched for them in vain in the cases under his observation.

Two cases of hysterical blindness and one of hemianopsia are recorded. One case of hysterical blindness was seen by the writer and was very typical. It occurred at the orphan asylum, in a boy nine years old; father dead; mother strong and healthy, so are his two brothers. One day he was led to the office by one of the caretakers, who stated that after a few convulsive motions he became blind. The boy explained that this was the second attack of blindness, for he had one of very short duration the day previous. His lids were tightly shut, and when opening was attempted it was followed by a quick blepharospasm. This prevented an ophthalmoscopic examination. His pupils were widely dilated. The hysterical nature of this blindness was evident. He received ten drops of aromatic spirits of ammonia, with the suggestion that this would bring his vision back; so it did. The next day about the same time he had a similar fit. He was blind again for two hours. Hypnotism was effectually resorted to. It may be noted here that this boy was the easiest subject for hypnotism I ever met. He could be put under its influence in a few seconds. Examination of the visual field revealed a marked contraction of the visual field and transposition of colors on the left side, the circle of red reaching outside of the blue.

Hysterical deafness was encountered once in a boy nine years old. The supposed cause was a fright during a thunderstorm. It lasted a year and was cured by suggestion.

Motor Disturbance.—The parts most frequently involved are the lower and upper extremities. The hysterical paralysis may come on suddenly or gradually; in the latter event the diagnosis is often very difficult. The paralysis may be accompanied by anæsthesia or paræsthesia, and if of long duration, by flabbiness and atrophy of the muscles from disuse. Among the ten cases of motor paralysis noted, the lower extremities were affected in five, the upper extremities in two, and the laryngeal muscle (aphonia) in three cases. In the five cases, three presented a group of symptoms comprised by Blocq under the name of "astasia-abasia." The little epidemic in question occurred at the above-mentioned orphan asylum under the care of the writer. It seized one boy, Abe, four years old, his sister Tonie, five years old, and a boy, Solomon, five years old. While sitting in the playground Abe was frightened by a frog jumping under his dress. He yelled, and so did his two little companions who were sitting near him. When picked up from the ground he had his legs drawn upon the buttocks, and every effort at extension was in vain and attended by expressions of unbearable pain. His two comrades followed his example. When punishment was threatened they would endeavor to take a few steps, but would soon fall back again on the floor. They were put to bed, each in a separate room. While lying they would move their legs naturally, without any effort or pain. The next day the suggestion was made to each one of them that their little friends were able to walk again. Solomon yielded to the suggestion first, Tonie began to walk two days later, and Abe recovered gradually within six days.

Of the three cases of aphonia, one, reported by Dr. Putnam, was accompanied by anæsthesia of the pharynx.

Visceral and Vasomotor Disturbance.—It is difficult to determine how often the digestive organs are involved in hysteria in childhood. We presume that its occurrence by far exceeds the number reported. We have seen many children vomit several times a day and abstain from food in order to excite sympathy and be allowed to stay away from school.

Dr. Sachs relates two cases of hysterical tympanites. It developed suddenly without any known cause in one boy and lasted four weeks, and a few days after his recovery his twin brother underwent the same performance for the same length of time. The distention of the abdomen was so immense that the skin seemed ready to burst. Disturbance of respiration is at times of a very alarming nature. Dr. Riesman relates a case in which the respirations averaged 64 to the minute. They were noiseless, rhythmic, and unaccompanied by any effort. The breathing in the other case observed by the same author averaged 81 to the minute, was noisy, and interrupted in every fourteen to fifteen respirations by the act of swallowing. During play, sleep, and work the respiration was natural. The third child, under the care of Dr. Upshur, complained of being unable to "catch her breath," had choking sensations, pain in the back, and distressing vomiting. She recovered by suggestion in ten days.

Hysterical fever is a very peculiar manifestation of hysteria. Some author are inclined to doubt its genuineness and attribute the rise of the mercury column to friction of the bulb on the part of the patient. This assertion, I believe, does not hold good with children. Of the four cases on record, two were accompanied by symptoms simulating those of meningitis and one resembled a typical typhoid fever.

The foregoing discussion offers a general outline of the symptomatology of hysteria in childhood as it occurs in the United States. The severe types of hystero-epilepsy of common occurrence in France are rarely if ever encountered in this country.

The diagnosis of hysteria in childhood must be based mainly upon the exclusion of organic disease; careful attention must also be paid to the rapid changeability of the symptoms complained of. It is the variability and multiplicity of the phenomena which is so characteristic of hysteria. The ætiology, which is of great value in the diagnosis of hysteria in adults, is often of no moment in childhood, owing to the inability of tracing it with certainty. Hysterical contractures may, as a rule, be reduced under an anæsthetic, and are differentiated from organic disease by the fact that the electrical reaction to the faradaic current remains intact in the former; furthermore, the atrophy is merely a result of disuse and not the expressive wasting so characteristic of organic disease. Hysterical fits differ from those of epilepsy in that they are less sudden, but of much longer duration. The convulsions generally assume a much wider range, are accompanied by moaning, crying, biting, etc., and not by complete unconsciousness, as is the case in epilepsy.

The treatment may be summed up in a few words: Removal of the constitutional causes. Avoidance of overtaxation, irritation, and depression of the nervous system. Observance of the general hygienic and dietetic laws. Complete rest; isolation of the patient. Plenty of wholesome food. Administration of general tonics (hydrotherapy) if indicated. Suggestion and hypnotism. Early and careful attention is almost always accompanied by perfect recovery.

The contents of this paper may be summarized as follows:

1. Hysteria is a neuro-psychosis, manifesting itself in an array of functional disturbances of one or all of the higher centres (intellect, feeling, and will), with secondary changes in the lower ones, underlaid by a morbid condition of the nerve substance. Whether this defect lies in the neurone, in the nerve cell, in the nerve fibre, or in all of them, is a question as yet awaiting correct solution.

2. The ætiology of hysteria in childhood is, like that in the adult, very obscure. Anything that lowers the vitality of the patient serves as a predisposing cause. The rôle played by heredity as an ætiological factor of hysteria is overestimated. Much more weight must be laid upon the acquired causes, among many of which imitation, faulty methods of education and discipline, alcoholism in the young, and trauma are deserving of special mention.

3. Hysteria attacks boys as well as girls, the ratio being as one to two. It is comparatively rare in children under eight years of age, although children eighteen years old are not exempt from it.

4. The symptomatology of hysteria is characteristic for its changeability and multiplicity. In the United States it is observed, as a rule, in the following order of frequency:

(*a*) Spasmodic affections (convulsions, spasm of the laryngeal muscles—croup—contractures, catalepsy).

(*b*) Sensory symptoms (painful sensations, anæsthesia, blindness, contracture of visual field, hemianopsia, deafness).

(*c*) Motor disturbances (paralysis of the extremities, paralysis of the laryngeal muscles—aphonia).

(*d*) Visceral and vasomotor disturbances (affections of the alimentary canal, dyspnœa, tachypnœa, hyperpyrexia).

5. The treatment consists in removal of the causes, attention to general hygiene, isolation and rest, suggestion, and hypnotism. The duration of this disease depends greatly upon the skill in treatment; the prognosis is, at all events, favorable.

5 Mitchell Place.

Subcutaneous Injections of Iodoform in the Hæmoptysis of Tuberculosis.—At the Congress for the Study of Tuberculosis held in Paris from July 27th to August 30th, M. Gallot (*Gazette hebdomadaire de médecine*, September 1st) reported excellent results in two cases of early phthisical hæmoptysis from the use of iodoform in eucalyptolized oil, beginning with a daily dose of three quarters of a grain. The hæmoptysis ceased by the third day.

NERVOUS DYSPEPSIA.

WITH REPORT OF CASES.*

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THE secretion of hydrochloric acid in the stomach has of late years been the subject of most careful and thorough investigation by the best clinicians both in this country and in Europe. At one time its absence was supposed to indicate either malignant disease or advanced destruction of the gastric mucous membrane; and at present authorities differ as to whether in cases where it varies from the normal there is always an anatomical change in the gastric tubules, or whether certain cases may not be due solely to a deranged condition of the nerves which preside over the secretion of the gastric juice. Boas, Cohnheim, Einhorn, Hemmeter, and others have examined under the microscope small pieces of the gastric mucosa found in the wash water of the stomach after using lavage, and, as the result of his investigations, Einhorn found that in half the cases of hyperchlorhydria there was proliferation of the gastric glands, and in half the cases of achylia gastrica there was atrophy of the gastric mucous membrane.

This would leave the other half of both classes of cases to be accounted for in one of three ways:

First, as Einhorn (1) suggests, the activity or inactivity of the gastric glands has not lasted long enough to cause proliferation or atrophy; or second, as Ewald (2) thinks possible, our present means of diagnosis are not sufficiently delicate to detect changes which may have taken place; or third, these changes may be due entirely to a neurosis.

Leube and Ewald in Europe, and Stockton in this country, have laid much stress upon the neurotic character of these secretory disorders; and Einhorn (3) is of the opinion that some cases of achylia gastrica even may develop in consequence of nervous disturbances. Leube's criterion of normal digestion is that the stomach should be empty six or seven hours after a test meal. It is, however, well known that if the motility of the stomach is normal, and there is no obstruction at the pylorus, the organ will empty itself promptly, even in cases where no gastric juice whatever is being secreted. Of nervous dyspepsia Leube makes three clinical varieties.

1. That of normal secretion.
2. That of diminished acidity.
3. That of hyperacidity.

Now it is hard to conceive of any disease of the stomach in which the gastric juice is always secreted in normal amount. In fact, it is only the departure from the normal that helps us to distinguish one diseased condition from another. An excess of HCl is found in hyperchlorhydria, in gastrosuccorrhœa continua periodica, in gastrosuccorrhœa continua chronica, and usually in gastric ulcer. It is always absent in achylia gastrica, and in atrophy of the gastric mucosa; usually in cancer and chronic gastric catarrh; and frequently in nervous dyspepsia. Now the term nervous dyspepsia should, it seems to me, be applied only to that class of cases in which it is most unlikely that any anatomical changes could have taken place in the mucous membrane of the stomach, for the reason that great and sudden changes appear in the amount of HCl secreted, the glands sometimes pouring it out in large quantities, and again its secretion being for a time suspended, to be followed by another period of increased secretion. In the *New York Medical Journal* for August 28, 1897, the writer partly reported such a case.

The patient, a single lady forty years of age, complained of insomnia, being able to sleep only about an hour each night, and almost constant nervous belching. She was able to take but a small quantity of food, and that in liquid form, and was altogether in a most miserable condition. The examination of the stomach contents showed remarkable and sudden changes. Owing to the fact that the decinormal soda solution used had not been properly standardized, the reported figures of the three first examinations were much too high, but are corrected in the following table:

Case I.—Miss A.

DATE.	Congo reaction.	Gunzburg's test.	Toepfer's test.	Total acidity.
December 20, 1896...	0	0	16	36
January 10, 1897....	+	+	52	66
January 18, 1897....	0	0	0	30
March 6, 1897.......	+	+	16	65
March 28, 1897......	+	+	20	75
April 16, 1897.......	+	+	18	74
May 13, 1897........	+	+	15	74
June 8, 1897.........	+	+	40	64
July 6, 1897.........	0	0	0	16
July 13, 1897........	0	0	22	30
July 20, 1897........	+	+	24	44

This patient improved steadily under the use of strychnine, intragastric faradization, and galvanization, the latter current, applied along the spine, apparently having a marked effect in relieving the nervous belching. She has gained twenty-one pounds in weight, and is enjoying good health.

CASE II.—Miss B., aged forty-two years, came to me in February, 1897. Had been ill six years; complained of insomnia, only sleeping two or three hours; constant distress in the stomach, made worse by eating, a feeling after meals as if she would burst; end of nose very red; gastroptosis, lower border of stomach reaching four inches below the navel; had been living on skimmed milk for six weeks. She had been constantly under the care of a physician, and had spent three months every summer at the seashore. Below is the result of the examinations of the stomach contents since June, my case book containing result of previous examinations having been burned. July, August, and September were spent out of the city, mostly at the seashore, coming home once, July 24th, for examination.

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* Read at the annual meeting of the American Gastro-enterological Association, held in Washington, D. C., May 3, 1898.

DATE.	Congo reaction.	Gunzburg's test.	Toepfer's test.	Total acidity.
June 29, 1897.......	0	0	16	40
July 24, 1897.......	0	0	8	36
October 8, 1897.....	+	+	28	68
November 17, 1897..	+	+	30	70
December 15, 1897 ..	0	0	16	50
January 19, 1898....	+	+	36	60
February 23, 1898...	0	0	20	60
March 2, 1898.......	+	+	24	68
March 16, 1898......	+	0	32	60

Treatment.—Plenty of food, an abdominal supporter, strychnine, and intragastric faradization. Patient has improved very much, sleeps better, the redness of the nose has entirely disappeared; she has gained ten pounds in weight, but is still troubled at times with nervous belching and a slight fullness after meals.

CASE III.—Mr. D., aged thirty-one years, ill four years, although he looked the picture of health and had gained twenty-five pounds during the past twelve months. During the summer of 1896 he spent three months traveling in Europe, without being benefited in the slightest degree. He neither felt better while traveling nor did he improve after coming home, except that he gained in weight. Is not troubled with his stomach, excepting that he has slight fullness after meals, and occasionally raises sour gas; complains of almost constant dull headache, great depression of spirits, drowsiness, pain in the eyes; eyeballs are tender on pressure; never feels rested; forgets words at times; feels fairly well some days, other days wants to lie down and sleep; bowels irregular, is either constipated or has diarrhœa; has attacks of erythema three or four times a year; appetite good; sleeps well; chest organs intact; ascending colon full of gas. Examination of stomach contents as follows:

DATE.	Congo reaction.	Gunzburg's test.	Toepfer's test.	Total acidity.
July 26, 1897.......	0	0	18	44
October 13, 1897.....	0	0	20	34
November 24, 1897..	+	+	24	64
December 10, 1897...	+	+	24	72
January 18, 1898....	0	0	16	44
March 30, 1898......	+	+	32	56

Treatment.—Proper diet, strychnine, intragastric faradization. During October and part of November he was relieved of all his subjective symptoms. During December and part of January—that is, while HCl was present in his stomach—there was a return to a slight degree of the depression and dull pain in the occiput, extending forward toward the eyes (he wears properly fitted glasses), but when the HCl disappeared again he felt perfectly well. The return of the HCl a second time caused no unpleasant symptoms. He has also lost fifteen pounds in weight, although still ten pounds heavier than he ought to be.

CASE IV.—Mrs. C., aged twenty-eight years, ill five years, came to me August 28th complaining of distress in the stomach two hours after meals, relieved by eating; bloating and belching; insomnia; often gets up at night and takes soda to relieve distress in stomach; has loud roaring in ears, worse when lying down—sometimes sounds like falling water, sometimes like the beating of a drum; memory is poor; has severe headaches, beginning in right temple; has to be in bed a day or two during each attack; for some years has drunk hot water before each meal and provoked vomiting to relieve stomach; has also used lavage. Meat, if eaten soon after having a headache, would be rejected, and the headache would return. Below is the result of the examination of the stomach contents:

DATE.	Congo reaction.	Gunzburg's test.	Toepfer's test.	Total acidity.
August 28, 1897.....	+	+	56	90
September 22, 1897..	+	+	54	88
November 5, 1897...	+	+	36	60
December 20, 1897...	0	0	10	36
January 11, 1898....	+	+	48	64
February 12, 1898...	+	+	32	52
March 8, 1898.......	+	+	36	60
April 19, 1898	+	+	24	52

On December 20th a test breakfast was eaten and the stomach contents taken while the patient was suffering from one of her severe headaches, and it will be seen that HCl was at that time absent. In most respects this patient is much improved, but is still under treatment.

CASE V.—Mrs. E., aged forty-two years, troubled with her stomach for fifteen years, came to me February 1, 1897. Complained of constant dull headache; vertigo; could not turn head on pillow without being dizzy; insomnia; nervousness; bloating and belching; nausea and vomiting; shooting pains in arms and legs; first joint of left forefinger swollen and tender; chest intact; stomach in normal position. Following is the result of the examinations of stomach contents for June:

DATE.	Congo reaction.	Gunzburg's test.	Toepfer's test.	Total acidity.
June 18, 1897.......	+	+	26	58
August 3, 1897......	0	0	10	42
September 8, 1897...	0	0	10	52
September 28, 1897..	+	+	32	66
October 30, 1897....	+	+	40	64
January 8, 1898.....	+	+	24	36
January 13, 1898....	0	0	0	20
February 1, 1898....	+	+	32	52

This patient was also treated with strychnine and faradization, but she came in very irregularly, sometimes having only one treatment in two weeks. At present she is relieved of all her unpleasant symptoms, excepting that at times she does not sleep well.

In nervous dyspepsia it is not known what part of the nervous system is at fault. Burkhardt laid great stress upon certain points tender on pressure over the region of the superior hypogastric, aortic, and cœliac plexuses; but Ewald (4) states that there is nothing about them which is characteristic of gastric neurasthenia. Jurgens states that in forty-one patients who, while alive, complained of vague dyspeptic disturbances, a complete degeneration of Meissner's and Auerbach's plexuses was discovered.

These plexuses, however, are situated in the wall of the intestine, and have, so far as known, no connection with the gastric mucous membrane. There is a plexus containing nerve cells, situated in the submucous coat of the stomach, corresponding to Meissner's plexus in the intestine, from which fibres pass to the mucous membrane; but whether any are connected with the gastric glands, and if so, how, is not at present known (5). That this plexus has to do with the secretion of gastric juice seems probable, for the reason that, according to Foster, "a secretion of quite normal gastric juice will go on after both vagi, or the nerves from the solar plexus going to the stomach, have been divided, and indeed when all the nervous connections of the stomach are so far as possible severed" (6). Ewald believes that secretion is possible without nerves, the result of a peculiar activity of the cells (7); and Morrison thinks possibly a complementary sympathetic juice may be poured out in cases where the vagal secretions are inhibited (8).

However that may be, it would seem that for the present, in the class of cases under consideration, we must accept the theory that the nervous mechanism of the stomach is at fault. In the treatment of nervous dyspepsia a great deal of patience is required on the part both of the physician and patient. The object of treatment must be to restore the lost balance of the secretory nerves, and for this purpose strychnine and electricity are perhaps our most efficient agents. Bathing and exercise, of course, must not be neglected, and a properly regulated diet is of the greatest importance. It is evident that in cases where the gastric secretions are constantly changing, a diet which agrees at one time will not agree at another; and so these patients, not knowing what to eat, will, after a time, take too little food, which only increases the difficulty, the stomach suffering with the rest of the body from lack of nutrition, and thus a vicious circle is established which may result in general neurasthenia. It used to be supposed that nervous dyspepsia was mostly, if not always, secondary to a derangement of the general nervous system; and even as late a writer as Loomis contends that it must be reached through general systemic treatment (9). The very reverse of this, however, seems probable, certainly in the class of cases under consideration. The point is most beautifully put by Allbutt, and I can not do better than quote his own words. He says: "In certain cases of neurasthenia or pseudo-neurasthenia the stomach is the primary source of the departure from health; in others, if indeed the initiation of the morbid series lay with the nervous system, the secondary impairment of the stomach may become the central feature, and the alleged neurasthenia may be due to bad products of digestion, which, returning again to the stomach, depress it and its work still further; if so, a cure is to be obtained by gastric medication only; the stomach is the link in the vicious circle which has to be forced anew" (10).

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CASES OF
SHOT AND BULLET WOUNDS OF THE EYE.*

By CHARLES STEDMAN BULL, M. D.

Case I. *Shot Wound of Right Eye.*—On November 9, 1895, a gentleman, aged thirty-seven, came to my office with the following story: Four days before, while shooting quail with a party of friends, he was shot in the neck, face, and right eye by one of the party from a distance of about sixty feet. He received three shot in the neck, one just over the parotid gland, one in the temple, and at least one in the eye. He lost the sight of the right eye at once, and everything appeared of a red color with this eye. The shot in the neck and temple were removed within half an hour after the accident, and he was carried home and cold applications made to the eye. When I saw him there was an excoriation involving the external canthus, a laceration of the conjunctiva of the globe in the infero-temporal quadrant, and a perforation at the sclero-corneal margin in the same region. The anterior chamber was filled with blood, tension was increased, and he complained of a constant pain in the eyeball. There was but little chemosis of the conjunctiva and no swelling of the lids. There was a moderate amount of subconjunctival hæmorrhage. He was placed on his back in bed, a mixture of atropine and cocaine was instilled, and cold compresses were applied and constantly changed. In the course of twenty-four hours the pain was much relieved, and on the second day the absorption of blood in the anterior chamber began. On the fifth day the blood was entirely absorbed, the iris was widely dilated and adherent to the wound at the sclero-corneal margin; and at the bottom of the anterior chamber was a small black body which was thought to be the shot. The original wound was reopened and enlarged in the direction of the supposed foreign body. A probe was passed and the latter discovered to be metallic. A small platinum probe was then hammered out thin and flat at the end, carefully introduced through the wound, and passed behind and beyond the shot, and then by pressing the end of the flattened probe against the cornea and slowly withdrawing it, the shot was removed without the slightest difficulty. An attempt was then made to replace the prolapsed iris, but this proved impossible, and it was carefully excised, leaving a coloboma downward and outward. There was no reaction following the operation, the wound healed promptly under atropine and a bandage, and two weeks later the vision was tested and proved to be $\frac{20}{30}$.

The patient has been seen a number of times since, the last occasion being about four months ago, when the vision was the same, and the lens was perfectly intact.

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* Read before the American Ophthalmological Society, July 20, 1898.

Case II. *Shot Wound of Left Eye.*—On November 12, 1896, a gentleman, aged fifty-one, was brought to my office and gave the following history: Two days before he was accidentally shot obliquely in the face by a charge of No. 12 shot at a distance of about thirty feet. Two shot struck him on the left side of the forehead, one at the outer angle of the left upper lid, and one about the middle of the left upper lid, which did not penetrate the thickness of the lid. These shot were all removed from beneath the skin at the time of the accident. He immediately complained of severe pain in the eye, which has continued ever since. When I saw him there was a very extensive subcutaneous and subconjunctival hæmorrhage, with bruising of the conjunctiva and eyeball; there was a clot in the anterior chamber, the iris was discolored, the pupil was distorted, and the vitreous was full of blood. There was no reflex from the fundus, tension was + 1, there was perception of light, intense photophobia, and severe pain. Owing to the extensive subconjunctival hæmorrhage, it was impossible to tell whether a shot had entered the eyeball, and any prolonged examination was to be avoided at this time on account of the severe pain. Cold applications were ordered constantly made, and a solution of atropine and cocaine was instilled every hour. In twenty-four hours the blood was absorbed from the anterior chamber, the iris was dilated *ad maximum*, and he could distinguish the movements of the hand in the temporal half of the field. The pain had diminished, but there was considerable conjunctival chemosis.

November 14, 1896.—No severe pain; swelling of lids and conjunctiva less; subjective photopsia still present; nasal half of field absent. V. = $\frac{1}{200}$ in temporal half of field; nasal half of fundus visible; floating clots in vitreous; globe very sensitive to the touch.

15th.—Vitreous still clearer, but no reflex from fundus on temporal side.

17th.—Vitreous more cloudy; on outer aspect of eyeball, just above upper margin of external rectus, near equatorial region, was a slight elevation, as of a small shot imbedded in the sclera. Tension − 1.

19th.—Vitreous still more opaque, with reflex only from extreme nasal periphery of fundus; probably a fresh hæmorrhage.

21st.—Conjunctival chemosis increased; appearance of a shot on external aspect of globe almost certain. An attempt was made to remove it under cocaine by a meridional incision through the conjunctiva. As soon as the conjunctiva was incised, a bead of black vitreous protruded, but no shot was found. One shot had evidently penetrated the eyeball, and no attempt was made to find it.

From this time the unfavorable symptoms rapidly subsided, and by December 7th there was no external evidence of the injury. The eye became perfectly quiet, with no superficial or deep injection, and clear media. There were at times attacks of very severe trifacial neuralgia, always beginning in the eye. The tension was normal. Vision was reduced to counting fingers in the infero-temporal quadrant of the field. On January 15, 1897, all local applications were discontinued, but quinine and strychnine were given for the neuralgic attacks. The retina was detached outward and downward, and slightly upward, over about three fifths of its extent. After the effects of the atropine had passed away, the iris reacted to the stimuli of light and convergence, but remained somewhat discolored. All photophobia disappeared. He was enabled to use the other eye for all purposes by February 4th without any evidence of fatigue or subjective photopsia. The eye remained unchanged until October 20, 1897, when, on examining him for distance and reading glasses, the lens of the left eye was seen to be growing opaque. At the last examination, made June 10, 1898, the lens was entirely opaque, and presented the usual milky appearance of a soft cataract. The right eye has remained intact throughout.

Case III. *Small-shot Wound of Left Eye.*—Mr. J. M., aged thirty-eight, was first seen by me on December 13, 1896, and gave the following history: About two weeks before, while shooting in a patch of woods with two friends, he was shot in the left eye by one of his friends, at a distance of about forty feet, and lost the sight of this eye immediately. Four small shot, of the size of No. 12, were picked out of the skin of the face, and two from the scalp just above the line of the hair. There were three wounds of the lids, one in the upper lid and two in the lower lid. The eyeball was very injected, and there was a small hole in the sclera on the temporal aspect of the globe. When I saw him the lids were somewhat swollen, and the upper lid drooped. The subconjunctival hæmorrhage had nearly disappeared, being most marked at the line of insertion of the external rectus muscle, where there was a slight cicatricial projection. There were two shot in the lower lid just beneath the skin, which were readily removed. One shot could be felt imbedded in the upper lid, and on everting the lid, it was found just beneath the conjunctiva, near the upper margin of the tarsus, and was easily taken out through a slight transverse incision. The cornea was uninjured and transparent, and the aqueous humor clear. The iris was discolored, moderately dilated, and did not respond to the stimulus of light. There was no sign of injury to the globe except the cicatrix over the insertion of the external rectus. There was no reflex from the fundus, and no detail of the vitreous could be made out, but the lens was clear. The scar at the point of entrance of the shot was very thin, and at the centre was a black appearance which simulated the shot. It was reopened by a slight incision, but no shot was found, and the vitreous and black pigment immediately presented. The wound was closed with a single scleral suture under all antiseptic precautions, a solutions of atropine was instilled, and the eye was bandaged. There was no reaction. After a week had elapsed, the bandage was permanently removed, and the eye treated simply by cold bathing and atropine. All swelling soon disappeared from the lids, the partial ptosis receded, and the eye became white like the other. Five weeks after the injury the patient could count fingers in the temporal half of the field, the infiltration in the vitreous became gradually absorbed, and some of the details of the fundus could be distinguished. Ten weeks after the accident the vitreous had become entirely clear, and every detail of the fundus could be seen. There was no sign of the shot, but at a point on the nasal side of the fundus, very near the margin of the disc, was an atrophic patch, about half the diameter of the disc, with a depression in the sclera where the shot had probably passed through the posterior wall of the eye into the orbit. The disc was pale, but otherwise normal. The retina was detached downward anad outward, but firmly adherent at the site of the external wound on the temporal side. The lens was clear, and there was an eccentric vision of $\frac{10}{70}$. This patient has been seen at intervals since, and at the last visit, on June 16th, the vision of the left eye was $\frac{10}{50}$. The appearance of the fundus was about the same, the retinal detachment not having increased in extent, and the lens has remained clear. The right eye was normal, and has remained intact.

Case IV. *Pistol-shot Wound of Left Eye.*—Mr. D. W., aged forty-three, was accidentally shot in the left eye on April 17, 1897, and I saw him within a few hours after the injury. The weapon used was a small Smith & Wesson revolver, and was fired at a distance of eight feet from the patient and from the left side. The bullet struck him just at the outer canthus, passed through the sclera and cornea almost tangentially, fractured both nasal bones, passed out on the other side, and was subsequently found on the floor of the room. There was extensive laceration of both lids at the external canthus, laceration of the ocular conjunctiva, a groove entirely through the sclera from the equatorial region to the corneal margin in the temporal quadrant, and nearly the entire cornea was torn away, leaving only a small portion above still attached to the sclera. The iris was in shreds, and the vitreous full of blood.

After careful cleansing of the parts with bichloride solution, the lens was found dislocated downward and backward into the vitreous, which protruded from the open anterior segment of the eye. The patient was still suffering from the shock of the accident, and, after removing some fragments of the fractured nasal bones, the parts were bandaged and the patient was made comfortable. The family was told that the eye was destroyed, and enucleation was advised as soon as the patient was able to bear it. This was done on the third day in the usual manner, and at the same time the nasal bones were elevated, all small bony fragments removed, and a small plastic operation was done to bring the skin over the bridge of the nose in place, and another at the external canthus. The patient did very well, and all the wounds healed with satisfactory rapidity. An excellent cavity for the insertion of an artificial eye resulted. The patient was carefully watched for several months, but the right eye remained intact in all its functions, and may now be considered out of danger.

On examining the enucleated globe, the wound was found to involve the sclera, chorioid, ciliary body and ora serrata, and zonule. The lens, though dislocated, was not ruptured, and the capsule was not injured.

THE SEMEIOTIC VALUE OF THE DIFFERENT SYMPTOMS IN CANCER OF THE STOMACH.

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If there is in clinical medicine a problem difficult of solution, it is that of epithelioma of the stomach; therefore, among the different symptoms of this disease an effort was always made to find one which could be considered certain and pathognomonic. Unfortunately, as we shall see later on, such a symptom has not yet been discovered, and in a given case we can not but consider the largest possible number of probable elements as a means of diagnosis. The following case, which I had the opportunity to investigate in detail, will give the best illustration of what I said, for the diagnosis of epithelioma was first admitted, then rejected, and then again made. The case was that of a man thirty-six years of age, a smoker, several members of whose family had had cancer. He suffered from stomach pains, aversion for meat, vomiting after meals, and had lost sixty pounds (he said) within seven months. He became pale, and his extremities were continuously cold and cyanosed. A minute examination made two months ago permits me to state that besides a considerable general emaciation and slight œdema of the inferior extremities, the stomach was dilated and a splashing sound could be heard above the line uniting the umbilicus to the false ribs. In the axilla and right subclavicular space one could make out some lymphatic glands which were not painful nor hard, and which could be easily moved in the surrounding cellular tissue. The examination of the gastric juice revealed the presence of free and combined hydrochloric acid; that of the blood showed anæmia (3,200,000 red corpuscles); and that of the urine a decrease of urea and phosphates. The symptomatic *ensemble* appeared sufficient to diagnosticate a cancer of the stomach. The patient's family sent him immediately to a specialist, who promised to cure him with electricity; and I was, in fact, surprised to see the patient somewhat improved under this treatment, which lasted a few weeks. He was able to digest some food, and even meat, and his weight slightly increased, so that I confess that I was ready to change in my mind my first diagnosis. Unfortunately for the patient and his vaunted electrician specialist, this apparent improvement, which it is advisable to take into consideration in order to appreciate the beneficial influence of electricity, was temporary. Within a few days the whole gain in weight was lost and the malady resumed its slow and monotonous course, while a local induration became pronounced; but the absence of a pathognomonic and certain symptom even now forbids me to draw any definite conclusion. Let me reconsider in detail all the symptoms on which I based my first diagnosis.

We will not dwell upon the classical symptoms, such as heredity, anterior dyspeptic troubles, age, gastric pains, vomiting, existence of a peristomachic tumor or induration: their semeiotic value is indeed considerable, but still they are not sufficient for a decided diagnosis from the beginning of the disease. However, it is evident that the presence of a hard and irregular tumor, accompanied by an œdema of the extremities, ascites, or phlegmasia alba dolens, present the best proof of the existence of an epithelioma. These classical symptoms being often insufficient, the clinicians endeavored to find new elements for the diagnosis—*e. g.*, adenopathies, examination of the gastric juice, blood, and urine.

As to the adenopathies, they have a certain importance, but only when they have the following characters: they must be hard, for the epithelial proliferation in the gland due to the immigration of an epithelial cell detached from the tumor and transferred by the blood or lymph current is always accompanied by a proliferation of the connective tissue. The next features of the adenopathies are their free movement in the surrounding cellular tissue and their painlessness. One understands readily the importance of these characters when one takes into consideration the multiple ætiological agents which are capable of giving rise to adenopathies in cachectic individuals (especially in the tuberculous). Virchow, Henoch, Troisier, and Jaccoud first called attention to this symptom. All kinds of cancer in the abdomen are liable to produce adenopathies. In cancer of the stomach the most frequently affected glands are the left subclavicular, then come those of the right subclavicular space, the axillary and inguinal regions. At the onset the glands are isolated from each other, are mobile, and do not adhere to the skin. Their size is that of a lentil, but, as we said before, they have a semeiotic value only when they become hard like a stone. In case this last character is absent, they can not be differentiated from the adenopathies of lymphadenoma (with or without leucæmia), of tuberculosis, or of syphilis. The indolent character of these adenopathies is such that they are painful only when they attain a considerable size and therefore press upon the nearest nerves, or when an inflammatory process takes place in them.

En résumé, an adenopathy with the characters just described occurring during a state of considerable emaciation and loss of weight, and without any well-determined cause, permits us to affirm the development of an epithelioma, if we add thereto the functional disturbances of the organ. But this symptom appears usually at a period of the disease when it is no longer necessary for diagnosis. Finally, this element of the diagnosis does not aid us in the localization of the disease, since it takes place in the course of any visceral cancer, abdominal or thoracic.

The analysis of the gastric juice seemed at one time to satisfy all the requirements. Van den Velden had, in fact, stated that the absence of hydrochloric acid was a rule in cases of dilated stomachs with epithelioma of the pylorus; and Riegel, who rectified this statement, corroborated it by demonstrating that it is not necessary that a cancer should be accompanied by a dilatation in order that the hydrochloric acid be absent. A cancer without dilatation of the stomach is equally characterized by the absence of free hydrochloric acid. This new way of investigation was for some time considered as an infallible means of diagnosis, but further clinical studies failed to confirm its absoluteness, and now there is no author who would dare to affirm the existence of a cancer, basing his diagnosis exclusively upon the absence of hydrochloric acid in the gastric juice. Nevertheless, every one of us admits that hydrochloric acid is far more frequently absent in cases of cancer than present. In order to comprehend why the presence of hydrochloric acid is variable during the course of this disease, it is sufficient to know that its disappearance does not depend upon the presence of the tumor nor upon the diminution of chlorides in the blood, but is due to the atrophy of the stomach glands. Ewald said that the disappearance of hydrochloric acid did not depend upon the septic influence of the cancer on the production of the acid, but only upon the accompanying catarrhal or atrophic gastritis. When this gastritis was absent, hydrochloric acid might be secreted in a considerable quantity.

Professor Hayem, in his study of the clinical value of the chemical processes in the stomach (1895), came to the conclusion that the presence or absence of free hydrochloric acid in cancers of the stomach, a question which gave place to so many debates, had lost all its interest. The state of the digestion depends in cancer, as under any other circumstances, upon the glandular apparatus. Most frequently a cancer is developed during the course of an old chronic gastritis, which is followed by a hypopeptic or even apeptic state of the stomach. The gastric juice is then deprived of hydrochloric acid and is poor in acid organically combined; at the autopsies one finds a mixed gastritis with glandular atrophy, or a transformation of the mucous membrane, which explains the hypopepsy or apepsy. However, one finds very exceptionally a hypopeptic state in cancers. This unusual fact is equally in accordance with the state of the glandular apparatus. According to Hayem, we need not look for chemical characteristics of the cancer. In this malady, as in ulcers, the chemical types are variable and depend upon the state of the mucous layer of the stomach.

The only conclusion we can draw from this study is that chronic gastritis of a depressed chemical type seems to be favorable to the development of cancer. Therefore, we can accept the conclusion that the presence or absence of hydrochloric acid in stomach cancers has by itself no value for positive diagnosis; it becomes important only as an associated phenomenon to other symptoms.

The absence of gastric hydrochloric acid being a secondary symptom for the diagnosis of malignant tumors of the stomach, the clinicians next endeavored to find the pathognomonic symptom in other acids than hydrochloric—for example, in lactic acid. Boas advocated this opinion, which was only partly confirmed by Klemperer. In fifteen cases of cancer Klemperer asserted the presence of lactic acid, but in one case confirmed by autopsy the gastric juice did not contain this acid. Therefore he refuses to attribute this pathologic value to the presence of lactic acid, and he admits that where the contraction of the stomach is weakened, the lactic acid appears in the gastric juice. Whenever there is stagnation of the stomach contents, it will be possible to find lactic acid. However, it is useful to bear in mind that similarly to the absence of hydrochloric acid, the presence of lactic acid is a good symptom of cancer of the stomach, and we ought to think of a cancer wherever these two phenomena are present. The investigation of other elements of the gastric juice, as pepsin and peptones, the promptness of absorption by iodide of potassium, the stagnation of the food—all have less value for diagnosis. Never will these investigations be able to decide the question of the presence or absence of a cancer.

The examination of the urine is of a certain value. Rommelaere, in 1883, called attention to the diagnostic value of the diminution of urea in cases of cancer, and he thinks that in any case of dyspepsia where the amount of urea in the urine is less than twelve hundred grammes one must think of cancer; on the other hand, if it is more than twelve hundred grammes there can not be cancer. But Rommelaere himself confessed that this diminution of urea might be met with in some other affections; therefore the observation has no clinical value. Robin had proved that the amount of urea did not depend upon cancer, but upon the nutrition. Urea might remain normal and even increase if the patients with cancers continued to take food; and on the other hand might diminish considerably in chronic affections of other organs than the stomach—*e. g.*, pulmonary tuberculosis, Bright's disease, Addison's disease—if the patients vomited or ceased to nourish themselves. Later on, Kirmisson and Jaccoud published cases of cancer in which the amount of urea was above twelve hundred grammes. After it was proved that the diminution of urea had a very slight value for diagnosticating a cancer of the stomach, Rommelaere in 1884 proposed to attribute more importance to the diminution of phosphates and chlorides, and Jaccoud came to corroborate it. But even this is not a positive symptom of the existence of a stomach cancer, because the phosphates and chlorides can be diminished in tuberculosis, lymphadenia, lead poisoning, and oxide-of-carbon poisoning. Nevertheless, as in the case reported by Rouzier (1889), where he hesitated between an ulcer and cancer, the amount of urea being normal, one can be almost sure of the presence of a stomach ulcer. The presence of indican, peptones, and urobilinuria is not more frequent in cancer than in ulcer.

The examination of the blood in stomach cancer proves alterations of the corpuscles and plasma.

In the beginning, the red corpuscles are normal, then they diminish in number, and the symptomatic anæmia may become extreme at the end of the disease. In this intense anæmia not only the number is modified, but even the shape of the blood-corpuscles undergoes an alteration. The leucocytes undergo less modification than the red corpuscles, because it takes place especially in cases of sarcoma. The plasma becomes also altered, hæmoglobin and chlorides being diminished.

This rapid review of the principal symptoms, old as well as recent, of gastric cancer proves our inability to diagnosticate a case at the onset of the disease. Therefore, after even having made out an induration in the region of the stomach in a cachectic individual, it is only with the utmost caution that we ought to pronounce the word "cancer."

AN ADDITIONAL CASE OF

EPILEPSY WITH PERSISTENT THYMUS, LYMPHATIC HYPERPLASIA, AND VASCULAR HYPOPLASIA.

By A. P. OHLMACHER, M. D.

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In a series of six autopsies upon epileptics reported in detail in the *Bulletin of the Ohio Hospital for Epileptics* (January, 1898) and in abstract in the *Philadelphia Medical Journal* (January 1, 1898), a peculiar morbid anatomical condition was encountered in four of the cases. The prominent features of this condition were a persistent or hyperplastic thymus gland, a marked hyperplasia of the intestinal and splenic lymph follicles, hyperplasia of other lymphadenoid structures, evidences of old rhachitis, and a narrowed condition of the arteries. Not all these features were equally prominent in the four cases, but a careful study of the gross pathological material left no doubt as to the existence of a more or less peculiar and characteristic condition in these cases of epilepsy. The morbid anatomy of these cases has been described in other diseases, and has been held to be characteristic of the lymphatic constitution ("*constitutio lymphatica*") of the older pathologists. So far as can be determined, this condition has never been associated with the gross pathology of epilepsy.

Those diseases in which the anatomical evidences of the lymphatic constitution have been especially noted are: (1) Thymic asthma, or "laryngismus stridulus," in infancy, often culminating in sudden death; (2) sudden and otherwise inexplicable death in adults; and (3) exophthalmic goître. A discussion of these conditions in the light of our findings in epilepsy furnished the material for one of the papers in our *Bulletin*, and here it was suggested that both a morphological and clinical resemblance might be shown between epilepsy and at least two of these three conditions. The focus upon which all the arguments were directed was the morbid anatomical condition which was found in four of the six autopsies made up to the time of the publication of the first report. Naturally, the confirmation of the views set forth rests in an accumulation of similar evidence, and it is to bring an additional case to record that the present communication is made.

Before describing this case it seems advisable to make one point clear. It is not contended that the "lymphatic constitution," * with its peculiar morphology, constitutes the picture in all forms of epilepsy. It has long been made clear that certain epilepsies (more properly, epileptoid phenomena) follow in the wake of various cerebral alterations induced by tumors, scar tissue, inflammatory products, etc. (Jacksonian epilepsy); or in the case of various degenerations or anomalies of the encephalon which often characterize such conditions as idiocy, imbecility, dementia, etc.; or as the result of certain intoxications like uræmia; or from poisons like lead and alcohol. It is a lamentable fact that in this class of cases autopsies are frequently neglected, or, when made, are superficial in character and confined closely to the brain, with a neglect of the body as a whole; for it is quite possible that a thorough study might show that even in some of these "secondary" epilepsies a somatic condition lies beneath the cerebral manifestations of the disease. Still, from what others have seen, and from what we have seen in our recent series of autopsies at the Ohio Hospital for Epileptics, in which an endeavor has been made to prosecute the macroscopic study with thoroughness, it is apparent that only a certain proportion of epileptics present the morbid anatomy of the "*constitutio lymphatica.*" While I am in no position to speak conclusively on this point, my studies have at least indicated that in what may be called "pure" epilepsy, originating in early life, *grand mal* in type, often acccompanied with periodic mania, and generally negative so far as extensive gross brain changes are concerned—that in this form of epilepsy the persistent, hyperplastic thymus gland, the general lymphatic hyperplasia, and vascular hypoplasia are to be especially looked for.

Another point which seems to require emphasis is that the persistent enlarged and active thymus gland—striking feature though it be—is by no means the only important anatomical anomaly. There still remains the remarkable hyperplasia of the intestinal and splenic lymphadenoid structures, the general lymphatic hyperplasia, the narrowing of the arteries, and certain other conditions, like osseous evidences of old rickets and excessive adiposis, to be accounted for. Again, it is well to repeat that these features as a whole are not always encountered in a given case.

CASE.—*Clinical Summary.*—Adult female; *grand mal* from childhood; periodic mania; good general health; sudden death (found dead in bed).

Anatomical Analysis.—Well developed adipose; persistent enlarged thymus; hyperplasia of intestinal, splenic, tracheal, and lingual follicles; hypertrophy of tonsils and lymphatic glands; narrowed arteries; general acute hyperæmia.

Negative bacteriological examination.

*Clinical History.**—Lizzie F., Irish by descent, unmarried, native of Ohio, was admitted to the hospital July 13, 1896, when twenty-one years of age. Parents living and healthy. Three brothers and four sisters living and in good health. One sister died in infancy, cause unknown. No family history of epilepsy or similar nervous disease. Patient had measles when seven years old, later typhoid fever. Menstruation was regular, though scanty and painful.

Epilepsy began between the seventh and thirteenth years, according to the patient's statements, which were not definite. Since the onset the attacks have continued at pretty regular intervals. Her general health was excellent during her stay at this hospital. During this time the longest interval between attacks of *grand mal* was two months. Two attacks in twenty-four hours is the highest number recorded. The fits occurred both day and night, sometimes preceded by aura. The record of attacks, since admission, are for 1896: July, six; August, four; September, five; October, six; November, four; December, one. For 1897: January, seven; February, three; March, none; April, three; May, seven; June, three; July, four; August, none; September, none; October, two; November, two; December, eight.

The patient was also afflicted with recurrent mania, sudden in onset, violent in character, with pronounced homicidal and destructive tendencies. The outbreaks of mania often immediately followed the menstrual period; they were spontaneous in origin, and often so violent that the woman had to be confined until the attack subsided—usually in a few hours. For several days after such an attack she would be dull, sullen, and melancholic. The mania occurred between the seizures of epilepsy. In the last year the mania has improved to the extent of consisting only of explosions of anger upon trivial causes, followed by a morose and melancholic dejection for several hours. The woman found employment in the laundry.

Several times in the past eight months a sore throat has been complained of and the tonsils were found enlarged and reddened. Two weeks before death a transient diarrhœa of a few days' duration followed the ingestion of some poisonous food product. She worked all day December 29th in the laundry, and was in unusually good spirits. A hearty supper was eaten and the patient retired at 7.30 o'clock. The following morning she was found dead in bed by an attendant who went to arouse her. The body lay face downward, the face completely buried in a small feather pillow. The arms were lying across the abdomen, the legs extended, and the body was rigid when found. Blood-stained fluid was escaping from the mouth and soiling the bedclothes. The night dress was stained about the neck and chest by the red fluid. There were no marks of traumatism, and the bedclothes were not disarranged to indicate a struggle. The dependent parts of the body were all livid, almost to blackness.

Autopsy.—At ten o'clock in the morning of December 30th the autopsy was begun. The body is a hundred and sixty-five centimetres long, symmetrical, and well formed. Rigor is pronounced, and the face, trunk, and limbs are livid. On the neck several livid, almost black, patches are present. The trunk is still perceptibly warmer than the surrounding air. The right foot is abducted. There are no scars on the body. The finger nails are colored deeply purple; lips moderately purple; mucosa of eyes and nose cyanotic. A frothy, blood-stained fluid oozes from the nose and mouth. The tongue is held by its tip between the teeth, though it does not appear to be bitten. The teeth are very poor. The tonsils are enlarged, deep red in color, and soft. They project well beyond the pillars of the fauces. The follicles of the tongue are prominently developed. The cervical and axillary glands are easily palpable, though deeply seated. A thick layer of subcutaneous fat envelops the muscles. This fat layer is unusually thick for a person showing no more evidences of adiposis. The muscles are deep red in color and rather flabby. The sternum is distinctly arched anteriorly; otherwise the chest is well formed, symmetrical, and no nodes are found at the sterno-costal joints. The abdomen is moderately prominent. A putrefactive gas escapes when the peritoneal cavity is opened. The thoracic and abdominal organs are in normal location. A considerable amount of reddish fat is present in the anterior mediastinum, and the omentum, mesentery, and retroperitoneal space contain an excessive amount of fat for so small a body.

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* For a comprehensive presentation of various features of the lymphatic constitution and its relation to thymic asthma and sudden death two recent and important American contributions may be referred to with profit—viz., Ewing: The Lymphatic Constitution and its Relation to Some Forms of Sudden Death, *Medical Journal*, July 10, 1897; and Norton: The Thymus Gland and its Relation to Sudden Death in Children, *Philadelphia Medical Journal*, February 5, 1898.

* Kindly furnished by Dr. W. G. List, assistant physician.

Thymus: In the upper portion of the anterior mediastinum a large reddish thymic body is present. It is overlaid with fat and a continuous layer of fibrous tissue. It consists of two long, tongue-shaped lobes, separated by a distinct furrow. No isthmus of true thymus tissue connects the lobes. In their lower portion the lobes are widest, reaching three centimetres on the left and four centimetres on the right side. They then taper gradually until two round processes are formed from 0.75 to one centimetre in width. The entire length of the right lobe is ten centimetres and of the left eleven centimetres. The estimated weight of the whole thymus body is thirty grammes (weight not taken, because thymus has been left *in situ* on bronchi, etc.). The lobes both lie in the fibrous tissue of the pericardial sac, and they extend down upon the pericardium at least three centimetres on each side. They then continue upward upon the great vessels, bronchi, and trachea, and the long superior processes both end close beneath the lobes of the thyreoid body (see Fig. 1). Each lobe is subdivided into numerous lobules, giving the surface of the mass an appearance something like the pancreas. On section, the follicular structure of the mass can be easily made out, and in pieces of the fixed tissue these numerous and closely set follicles are still plainer. A fresh crushed preparation shows the structure to be masses of small round cells surrounded by fat. The thymus, with neighboring structures from the tongue to the bifurcation of the bronchi, has been dissected out *in toto*.

A microscopic examination of stained sections shows the tissue to be composed of thickly set, large thymic follicles containing an abundance of lymphoid cells. The larger follicles present a distinct cortical and medullary subdivision. Corpuscles of Hassall in various stages of formation are present in the lymphoid follicles. The intervening connective tissue contains fat and abundant blood-vessels.

Thyreoid: The whole thyreoid mass is somewhat above the average in bulk. The body is composed of two well-developed lobes, connected by the isthmus whose two limbs extend upward to meet upon the thyreoid cartilage, making an acute angle. Aside from its bright-red color, the gross appearance of this organ is quite normal.

Tongue: The well-marked prominence of the follicles of the tongue, especially posteriorly, is most strikingly brought out upon the removal of the organ.

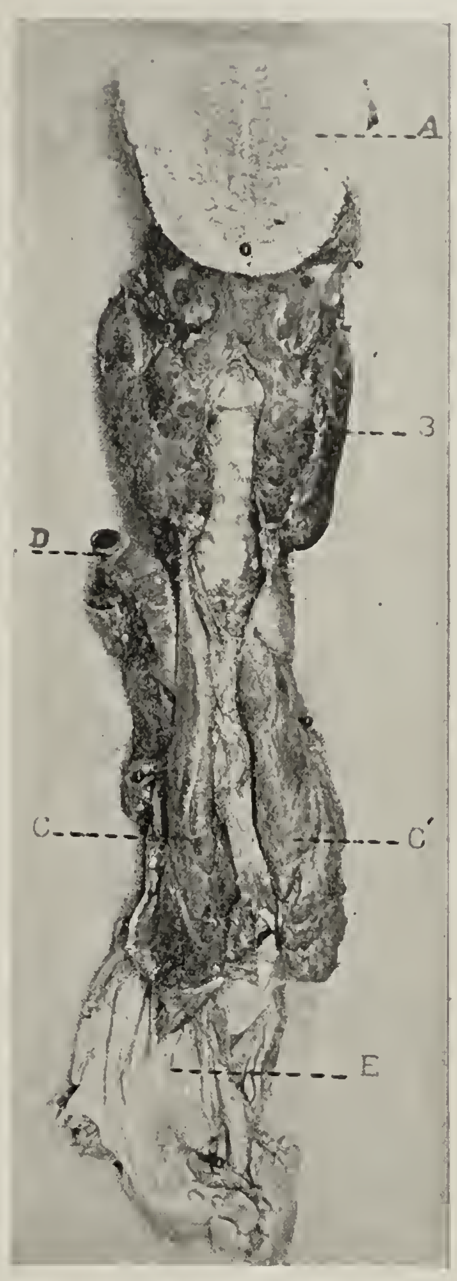

Fig. 1.—A photograph showing the thymus (case of Lizzie F., described in the text) *in situ*, the tongue, larynx, trachea, and surrounding structures having been removed as a whole. The tongue turned forward over the box of the larynx is shown at *A*. The large thyreoid gland with its two lobes and angular isthmus is indicated at *B*, with the trachea laid bare between the lobes. The right common carotid artery and vagus nerve are situated at *D*. The pericardial sac is seen at *E*. The long, bilobed thymus, extending from the pericardial sac to the thyreoid gland, is seen at *C* and *C′*. An indication of the lobulated condition of the thymus can be seen.

Larynx: The laryngeal box is a little narrower than usual. The mucosa is reddened. The follicles are not unduly prominent.

Trachea and bronchi: These tubes are also narrower than usual. The mucosa is acutely congested. The follicles are plainly marked in the mucosa, and frothy, blood-stained fluid escapes from the bronchi as the lungs are pressed. No foreign body is to be found in the trachea or bronchi. The bronchial glands are large, soft, and reddish or grayish in color.

Lungs: Both lungs are firmly anchored by general old adhesions. They show a universal bright-red color, and crepitate less readily than normal, though no distinctly solid areas are present. On section, a bright-red surface is exposed, from which frothy blood-stained fluid can be pressed. The larger bronchial ramifications only show a reddening of the mucosa, and no lesion can be found in the branches of the pulmonary arteries. Weight of right lung, four hundred and seventy grammes; weight of left lung, three hundred and seventy-five grammes.

Heart: The right auricle is distended with dark, semifluid blood, and the right ventricle also contains a considerable quantity of blood, while the left heart contains only a small amount. No lesion is present on the visceral or parietal pericardial membranes. A moderate amount of fat is present beneath the epicardium. On removal, the whole heart is found to be somewhat flabby. No gross alteration is to be detected in the myocardium, and the endocardium and valvular orifices are free from lesions. The coronary arteries are intact. A striking feature of the heart is the narrowness of the valvular orifices. The aortic ring measures 5.7 centimetres on a line with the valvular cusps; the tricuspid, 7.2 centimetres; the mitral, 6.7 centimetres, and the pulmonary orifice, six centimetres in circumference. The ventricular walls and the cavities are of the usual size. The whole fresh heart weighs two hundred and fifty-five grammes.

Aorta: The whole vessel is narrow and the walls are very thin. The circumference, 2.5 centimetres above the valvular ring, is five centimetres, and the vessel narrows even more in its lower thoracic and abdominal portions. The main branches of the artery are correspondingly narrow and thin-walled. The elasticity of the artery is well preserved, and no lesion can be found in any of its coats.

Liver: Weight, thirteen hundred and sixty grammes. The surface is smooth, the capsule non-adherent, and the parenchyma shows only a slightly increased prominence of the lobules, which are surrounded by light-yellowish borders. The gall bladder is small and almost empty. Its ducts are intact.

Spleen: Weight, two hundred and forty grammes. The organ is large, flabby, deep red in color, and the capsule wrinkles easily as the spleen is handled. No adhesions are present about the organ, and the capsule shows no thickening. The pulp is reddish or purplish in color and quite soft. In the dark pulp the splenic follicles are very prominent light-colored areas. In cross section these follicles often measure one or even two millimetres in diameter.

Kidneys: Combined weight, two hundred and fifty grammes. The kidneys are imbedded in a large amount of fat, which is especially massive and firm about the upper portion of the perinephric region. No gross anomaly or lesion is to be found in these organs except an active hyperæmia.

Urinary bladder: Not altered.

Adrenals: Combined weight, ten grammes. These bodies are also imbedded in abundant fat. They are quite normal in gross structure.

Uterus, ovaries, and tubes: The uterus is retroverted; it is of good size; the cervix is patulous, and a whitish mucoid secretion escapes from it. The ovaries and tubes are entirely normal.

Stomach: About a litre of thick mush (hominy and milk) is present in the viscus. No abnormal features are to be detected.

Intestines: The small intestines were moderately distended with gas and contained a reddish gelatinous secretion lining the mucosa. The large intestine contained a considerable amount of semifluid fæces.

Throughout the ileum the solitary and agminated follicles project prominently above the mucous surface. The solitary glands are especially prominent toward the lower end of the ileum, standing well above the surrounding mucosa. With a simple magnifier the compound character of the single follicles can be plainly seen. Many of these follicles show circular depressions in their summits. The Peyer's patches are also raised well above the surface, and the round tops of the individual follicles are plainly visible (see Fig. 2). There is no undue redness in the mucosa containing these enlarged follicles, and no trace of ulceration or degeneration is present in these soft, smooth nodules. In the colon, extending almost to its rectal termination, the solitary glands are much larger than ordinary, and show dark, pitlike spots in their centres. The closely set follicles of the appendix are also more than ordinarily prominent.

The mesentery contains an abundance of fat, in which the lymph glands, large, pale, and rather soft, are imbedded. The retroperitoneal glands are also larger and softer than ordinary, and this is true of the inguinal and cervical lymph nodes.

Pancreas: Weight, seventy grammes. It is of a reddish, mottled appearance, and softer than usual.

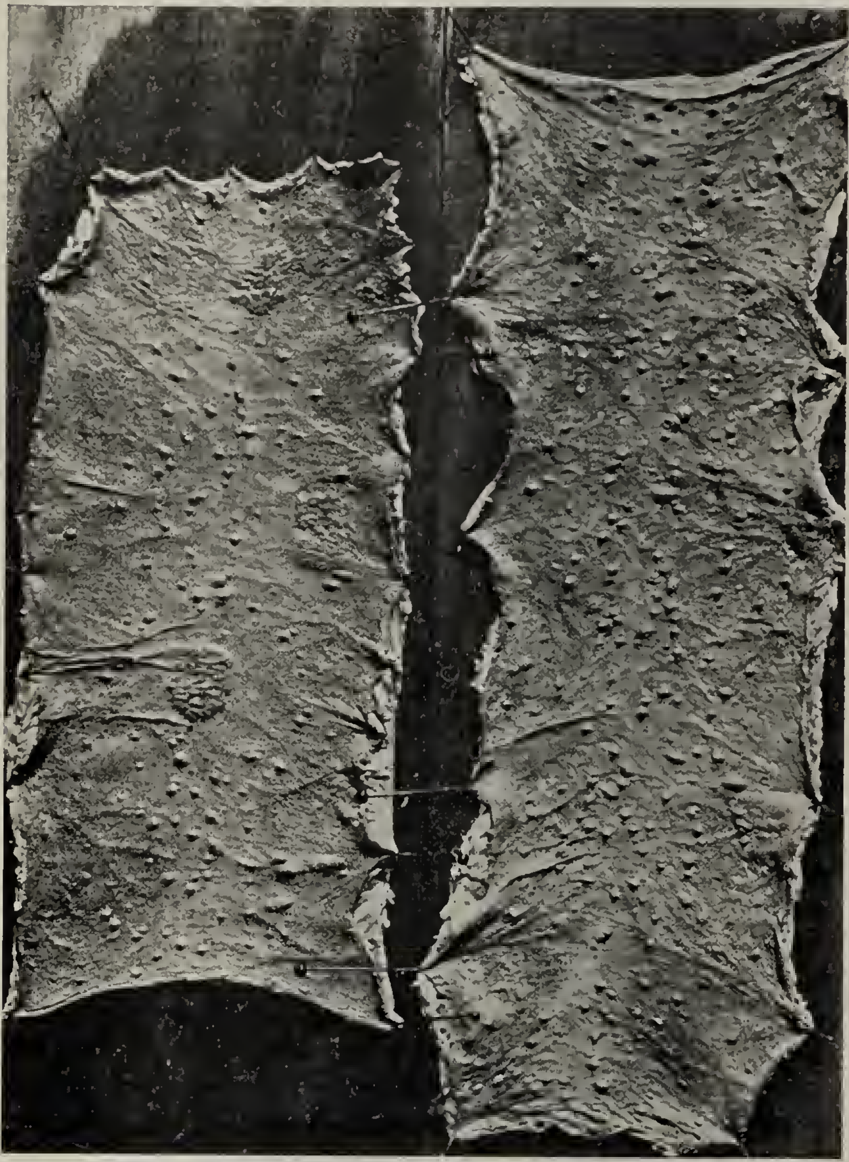

FIG. 2.—Two portions of the ileum from same case as Fig. 1, about a foot above the cæcal valve. The mucous surface, studded with the enlarged solitary lymph follicles and the hyperplastic patches of Peyer, is seen in the photograph. The pitlike depression in some of the solitary glands perhaps can be seen, together with the compound follicular structure of the agminated glands.

Brain and spinal cord: Weight of the fresh brain, after sectioning by Meynert's method, twelve hundred and eighty grammes. The skull is of ordinary thickness. An ordinary amount of clear subdural fluid is present. The pia-arachnoid is not changed. The arachnoid fluid is normal in appearance and quantity. No lesions of the cerebral or meningeal vessels can be found. No abnormal adhesions exist. The configuration and macroscopic structure of the cerebrum are in no way abnormal. A normal amount of meningeal fluid is present about the spinal cord, and no macroscopic changes are to be found in it.

Pituitary body: Weight, four hundred milligrammes. So far as the eye can detect it is normal.

Bacteriology.—Tubes of nutrient broth and glycerin-agar inoculated from the heart's blood, lungs, liver, spleen, kidneys, and meninges, after prolonged incubation, developed no bacterial growth.

The College of Physicians and Surgeons, of Chicago.—Dr. L. Harrison Mettler has been elected to the chair of physiology.

A CASE SHOWING THE SERIOUS EFFECT OF A LIGHT ABDOMINAL BLOW,

AND ILLUSTRATING THE DANGER OF DELAY IN SUCH CASES WHEN SURGERY IS INDICATED.

By CHARLES O'DONOVAN, M. D.,
BALTIMORE.

On July 4, 1895, at five o'clock in the afternoon, I was called to see W. G., who was being treated by another physician, and was requested to bring a catheter, as he was suffering a great deal of pain from inability to urinate. I found a tall young man, rather thin, between twenty-five and twenty-six years old, well nourished and well developed, quite intelligent and bright, who related the following history: At eleven o'clock in the morning, six hours before I saw him, while riding slowly on a bicycle along a smooth asphalt street, he had turned his head to speak to some one on the sidewalk just as a cart that was approaching him happened to turn to avoid another vehicle. A collision ensued, the end of the shaft of the cart striking him full in the abdomen at a point midway between the navel and the symphysis pubis, exactly in the linea alba. The man was an expert bicycle rider, having ridden constantly for seven years, and was at the time going very slowly; the horse drawing the cart was walking, yet so full was the blow that he was not thrown over to the side but pushed bodily backward to the ground over the rear wheel of the bicycle. The accident occurred on a thoroughfare and was witnessed by a number of people, among them a physician, who was driving by just at the time and saw every detail. He stopped, and with others went to the assistance of the injured man, who had arisen and was assisted to the sidewalk. Little was thought of the accident at the time, but the physician noticed that the young man showed more shock than the slowly delivered blow seemed to warrant, so he took him into his carriage and drove him home, about half a mile from the scene of the accident. The bicycle was uninjured, and was ridden home by a boy who followed the carriage of the physician. Arrived at home, the injured man was taken up to his room in the third story, undressed, and put to bed. An examination was made, but nothing was found beyond a trifling bruise at the point where the shaft had struck him; this was tender, as a bruise might be expected to be. He was in fine physical condition, trained almost as an athlete, although working as an office clerk. He was somewhat nauseated at the time, but did not vomit; he complained, however, of very severe pain, being quite restless on that account; so the physician, who remained with him, gave him a quarter of a grain of morphine under the skin. This soothed him, and he was left to rest. At two o'clock the physician returned and found that his pain had been relieved for a short while only, that he was again restless and suffering, so he gave him another quarter of a grain of morphine beneath the skin, and waited awhile to see that it made him easier, as it did. At about 4 P. M. he had a great deal of pain, with an urgent desire to urinate, but was unable to pass any water. I was sent for to draw his water, but by the time I reached him, a little before 5 P. M., he had passed about half a pint of clear urine, without a trace of blood in it, and felt much easier. I found him, however, still quite restless and uneasy, with a constant nausea, which caused him to make two efforts at vomiting while I was with him, a space of about fifteen minutes. Nothing came off but a little mucus and water—melted ice, which he had been taking in moderate quantities to relieve his constantly growing thirst. He was decidedly under the influence of morphine, his eyes showing the characteristic pupils and the milky blue iris so readily noticed; he was inclined to doze, except when paroxysms of pain would recur. His temperature was 101° under the tongue, and his pulse was hard and full at 96, regular and very tense. An India-rubber bag, full of moderately hot water, was on his belly over the bruised part. Cold water had been ordered, in the hope of allaying inflammation, but he had experienced much pain from it and had tried the hot water, which he found more comforting. Examination of his abdomen revealed an unbroken skin, but a bruised spot, about as large as a silver half dollar, midway between the umbilicus and the symphysis pubis, around which extended an angry and inflamed area having a circular form and a general diameter of nearly four inches. His abdomen was not at all tympanitic or swollen. I touched him at various spots, but found no tenderness except just at the bruise and in its immediate vicinity. His bowels had not been moved, nor could he remember having passed any flatus since going to bed. He thought that if he could do so he might get some relief from the pains that were torturing him. The pains were all internal, and seemed to him to be in the intestines rather than in or about the bruise.

I heard nothing more from him until the next day at 3 P. M., when I was requested to see him in consultation, and did see him at 4 P. M. He had had a quarter of a grain more of morphine under the skin late the night before, and during the morning had had a few eighth-of-a-grain doses of morphine by the mouth, as he suffered a great deal, but he had retained little of this, as his stomach had become more and more irritable. He had taken no nourishment, and only a little crushed ice and stimulant, most of which had been vomited. Early in the morning he had again urinated, passing a fair amount of clear fluid without blood. He had had no stool, nor had flatus passed from his bowels. His condition was in every way worse; his pains were constant, although much deadened by the morphine; his pulse was 150 and very weak and thready; his respiration was shallow and seemed to cause him pain at each inspiration; his skin was bathed in a cold sweat; he was so weak that he could hardly raise his hand. But the most marked change was in his abdomen, which was tympanitic and sensitive to the touch everywhere; the bruised spot was especially prominent, and was surrounded by a bruised area that seemed, on palpation, to be filled with thick fluid. A very short examination sufficed to make a diagnosis of septic peritonitis, and a laparotomy was suggested as offering the only hope in a case necessarily fatal without it.

Dr. L. McLane Tiffany was called in consultation, as surgeon, and saw him at 5 P. M. He confirmed the diagnosis, adding, as the cause, a ruptured intestine, and advised immediate operation. After some delay and discussion, this was agreed to, and Dr. Tiffany operated, with all antiseptic precautions, having his own assistants. Chloroform was used as the anæsthetic; the operation was done by gas and lamp light, as it was just 8 P. M. when the first incision was made, thirty-three hours after the injury. As he lay on the table, anæsthetized and relaxed, ready for the incision, crepitation could be felt all over the inflamed area around the bruise; so bad was his condition that his family had been prepared for a possible fatal result on the table. He took the anæsthetic well, vomiting only once during primary anæsthesia, the ejected matter being the peculiar black vomit so common in septic peritonitis. The anæsthetic was pushed just enough to keep him quiet and never to profound narcosis. Incision through the skin showed the muscles bruised into a pulp and full of extravasated blood. The peritonæum beneath the muscles had been ruptured, for, as the pulpy mass was separated along what should have been the linea alba, at once the omentum came into the wound as a bruised mass; at the same time a quantity of bloody serum, mixed with flakes of lymph and fluid fæces, welled up from the peritoneal cavity, proving at once that we had to deal with a ruptured intestine. The incision was enlarged by cutting up to the navel, and the intestines were carefully examined for the seat of the rupture. In two places were injuries found—one in a coil of small intestine that was badly bruised but not torn, showing very severe peritonitis with beginning adhesions to the surrounding coils of intestine and to the neighboring omentum. This was thought at first to be the seat of the tear, but most careful examination, after gently separating the adhesions, showed only a severe contusion; but low down toward the pelvis and near the spinal column was found another coil of small intestine, apparently the centre of another infected area, which was gently lifted from its position, and from which fæcal matter was oozing. The tear was large enough to admit the tip of the little finger; it was surrounded by an area of intense inflammation and through it protruded the everted coats of the intestine. It was very carefully cleansed and closed with a continuous suture of silk. By this time the man was in a very feeble condition, with hardly perceptible temporal pulse, but he rallied a little when his peritonæum was flushed out with hot water, several gallons being used, until it returned clear and uncontaminated. During the whole operation there was little bleeding, but one ligature being used, and that on a piece of bruised omentum that was cut off. The wound was packed with sterilized gauze, for free drainage, covered with sterile cotton and cotton batting, over which a broad bandage was pinned. The time from the first incision until he was in bed was an hour exactly, the operation being a little hastened toward the end on account of the bad condition of the patient. He was in complete collapse, with radial pulse just to be felt and at about 160. Just before he was taken off the table he was given a fiftieth of a grain of strychnine sulphate under the skin, with apparently some good effect on his heart. In less than an hour he had become conscious and seemed easier than before the operation. He was ordered a tenth of a grain of calomel every hour, and strychnine or whisky under the skin if his pulse indicated either; he was allowed a little crushed ice with a few drops of brandy, and a teaspoonful of black coffee every hour or two.

He gradually grew weaker throughout the night, and died at 11 A. M. on the 6th, just forty-eight hours after the receipt of the injury.

Two important points are forcibly presented by this interesting case: First, the very serious consequences that will sometimes follow an accident that seems at the time rather trivial, and which gives no external evidence of the frightful condition existing within. Innumerable similar cases are on record in abdominal as well as brain surgery, so that it is important to watch carefully any such case in anticipation of serious results, always being on the lookout for symptoms that point in that direction, and always ready to operate as soon as suspicion is well founded that rupture of the intestine or of some other viscus may have occurred. This leads at once to the consideration of the second point: Can such a diagnosis be made early enough to allow of operation with a reasonable hope of success? While a positive diagnosis must be impossible during the first few hours after the receipt of the injury, even with the aid of Senn's hydrogen test, yet an excessive amount of shock, with extreme depression and weak pulse, with delayed reaction; with nausea growing constantly worse and leading to vomiting, such vomiting as does not cease, but recurs again and again; with deep-seated pain in the intestines that is never absent, but shows violent paroxysms of increased intensity; with abdominal distention that rapidly becomes tympanitic; with retention of urine in spite of painful efforts at micturition; with the temperature but little above normal, or even at first below it—all these symptoms, when taken together, should render a diagnosis of rupture of some viscus reasonably certain, and will justify an immediate exploratory incision. These are not cases for waiting; a few hours may make the difference between life and death. If fluid fæces have escaped, a septic peritonitis is sure to ensue, and death only can be the result. An operation offers the only hope; the abdomen must be thoroughly washed out with sterilized water at 100° F., and the rent in the intestine closed. Too many successful cases are on record to leave any room for doubt in this matter. The tremendous rapidity with which septic peritonitis advances toward a fatal ending makes every minute valuable; this was well illustrated by the case related. In thirty-two hours from the receipt of the injury the patient's condition was such that an operation was only a forlorn hope, the taking of a desperate chance; twelve hours sooner a different result might have been expected.

ABDOMINAL CASES AND COMMENTS.*

By S. B. OVERLOCK, M. D.,

SURGEON, DAY KIMBALL HOSPITAL, POMFRET, CONN.

Appointed at the last meeting of the society to read a paper to-day, I feel that among men, the majority of whom are older in experience than myself, it would be presumption on my part to attempt a thesis on the origin, ætiology, or treatment of any particular disease. Instead, I beg to report several recent cases that have been of special interest to myself, hoping to provoke free discussion from the members present.

Case I.—May 24, 1897, Mr. M., teacher, twenty-seven years of age, American, after riding a wheel the preceding day was awakened early in the morning by a severe colicky pain in the abdomen, which had recurred at intervals during the remainder of the night. In the forenoon there had been cessation. The patient, thinking it an attack of simple indigestion, took some cathartic, which he was accustomed to use for habitual constipation, and remained in his room during the day. Saw the patient in the afternoon and found him in severe pain, the abdomen slightly distended; the right rectus muscle rigid; some tenderness in the right inguinal region; pain radiating from this point over the abdomen beyond and to the left of the umbilicus; pulse, 75, of good character, and temperature normal; bowels had not acted since the previous day; there had been no nausea or vomiting. Although there was no rise in temperature and but slight if any disturbance of circulation, a diagnosis of appendicitis was made from physical signs alone. When the patient was told the probable nature of the trouble and questioned as to previous attacks, he replied in the negative.

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* Read before the Windham, Conn., County Medical Society, April 20, 1898.

Divided doses of calomel were begun, to be followed by salines; and an ice bag was applied to the right inguinal region.

On the following morning it was found that after the application of the ice bags the patient had passed a very comfortable night.

The temperature was 100.8°, pulse 98, still of good character; there was a distinct tumor in the right inguinal region most prominent between the so-called McBurney's point and the umbilicus; no results as yet from calomel and salines. An enema was now given, which was followed by a movement, from its character evidently from the lower part of the large intestine. The condition of the patient remained practically the same during the day, with this exception: temperature reached 102.5° in the evening. Enemata had been repeated, followed by slight dejections, which were not satisfactory.

The patient passed the night in a very comfortable manner—slept four hours in all. His condition on the morning of the third day was similar to that of the preceding day. Consultant was called who agreed in the diagnosis and that operation would probably be required. The patient was given a fourth of a grain of morphine subcutaneously, as it was necessary to take him in a carriage four miles to the hospital. After reaching the hospital the temperature was 101.2°, and consultants agreed that it would be safe to wait until the following morning; the pulse at this time was 106, but of good character; the physical signs were the same as before noted.

On the next morning, the fourth from beginning of the attack, I was informed by telephone from the hospital that my patient was in collapse. I went at once to the hospital and found him with a subnormal temperature, rapid thready pulse, leaky skin, and expression anxious. A hypodermic of strychnine and brandy had already been given him by the nurse; this was repeated. The patient was placed on the table on a hot-water pad and operation was done as soon as possible. Here I should add that the patient hitherto had refused operation and only consented to it as a last resort. The usual incision was made, only higher up and nearer the umbilicus than usual, over the most prominent part of the tumor. A large pus sac was found; this was connected by a band to the abdominal wall externally and formed by the perforated appendix attached to the surrounding structures, principally the greater omentum. Where the appendix joined the cæcum the former could be distinctly felt, of perhaps twice its normal diameter. About an inch from the cæcum it began enlarging, and the enlargement increasing toward the anterior abdominal wall formed an irregular balloon-shaped sac. The inferior wall of the sac felt weak and fragile, while the upper wall was formed, as before said, by the great omentum. The connection outward was broken without much difficulty. As I was flattering myself that I was now able to draw the sac up into the incision, sever the appendix, and later remove the omental attachment, the patient retched and the sac ruptured. A large quantity of fæcal pus was poured out over the edge of the abdominal wound on to the table. The hand was held in position internal to the sac to prevent as much as possible pus entering the general peritoneal cavity, and the abdomen flushed by carrying normal salt solution deep into the pelvis with a long glass tube. The appendix was now torn loose from the omental adhesions, the omentum pulled out through the incision, wrapped in hot towels, and attention turned to the appendix. When an attempt was made to bring the cæcum forward into the incision, it was found to be so firmly adherent to the posterior abdominal wall that this was impossible. The appendix was removed with the cæcum *in situ*. The appendix had two perforations on its superior surface, one fæcal concretion in the distal portion, and was gangrenous. Attention was now turned to the omentum, and two large gangrenous portions were removed. The abdominal cavity was again flushed with normal salt solution and the omentum returned through the incision.

The intestines were distended to such a degree that my assistant with difficulty kept them within the abdomen, and there was much trouble in closing the abdominal incision. The edges of the peritonæum were approximated and closed as well as possible with continuous catgut suture, a glass drainage tube inserted at the lower angle of the wound, and the wound closed with silkworm gut. The patient, considering the preoperative condition, rallied from ether well. The day following the operation the temperature was normal, pulse 86 and of good character, the abdomen still distended and increasing, the wound looking well; there was very little serous discharge from the drainage tube and without odor. On the second day after operation the abdomen was distended so that the ensiform process of the sternum could not be made out, and the costal cartilages were felt with difficulty. The patient was vomiting a dark green, decidedly acid fluid; he was delirious and sleepless. Bowels were moved by divided doses of calomel and soda; a rectal tube was inserted, through which a large amount of gas was voided; sleep was obtained by an ice cap and rectal injection of chloral. As his stomach would not retain food, he was nourished as well as could be by nutrient enemata, and hypodermics of strychnine were given every four hours with brandy. The patient remained in the condition just described for four days. In spite of strychnine and stimulants, his pulse grew constantly weaker, and saline injections under the skin were used to rally him. The glass tube was removed on the third day and a short rubber tube was inserted to drain the superficial parts of the wound. There was no discharge of consequence, and the incision was uniting and satisfactory. On the fifth day the patient was suddenly seized with symptoms of heart failure, which were promptly met by the nurse with nitroglycerin. The patient rallied from this with a perfectly clear mental condition, and recovery was uneventful.

Attention is called to the following points in connection with this case: The vomiting was probably regurgitation due to pressure on the stomach by the extremely distended intestines. As headache, delirium, and insomnia were controlled by an ice cap and chloral, these were evidently due to a cerebral hyperæmia from pressure on the large abdominal blood-vessels.

Since the operation chronic constipation has ceased with the patient. This was not expected when the cæcum was found to be so thoroughly adherent.

The patient was not questioned with sufficient care as to his previous history. Both himself and family, after operation, were able to recall repeated attacks of a similar nature, though less severe, covering a period of at least four years. No physician, however, to the patient's knowledge, had ever suggested appendicitis as the cause, yet the condition found at operation proves previous attacks.

No man of intelligence and ordinary perception will fall into the culpable habit of suggesting to every patient who has abdominal pain that there may be trouble with the appendix. On the other hand, every case at all suspicious should be carefully investigated. This should be especially urged among patients of the poorer and less intelligent classes who happen to be seen in their own homes.

As an illustration: A large, fleshy man with more than ordinary abdominal capacity was seen one Friday morning. After eating, the preceding evening, a hearty meal of sausages, vegetables, cheese, etc., with beer, he awoke in the morning with pain in his abdomen, which when seen was somewhat distended and tympanitic; there was no temperature or circulatory disturbance. Symptoms taken in conjunction with the history of the previous evening meal seemed to point unmistakably to an overloaded stomach. A hypodermic was given to temporarily relieve pain, a cathartic and an enema were ordered, and the family requested to report his condition in the evening. Instructions were followed, a full action of the bowels was obtained, and in the evening I was informed that my patient was feeling as well as usual. The incident was forgotten until the following Tuesday, when I was again asked to see the patient, who now showed a temperature of 103°, tongue coated, and abdomen widely distended. Although a forlorn hope, the patient decided to have operation. The appendix was found perforated and gangrenous, the gangrenous area including a section of the cæcum. The patient died next day from septic peritonitis.

Another patient I recall seen under somewhat similar conditions, the second visit being ten days after the first, when he was found with large pericæcal abscess. This was evacuated, the appendix hunted out and removed, and recovery followed.

These are merely illustrative cases, and I doubt not that many of you can recall cases similar in character in your practices.

The old nondescript term "inflammation of the bowels" has happily become obsolete in the vocabulary of the physician of to-day; but still we sometimes see patients who have been treated from one to two weeks for "indefinite typhoid symptoms," or possibly "disease of the liver," who show distinct tumor over the appendix, or, far worse, a diffuse peritonitis.

The old question as to operation, and if operative procedures are considered, when to operate, would be wearying you with the old and much-drawn-out discussion between the man who looks at the question strictly from a physician's standpoint on the one hand and the surgeon's on the other.

A large percentage will no doubt recover from the first attack under proper medicinal treatment if seen early. In the majority it will recur sooner or later. There are, no doubt, a few cases in which it never recurs. No man can foretell the outcome of any attack at its inception. In any case, unless free and full action of the bowels has been obtained within twenty-four to thirty-six hours from beginning of attack, operative procedures will usually be required.

Personally, I believe the danger is from the disease and not the operation, if done early. So operate as soon as diagnosis is reasonably certain. An exploratory incision under proper aseptic precautions should do no harm.

Another abdominal case of different character may be of interest to you:

CASE II.—On the morning of October 10, 1897, I saw Mrs. McG., aged thirty-six years, native of Nova Scotia; married; cook by occupation. She was a large, sturdy, fresh-complexioned woman.

After suffering from a constant uneasy sensation during the greater part of the preceding day, she had been awakened in the early morning by a severe pain in the abdomen. When seen she was literally writhing on the bed, and her expression and every movement gave evidence of the intense pain she was then suffering. Hepatic colic was at once suggested and a subcutaneous injection of morphine, half a grain, was given. On examination, a smooth tumor could be felt between the lower border of the liver and the umbilicus, apparently cystic in character, movable with a swaying motion; it could not be distinctly displaced, giving the impression that it was anchored to the posterior part of the abdomen rather than to the liver. Floating kidney and distended gall bladder were thought of and, as Lawson Tait had once operated on a supposed ovarian cyst and found a distended gall bladder, *per contra*, it might be an ovarian cyst pushed upward. The patient was again seen in two hours; there was no cessation of pain from the morphine or relief from the rectal enemata, which had been ordered at first visit; half a grain of morphine was given. Under the added morphine the patient dozed slightly, but was constantly turning from side to side and pushing against the right side of the abdomen and over the region of the tumor. Two hours later the patient was given chloroform and a high enema of ox gall, hoping, by relaxation from the anæsthetic and the action of the enema combined, to overcome the difficulty if due to an occluded bile duct. Good results were obtained from the enema, but as soon as the anæsthetic had lost its influence pain returned in its original severity. Morphine was again used, and by several repetitions the patient was pulled through a night of agony.

On the following morning the patient began vomiting, and showed a temperature of 102.5°, wiry pulse of

120, very much exhausted, face anxious. The tumor was constantly increasing in size, its fundus just without the border of the right rectus and opposite the umbilicus. The patient was removed to hospital, and an exploratory incision was made perpendicular to the right leg of the thoracic triangle downward and inward, intersecting the line drawn from the umbilicus to the anterior superior spinous process four inches and a half in length. On inserting the fingers through the peritoneal incision the tumor was found to be the distended gall bladder of the size of a small fœtal head. An aspirator needle was introduced and the contents, which seemed to be normal bile, evacuated. No calculi could be found. The cystic duct felt enlarged and doughy; this was massaged as much as possible, and, as there was no evidence of gallstone, the incision in the abdominal wall was closed. Owing to accident, none of the contents of the gall bladder was preserved for microscopical examination. The recovery of the patient from the operation was, save one small stitch abscess, uneventful. Ten days after the operation the patient began running temperature very erratic in its curves, pain in the right lung, with consolidation at the apex, pleuritic friction in the right subaxillary space, cough, and expectoration, a part of the time light colored and viscid, and at times mixed with blood; hectic, night sweats, and what appeared to me to be unmistakable signs of incipient phthisis.

The sputum was examined by the hospital pathologist several times with negative results so far as finding tubercle bacilli. The conditions, however, remained for two weeks, the temperature varying from 99° in the morning to 102° on some afternoons. Thinking it possible that echinococci might be the foundation of the trouble, specimens were again given our hospital pathologist, also sent to Professor Biggs, of New York. Both returned a negative report. No echinococci hooklets or tubercle bacilli; on the contrary, microscopically, there was only evidence of an acute process. The lung eventually cleared up, and the woman is to-day apparently in perfect health and working daily at her avocation.

I am now satisfied that the condition of the lung was simply a pneumonic process, although at the time, having every confidence in the microscopical report, I must confess that I felt sure that the patient had incipient phthisis. Perhaps this opinion was strengthened by the fact that the patient had lost three children in infancy who, from her description of their illness, I inferred, might have died from tuberculous meningitis.

Among other points worthy of notice in this case, the intense pain was due to the sudden distention of the gall bladder rather than to passage of calculi. I am well aware that the aspirator needle is not an absolutely reliable guide in the search for hepatic calculi; that when palpation or the probe passed through an incision in the gall bladder does not reveal a calculi, the finger introduced into the gall bladder will come upon it; yet in this case, owing to the peculiar condition of the duct and the character of the aspirated contents, a cholecystotomy did not appear to be advisable, more especially as an incision somewhat perpendicular instead of parallel to the border of the ribs had been made.

Therapeutical Notes.

Ceyssatite, a New Absorbent Powder.—Veyrières (*Annales de dermatologie et de syphilographie,* May; *Treatment,* June 23d) brings to notice a fossil earth from the village of Ceyssat, Puy-de-Dôme, and hence called *ceyssatite.* This earth is composed nearly exclusively of diatoms, with a siliceous envelope, and is, therefore, composed almost entirely of pure silica, slightly hydrated. Ceyssatite is a white earth, very light, absorbing a great quantity of water, unctuous to the touch, adhering well to the skin, easily pulverized. It has the advantage over many other powders that it can be heated up to nearly 572° F. without destruction, and so sterilized. It has many advantages as an absorbent dusting powder, alone or mixed with others, in hyperidrosis, wet eczema, etc., and for making ointments into pastes, etc. In a discussion ensuing on this communication, Darier gave the following composition for ceyssatite:

Silica	64.570
Water	7.130
Chalk	2.850
Iron	5.650
Magnesia	6.480
Organic matters	7.330

This has almost the same qualities as the infusorial earths of Germany (carapaces of *Radiolaria* and *Foraminifera*), the *terra silicea, Kieselguhr, Infusorienerde.* Fredet referred to a communication of his to the Société médicale des hôpitaux de Paris, ten years previously, in which he described this earth under the name of *randannite.*

Alveolar Abscess in Tuberculous Persons.—William Rushton (*Treatment,* July 28th) remarks that in tuberculous subjects alveolar abscesses are apt to be severe, with a profuse discharge of pus. He recommends the following formula for an alkaline tooth powder, to be used after the tooth has been extracted and the abscess punctured through the gum:

℞ Sodium carbonate (bicarbonate?)	2 drachms;
Powdered white soap	1½ drachm;
Precipitated chalk, enough to make	1½ ounce;
Carbolic acid	5 drops.

M. An antiseptic mouth wash, such as listerine, he adds, may also be prescribed.

Resorcin in the Treatment of Acuminate Condylomata. — Silbermünz (*Medicinskoe Obosrenie,* 1898; *Deutsche Medizinal-Zeitung,* July 28th) gives the following formula for a dusting powder:

℞ Venetian talc	80 parts;
Zinc carbonate, Bismuth subnitrate, each	9 "
Resorcin	2 "

M.

Permanganate of Potassium in Lupus.—According to the *Medical Sentinel* for September, authority not quoted, Dr. Kachanovsky, of St. Petersburg, read a paper on this subject at the Moscow meeting of the International Medical Congress. He employs powdered permanganate of potassium, freshly prepared from dehydrated dried crystals, applied in a layer, three to five millimetres in thickness, over the whole surface of the lupus and the suspected portions of the surrounding tissues. In case of deeper ulcerations with undermined edges, the powder is applied after curetting two or three times in order to level the uneven surface. In all cases a layer of medicated cotton is put over it to keep the powder in place and to absorb the secretions and eliminated material. In most cases a single application of the powder suffices. He has employed the powder now in more than thirty cases since 1878, and always with complete success.

The Treatment of Tetany of Gastro-intestinal Origin in Children.—The *Progrès médical* for June 25th credits the following prescriptions to Tordeus:

1. ℞ Bismuth salicylate	4½ grains;
Benzonaphthol	2¼ "
Sugar	a sufficiency.

M. Four such powders to be taken in twenty-four hours.

2. ℞ Potassium bromide	45 grains;
Chloral hydrate	15 "
Distilled water	1,500 "
Syrup of bitter orange peel	750 "

M. Three soupspoonfuls to be taken in a day (for a child two or three years old).

Formulæ for the Employment of Ichthyol.—Leistikow (cited in the *Medicinisch-chirurgisches Central-Blatt* for August 19th) gives the following among other formulæ:

1. A powder:

℞ Ichthyol	1 to 2 parts;
Magnesium carbonate	20 "
Venetian talc	40 "

M.

2. A paste:

℞ Zinc oxide	10 parts;
Siliceous earth	2 "
Lard	28 "
Ichthyol	1 to 3 "

M.

3. An ointment:

℞ Ichthyol	3 parts;
Wax	2 "
Wool fat	5 "

M.

4. A varnish:

℞ Ichthyol	5 to 10 parts;
Collodion	20 "

M.

An Application for Follicular Amygdalitis.—The *Gazzetta degli ospedali e delle cliniche* for August 16th recommends, after incision, painting with the following:

℞ Trichloracetic acid	1½ grain;
Iodine	3¾ grains;
Iodide of potassium	7½ "
Glycerin	82½ "
Distilled water	150 "

M.

A Simple Treatment of Warts.—Vidal, according to a recent number of the *Journal de médecine de Paris*, recommends the application of green soap spread on flannel, to be kept on night and day if possible. At the end of a fortnight, he says, the warts will have become so soft that scraping them suffices for their complete disappearance.

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SANITARY PRECAUTIONS IN MICHIGAN.

We have more than once had occasion to commend the vigilance and activity of the Michigan State Board of Health and of its indefatigable secretary, Dr. Henry B. Baker. We are reminded anew of their excellent work by recent correspondence between Dr. Baker and the secretary of the Illinois State Board of Health, Dr. J. A. Egan. On August 31st Dr. Egan wrote to Dr. Baker to the effect that he had been informed by the general baggage agents of railroads running north out of Chicago that they were receiving daily from southern and eastern lines bodies of persons, presumably soldiers, who had died of typhoid fever; that the coffins in nearly every case were of the most inferior kind; that there was no undertaker's certificate as to the proper condition of the body, in accordance with the rules for the transportation of the dead; and that the railroads were asking him for instruction in the matter. Dr. Egan remarks that, of course, the transportation of the bodies under such conditions is dangerous to the public health, but he adds that for certain reasons he is loath to take decisive action until he has learned the views of the boards of adjoining States. Dr. Baker telegraphed: "Rules of general baggage agents should be enforced every time," and on September 2d he wrote to Dr. Egan giving it as his opinion that the reason mentioned by correspondents for permitting carelessness in the transportation of the dead, namely, that public sentiment was so thoroughly aroused, was not a good one. "Public attention being now well aroused," he said, "there is an excellent opportunity for useful education of the people generally as to the care necessary to be observed relative to dead bodies for the purpose of guarding the health of the living. Now is the time for gaining the attention of the public to what is required for the safe transporting of the dead. The rules of the General Baggage Agents' Association are wholly in the interest of public health, and should be rigidly adhered to and upheld by all of us who are in the public-health service."

It seems that the law in Michigan requires such notice to be given to the health officer or representative of the local board of health of the place to which a body is sent as will enable him to supervise the receipt of the body. At least, this is true as regards the body of a person who has died of "any dangerous communicable disease," and the Michigan board has declared typhoid fever to be such a disease. Dr. Baker remarks that it can not add much to the work of those concerned in transporting dead bodies to get the permit of the health officer of the point of destination and give him proper notice, and it ought always to be done, for it makes it possible for him to take the proper action to guard the interests of the living in his jurisdiction.

Dr. Baker refers to a circular issued by him in August, under the title of Caution for the Prevention of Typhoid Fever, the substance of which is as follows: As typhoid fever is particularly prevalent in the months of August, September, and October, and as drinking water contaminated with the germs of the disease is believed to be the commonest vehicle of its conveyance, prudence dictates that all drinking water not known to be above suspicion should be boiled before it is used, and cooled in some place where the typhoid-fever germs can not gain access to it. The germ of this disease is now known to be present in the discharges from the bowels, in the urine, and in the spleen, and probably it pervades the entire body. These germs are not rapidly destroyed by drying, and, as typhoid may always be spread directly and indirectly from a person having that disease, all discharges from his body should be disinfected, particularly the urine, and all articles of clothing, etc., soiled by him should be thoroughly disinfected. Public notice of every infected place should be given by placard on the premises, and otherwise if necessary, so that no person may unguardedly drink water or take food from a source likely to be contaminated with the germs of the disease.

Dr. Baker closes his letter to Dr. Egan by referring to an account, in a pamphlet relative to typhoid fever in Michigan in 1895, of the spread of the disease from a corpse, and to proofs that in recent years many lives have been saved in Michigan by restricting typhoid fever. He may well take pride in his share in the good work. "I think it is about time," he remarks, "that other States were taking up this work. . . . I earnestly hope that Illinois will fall into line and stand shoulder to shoulder with Michigan for the restriction of typhoid fever, as well as all other dangerous communicable diseases."

THE RESPONSIBILITY FOR ARMY MEDICAL DEFECTS.

It is to be hoped, though it is scarcely, we fear, to be expected, that some of the carping critics who have of late been shrieking out their hysterical denunciations of the army medical service in general, and of Surgeon-General Sternberg in particular, will be given pause by his statement of the limitations of his official responsibility. The only pity is that any such statement should have been necessary for the information as to the A, B, C of military medical administration of the self-appointed mentors who disgrace the honorable profession of journalism in the columns of the yellow press.

Surgeon-General Sternberg gives some elementary information as to the distribution of duties and the division of responsibility in military affairs, which, however new it may be to the citizens of a naturally unmilitary country, is known to the merest tyro in military matters all the world over. No man who has not a practical elementary knowledge of military matters is fit to be a reporter on any decent newspaper, so far as war news is concerned.

General Sternberg points out that so far as the medical administration of armies in the field, and even the supervision thereof, is concerned, there are for that purpose chief surgeons for each military department, army corps, division, and brigade, who are independent of the surgeon general, and are directly responsible to the generals commanding. It is, as he points out, incumbent on the officers commanding forces of whatever magnitude to correct any abuses, and to bring to the notice of higher authority any dereliction of duty on the part of medical, as well as other officers. It is their duty, too, to see that the sanitary regulations of the medical department are properly enforced by the company officers. With the commanding officers rests the responsibility of following medical advice where practicable, and in them only is the power vested which will supply the men needed for the labor of carrying them out. If men volunteer for service they must give up the idea of playing at soldiering. It isn't all excitement and glory; the soberer duties of fatigue parties, camp police, etc., are as much soldiering in the true sense of the word as dashing helter skelter over obstacles and in face of fire into the enemy's trenches. And they are just as necessary.

As to any individual derelictions of duty on the part of medical officers, it must be remembered that the medical establishment of the United States army is small even relatively to our normal regular army, and that the sudden call for its expansion could not possibly in so short a time have been filled in an entirely satisfactory manner. As we have before pointed out, it is essential that a military medical officer be first a good soldier, and secondarily a good doctor. Perfect familiarity with all the details of military organization and administration is an essential for the exercise of medical duties on massed bodies of men. The civilian practitioner is necessarily, essentially, and properly an individualist; the military medical officer is equally necessarily, essentially, and properly exactly the reverse. It was impossible in the short time at disposal, as General Sternberg points out, to have attained perfectly satisfactory results in the case of the number of medical men, whether regimental officers of State troops, or contract surgeons, taken into the service—indeed, for the former class the surgeon general is in no way responsible.

The case of Dr. Lindheim, moreover, clearly shows the absolute unscrupulousness of much of the criticism that has been leveled against individual medical officers. "Murdered by a cowardly, irresponsible, and unscrupulous press" would be a fitting epitaph for that young doctor's tombstone.

Another real cause of the trouble is the antagonism of many of the regimental surgeons to the staff system. It is true that there should be a surgeon with ambulance help attached to each regiment; and no doubt, but for the expense of keeping up two separate and distinct establishments, a combination of permanent regimental with permanent divisional organizations is the best. The British system, while entirely on a corps basis, still attaches one or more divisional medical officers to each regiment; and from the strength of that regiment, two men per company are trained as first-aid men and allotted to the medical officers attached to regiments. On the commencement of an engagement, they leave their arms and accoutrements in the regimental transport, and, taking therefrom the regimental stretchers and "field companions" containing medicines, dressings, and so forth, place themselves at the disposal of the medical officer. But a regimental *hospital*, save where a regiment is detached and isolated, is a needless expense. First aid is all that a wounded man needs on the field; it is all that the medical officers can give at the time. That afforded, he should be transported away from the front by the divisional ambulances to the divisional field hospitals, and there detained till well enough to return to the front, or to be passed backward along the lines of communication to the general hospital at the base.

In another column appears a communication from Lieutenant-Colonel Girard, chief surgeon of the Second Army Corps, on the subject of the alleged defects in army medical administration. A careful perusal of this paper will convince any unprejudiced person that for most of the troubles the untrained character of volunteers, their want of discipline, and the total inefficiency of the company officers are responsible. It was repeatedly said at the commencement of the campaign that the highly organized discipline of European armies was unnecessary for American forces, whose innate American patriotism, valor, and pluck would carry them through. So far as actual fighting is concerned, that has been shown to be the case; but the chief point in the minds of friendly critics, when insisting on the dangers of this want of discipline and general laxity, was their bearing on the administration and consequent health and well-being of troops, and in this their forebodings have been abundantly justified. We have often said that a man is not a good soldier by virtue of the possession of pugnacity and pluck. If there had been more discipline, more realization of the respect and implicit obedience to officers, and more attention to military details, of an apparently insignificant character, upon the absence of which the newspapers in the early stages of the war seemed absolutely to pride themselves as a distinguishing feature between soldiering abroad and at home, most of the horrors now so bitterly complained of would never have taken place. A mob can fight a successful battle if only the men have pluck and perseverance enough; but only soldiers can successfully face an arduous campaign. The best preventive of much that has occurred, judging from Colonel Girard's report, and from what has been seen by others, would have been a more liberal use of the guardroom among the volunteers at the very beginning.

MINOR PARAGRAPHS.

DR. LINDHEIM'S DEATH.

On September 16th, at his residence in New York, died Dr. George W. Lindheim. This young surgeon, only twenty-eight years of age, was the officer in medical charge of the train that brought two hundred and sixty sick soldiers safely from Chickamauga to New York. If any credence can be placed in the newspaper reports, the most unwarrantable and meddlesome interference was thrust upon him *en route* in the discharge of his duties, and because he very properly resented it, he was made the victim of an unscrupulous persecution, which preyed to such an extent on his nervous organization as to render him an easy victim to the very illness through which he had so successfully piloted the men in his charge. The *Evening Sun* for September 17th has a sympathetic and appreciative editorial note upon his fate, commencing thus: "Dr. George W. Lindheim, the young surgeon of the Eighth New York Volunteers, who died yesterday of typhoid fever, was a victim of public hysteria. Sensational journalism was responsible for the hysteria. The condition of some of the southern camps was a very proper subject for criticism, since it is only by plain language about abuses that they can be cured; but there has seldom been so much reckless lying on any subject of public concern as there was about our sick soldiers and the care of them." The *Evening Sun* has struck the bull's-eye right in the centre; save that, in our opinion, it has not been so much recklessness as infamous, deliberate unscrupulousness that has been responsible for the hysteria.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 17, 1898:

DISEASES.	Week ending Sept. 10.		Week ending Sept. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	143	49	209	44
Scarlet fever	61	4	49	7
Cerebro-spinal meningitis	0	5	0	8
Measles	41	5	33	2
Diphtheria	86	13	102	18
Croup	2	2	7	4
Tuberculosis	159	172	169	145

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending September 17, 1898:

Small-pox—United States.

Otsego, Mich	Sept. 10	Reported present.	

Small-pox—Foreign.

Rio de Janeiro, Brazil	July 20–27	2 cases.	
Bombay, India	Aug. 2–9		1 death.
Calcutta, India	July 31–Aug. 6		2 deaths.
Christiania, Norway	Aug. 20–27	1 case.	
Odessa, Russia	Aug. 13–20	2 cases.	
Odessa, Russia	Aug. 20–27	4 "	
Warsaw, Russia	Aug. 13–20		3 "

Cholera—Foreign.

Calcutta, India	July 24–30		2 deaths.

Yellow Fever—United States.

Franklin, La	Sept. 5–13	42 cases,	2 deaths.
Jackson, Miss	Sept. 10	2 "	
Orwood, Miss	July 30–Sept. 1	41 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 20–27	18 cases,	13 deaths.
Vera Cruz, Mexico	Aug. 30–Sept. 1		4 "

Plague.

Bombay, India	Aug. 2–9		85 deaths.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 14 to September 21, 1898:*

ABY, THOMAS Y., Acting Assistant Surgeon, is granted leave of absence for one month.

ADAMS, CHARLES, Major and Brigade Surgeon, United States Volunteers, is honorably discharged from the service of the United States.

ARTHUR, WILLIAM H., Major and Chief Surgeon, United States Volunteers, will proceed to Washington on official business.

BREWER, CHARLES, Acting Assistant Surgeon, will proceed to New York and report by letter to the surgeon general of the army.

CHAMBERLAIN, WESTON P., First Lieutenant and Assistant Surgeon, will take charge of the medical supplies on the transport *Panama* at Newport News and proceed therewith to Ponce, Puerto Rico, and return to Fort Monroe, Virginia, with convalescent soldiers.

COOK, G. WYETH, Acting Assistant Surgeon, is assigned to duty as examiner of recruits in Washington.

DAVIS, JOHN G., Major and Brigade Surgeon, United States Volunteers, will proceed to Jacksonville, Florida, for duty.

DAVIS, W. S., First Lieutenant and Assistant Surgeon. The extension of sick leave of absence granted him is further extended twenty days.

JORDAN, ARTHUR, Acting Assistant Surgeon, is granted leave of absence for one month.

SENN, NICHOLAS, Lieutenant Colonel and Chief Surgeon, United States Volunteers, is honorably discharged from the service of the United States.

WARE, ISAAC P., Captain and Assistant Surgeon, is assigned to duty at the Presidio, San Francisco.

WILLIAMSON, L. E., Acting Assistant Surgeon, will proceed to Jefferson Barracks, Missouri, for duty.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending September 15, 1898:*

MURRAY, R. D., Surgeon. To rejoin station at Mobile, Ala. September 2, 1898. To proceed to New Orleans, La., for special temporary duty. September 6, 1898.

CARTER, H. R., Surgeon. To proceed to Taylor, Miss., for special temporary duty. September 2, 1898. To rejoin station at New Orleans, La., temporarily. September 13, 1898.

BANKS, C. E., Surgeon. Granted leave of absence for twenty-two days from September 12, 1898, on account of sickness. September 14, 1898.

GLENNAN, A. H., Surgeon. To proceed to Tortugas Quarantine Station for special temporary duty. September 12, 1898.

WASDIN, EUGENE, Surgeon. Relieved from duty at Santiago, Cuba, and directed to return to the United States by the first conveyance. September 3, 1898.

BROOKS, S. D., Surgeon. Granted leave of absence for four days. September 10, 1898.

McINTOSH, W. P., Passed Assistant Surgeon. To proceed to Grand Junction, Tenn., for special temporary duty. September 6, 1898.

MAGRUDER, G. M., Passed Assistant Surgeon. To close Montauk Point, N. Y., Quarantine Station, then to rejoin station at Memphis, Tenn., reporting to bureau *en route.* September 14, 1898.

KINYOUN, J. J., Passed Assistant Surgeon. Relieved from duty at Montauk Point, N. Y., and directed to rejoin station, Hygienic Laboratory, Washington, D. C. September 4, 1898.

COBB, J. O., Passed Assistant Surgeon. To report at bureau. September 2, 1898. To proceed to Jackson, Miss., for special temporary duty. September 3, 1898. To proceed to Taylor, Miss., for special temporary duty. September 5, 1898.

YOUNG, G. B., Passed Assistant Surgeon. To report at bureau for special temporary duty. September 6, 1898.

STIMPSON, W. G., Passed Assistant Surgeon. To proceed to Grand Junction, Tenn., for special temporary duty. September 6, 1898. To proceed to Holly

Springs, Miss., for special temporary duty. September 8, 1898.

Stewart, W. J. S., Passed Assistant Surgeon. Granted leave of absence for three days from September 6, 1898. September 3, 1898.

Sprague, E. K., Passed Assistant Surgeon. Granted leave of absence for two days upon being relieved from duty at Montauk Point, N. Y., then to rejoin station, Hygienic Laboratory, Washington, D. C. September 14, 1898.

Cumming, H. S., Assistant Surgeon. Upon closure of the Montauk Point, N. Y., Quarantine Station, to rejoin station at New York, N. Y. September 14, 1898.

Tabb, S. R., Assistant Surgeon. To proceed to Reedy Island Quarantine Station, Delaware, and report to commanding officer for duty. September 6, 1898.

Hastings, Hill, Assistant Surgeon. To proceed to St. Louis, Mo., and assume temporary charge of service. September 13, 1898.

Lavinder, C. H., Assistant Surgeon. To report at bureau for instructions. September 14, 1898. To proceed to Egmont Key Detention Camp, Port Tampa, Fla., and report to commanding officer for duty. September 15, 1898.

Parker, H. B., Assistant Surgeon. Assigned to duty as sanitary inspector on United States transport *Minnewaska*. September 3, 1898.

Foster, M. H., Assistant Surgeon. To proceed to Savannah, Ga., and await orders. September 5, 1898.

Lumsden, L. L., Assistant Surgeon. To proceed to Delaware Breakwater Quarantine, Del., and report by letter to commanding officer for duty and assignment to quarters. September 6, 1898.

White, Mark J., Assistant Surgeon. To rejoin station, Immigration Service, New York, N. Y. September 8, 1898.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 21, 1898:*

Allen, G. M., Passed Assistant Surgeon. Detached from the *Prairie* and ordered home.

Barr, W. M., Passed Assistant Surgeon. Detached from the League Island Navy Yard and ordered to the Boston Navy Yard.

Bell, W. S., Assistant Surgeon. Detached from the Navy Yard, Mare Island, and ordered to Mare Island Hospital.

Bransford, J. P., Assistant Surgeon. Ordered to examination for promotion at Washington, September 19th.

Coats, G. M., Assistant Surgeon. Detached from the *New Orleans* and ordered home.

Dennis, J. B., Assistant Surgeon. Detached from the *Frolic* and ordered to the *Oregon*.

Grove, W. B., Assistant Surgeon. Ordered to the *Vicksburg*.

Grow, E. J., Assistant Surgeon. Detached from the Naval Hospital, Chelsea, and ordered to the *Wabash*.

Guthrie, J. A., Passed Assistant Surgeon. Ordered to the Naval Hospital at Norfolk.

Heiskell, S. O., Passed Assistant Surgeon. Detached from the *Dixie* and ordered home.

Huntington, S. O., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, and ordered to the *Newark*.

Kerr, D. B., Assistant Surgeon. Detached from the *Stranger* and ordered to the *Pensacola*.

Marcom, R. O., Assistant Surgeon. Detached from the Naval Station at Key West, Florida, and ordered to the *Alexander*.

M'Cormick, A. M. D., Passed Assistant Surgeon. Detached from the *Yankee* and ordered home.

Pickrell, G. M., Passed Assistant Surgeon. Detached from the *Yankee* and ordered to the New York Hospital.

Thompson, E., Assistant Surgeon. Detached from the *Vermont* and ordered to the *Massachusetts*.

Society Meetings for the Coming Week:

Monday, *September 26th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *September 27th:* Army and Navy Medical Association (first day—Springfield, Ohio); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Society of the County of Lewis, N. Y. (quarterly); Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *September 28th:* Army and Navy Medical Association (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

Thursday, *September 29th:* New London, Connecticut, Medical Society (New London).

Saturday, *October 1st:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Cox—Okie.—In New York, on Tuesday, September 13th, Dr. Edwin M. Cox, Jr., and Miss Claire Okie.

Hubbard—Walton.—In West Point, Mississippi, on Wednesday, September 14th, Dr. W. D. Hubbard and Miss Anna May Walton.

Nichols—Morehouse.—In Barton, Wisconsin, on Wednesday, September 14th, Dr. Theron Nichols, of Los Angeles, California, and Miss Louise A. Morehouse.

Nichols—Brownell.—In Milwaukee, on Monday, September 12th, Dr. Willard T. Nichols and Miss Eva L. Brownell.

Died.

Chase.—In Feron, Utah, on Thursday, September 15th, Dr. Harry Chase, of Viroqua, Wisconsin, aged twenty-eight years.

Clauss.—In New York, on Monday, September 19th, Dr. Henry Otto Clauss, in the seventy-third year of his age.

Hesser.—In Iowa City, California, on Monday, August 15th, Mrs. Minnie G. Hesser, wife of Dr. George T. Hesser, aged twenty-six years, eight months, and seventeen days.

Lindheim.—In New York, on Friday, September 16th, Dr. George W. Lindheim, United States Volunteers.

Malleson.—In New York, on Monday, September 19th, Dr. Philip Arthur Malleson, in the thirty-ninth year of his age.

Osgood.—In Jamaica Plain, Massachusetts, on Saturday, September 10th, Dr. James H. Osgood, G. A. R., aged sixty-five years.

Owen.—In Evansville, Indiana, on Monday, September 19th, Dr. Abraham M. Owen, in the forty-ninth year of his age.

Shirmer.—In New York, on Thursday, September 15th, Dr. Charles D. Shirmer.

Letters to the Editor.

THE MANAGEMENT OF CAMP ALGER AND CAMP MEADE.

Headquarters Second Army Corps,
Camp Meade, Pennsylvania,
Chief Surgeon's Office, *September 15, 1898.*

To the Editor of the New York Medical Journal:

Sir: In reply to your letter of September 6th requesting a statement of the facts relating to certain newspaper reports with regard to the condition of Camp Meade and to the health of the men in that camp, etc., I have to thank you for the opportunity given me.

While this may not benefit me with the general public, who are so ready to accept the attacks and criticisms of newspapers and personal letters which might, and no doubt were intended to, injure my professional and official standing, yet I have the satisfaction of hoping it will benefit the medical corps of the army in the estimation of the medical profession, who alone are qualified to judge.

I will preface my statement with a general history of Camps Alger and Meade, of which I was and am chief surgeon, and then take up under the several headings the main points of interest to enable the profession to judge of the management of affairs by the medical department.

I was for the greater part of the time the only regular surgeon in control of my department. One other surgeon reported to me after some time, and after doing duty in my office for a short time, I had to send him with two raw brigades to Cuba. Another regular surgeon arrived about this time and assisted me in my office, and when I learned of confusion in the medical department in Thoroughfare Gap, and of the breaking out of typhoid fever at Manassas, I had to send him there to bring order out of chaos; finally, when the affairs of the large division hospital at Dunn Loring had to be wound up after departure of most of the troops from Camp Alger, he had to step into the breach there.

The result was that I was practically the only surgeon with military training to look after the physical welfare of thirty thousand men.

The division surgeons were volunteers with no knowledge of army organization, and had to be taught by me *pari passu* with their subordinates.

Any one who knows what it means to teach raw troops how to procure food, water, fuel, clothing; to carry out ordinary principles of hygiene; in addition to this, to organize two large division hospitals, equip the hospital department of several large commands for active campaigns; to transfer, organize, clothe and equip a hospital corps of about seven hundred men, and to put them through some instruction—can guess, not realize, the Herculean task I had to perform. Add to this the introduction of a complete system of sanitation and medical organization embodied in circulars and sanitary recommendations, and he will ask himself if it is possible for one man to perform all this work. If we consider in addition to all this the discomforts of camp life, the heat of the southern summer, and the great extent of the camp, covering as it does a surface of a number of miles, it would be a matter of surprise to any disinterested observer if no mistakes were committed; and still I believe I am able to prove by documents that everything that could be done by me to preserve the health of the camp was recommended, and in all cases ordered by the commanding general.

But issuing orders and having them carried out are two different things, and that is where the cause of sickness in Camp Alger lay. An aggregation of thirty thousand men under the drawbacks of a camp, the fatigue of the necessary military exercises and manual labor, the men barely controlled by their officers (chums and townsmen of the enlisted men), an absence of officers trained in the knowledge of and recognizing the necessity for the strictest sanitary measures, the men eating and drinking inordinately, the food poorly cooked, no one to teach the cooks or understanding the proper management of the ration, so that the men were gorging for seven days and starving for three—what else could be expected but sickness?

Since I have been the head of the sanitary department, every possible accusation instigated by sensationalism, hostility to military rule, and self-laudation, has been hurled against me.

Now what was the actual state of affairs under the different heads of medical control?

1. Medical Supplies.—A howl about the scarcity of medicines and equipments was raised soon after I reached camp. I found about ten thousand men, with a daily increase of several thousand. I knew that the surgeon general had notified the governors of the several States that it would be impossible to have adequate medical equipment provided at such short notice, and had requested them to supply their regiments with their State outfit, and I had reason to expect that the majority would come so supplied. What was my dismay, when I found an absolute insufficiency for more than a week or two, with regiments streaming in calling for ambulances to transport their sick, for medicines, for shelter, and I had nothing to give them! I had received my orders one day and was in camp the next, finding the above state of affairs. I did the only thing possible to lessen the probability of suffering by having an order issued calling in all supplies and centralizing the medical service, seizing upon the few regimental hospitals to provide tentage and equipments for all, and taking the few regimental ambulances, in order to be able to convey the patients to the hospital and to isolate measles and mumps.

No one suffered from this except those regimental surgeons, who naturally disliked giving up what they had provided for their special commands. It was the counterpart of shipwreck or a North Pole expedition demanding an equalization of rations.

The result was, however, disastrous to me, for with newspaper reporters hungering for sensational accounts and disappointed doctors and their satellites, I was held up to the horror of mankind.

Medical supplies can not be bought like beef or oats, and it took some time before rigid economy could be relaxed, while complaints kept pouring into the papers by surgeons whose expenditures I had to keep within the lowest reasonable limits. The extravagance in the use and waste of medicines was almost incredible. But no one ever died and few suffered from lack of medical supplies.

2. Water Supply.—The next thing which not only perturbed the public mind, but even sanitarians, was the water supply. "This was a matter which should be watched!" It was ludicrous to imagine that a trained sanitary officer needed advice on the subject.

My first care the morning after I reached camp was to get an engineer and the proprietor of the camping grounds to locate the vaunted springs which had led to acceptance of the site by the quartermaster's department. I found them to be surface drainage of insufficient quantity, and at once had an order issued placing them under guard and requiring all drinking water to be boiled. The next step was the development of a sufficient and pure water supply, and to this end I accompanied the engineer officer in the selection of suitable spots to drive wells. Their average depth was a hundred and twenty feet and they passed through thick strata of rock.

Still, I took samples of the water and had them analyzed in the laboratory of the surgeon general's office, and wherever, as in a few instances, traces of organic matter were discovered, the wells were condemned.

In order further to guard against possible contamination I obtained three hundred sets of Maignen and Berkefelt filters, and had minute orders given as to their use.

On my arrival at Camp Meade I accompanied the commanding general in an inspection of the proposed camp sites, had all so-called springs, which were only the result of subsoil drainage, at once condemned, the other sources of water supply—namely, wells driven over two hundred feet and a limestone spring and water supply of Middletown, Pennsylvania—analyzed, and found them pure.

It would tire my readers to learn about the many reports I made concerning the disregard of sanitary recommendations, but I believe that I have established the fact that while Camp Alger had an insufficient supply of water, every care was taken by me to do my share toward amplifying it.

3. Sanitary Police.—The sanitary policing of the camps was well regulated by orders issued on my recommendation, but these orders were persistently disobeyed. The privies as a rule were filthy. Sanitary inspections by regimental medical officers were either neglected, or their recommendations were disregarded by the colonels. I never learned of this disregard, as no reports were made to me by regimental, brigade, or division surgeons, in spite of daily injunctions thereon. Every one seemed satisfied with the *beauty* of his camp, but apparently no one ever looked after the dejecta. When I made personal and special inspections, matters were remedied for a day or two, and they then relapsed into the old filth. I had not the time to institute disciplinary measures.

On June 3d I had advised individual covering of fæcal matter, principally for the purpose of preventing infection by flies, and an order to that effect was issued by the commanding general, but in the undisciplined condition of the troops this order could not be rigidly enforced until the commencement of August. Since this time a sentry was placed at each privy to see that the order was complied with, and even with this precaution instances were observed where the order was evaded. The neighboring woods and cornfields were used in preference by the men, with the natural result that most of the surface water became infected. Sentries posted to prevent the defiling of woods and cornfields would not report their comrades, and it was consequently absolutely impossible to control the situation.

4. Food.—As to the food, I recommended as early as June 3d regulations regarding it. They were speedily ignored and, as a rule, ignorance of the order was pleaded to me as excuse.

About the same time I recommended prohibition of the sale in camp of various articles of food which in my opinion were deleterious to the health of the troops. An order thereon was issued by the general, but could not be enforced, owing to limitation of his authority to within the confines of the camp.

5. Typhoid Fever.—As to the origin of typhoid fever, there were a number of foci of infection, some of which could be reached, some could not. A few examples will demonstrate this.

Soon after the occupation of the camp, cases of typhoid fever occurred, coming from a number of regiments, and the patients were removed to the general hospital at Fort Myer. They were sporadic, one or two to a thousand men, and evidently imported, because the camp had not been in existence long enough to allow the necessary time for incubation. The cases became more frequent, although the water supply, officially approved and provided, remained pure; but numbers of surface springs were all around the camps (they were more convenient than the pumps), and the men did not have to wait there for their turn, so, in spite of prohibition, this use of surface water was general.

A constant anxious search was made by me for preventable infection.

Thus it was found that a number of men of the Sixth Massachusetts Volunteer Infantry, who had been on provost duty at East Falls Church and had used the water there, were taken with typhoid.

The water supply of the provost guard could not be controlled.

The First New York Cavalry, who in their camp used either boiled, Hygeia, or Apollinaris water exclusively, had a number of cases. The only explanation which could be found was that these men were constantly on patrol duty and found the cool wells in neighboring farmhouses more acceptable than the warm Hygeia water in their canteens. It is a well-known fact that many people in Washington, who spend the summer on these farms, return with typhoid.

Another source was found in a surface well driven by men of a Pennsylvania regiment in one company, which had a great many cases of typhoid, while the adjoining companies were free. Fortunately for these, the well owners guarded their well jealously. The regimental surgeons knew of it, but it apparently did not strike them as unsanitary. A company in another regiment was severely affected, while the adjoining ones were free. In that case the milk was suspected, but nothing was proved.

The fact is that if the men had confined themselves to the water provided and to the food issued, if they had practised ordinary care, and if their officers had compelled them to submit to sanitary regulations, there would have been no typhoid fever.

6. Sanitary Recommendations.—No one man in my position could overcome the indifference to sanitation. A list of the sanitary recommendations made will show to what extent my care for the health of the troops was carried:

1. Water-supply development.
2. The location of wells according to need.
3. Regulations about drinking water and the care of its supply.
4. The cooking of food.
5. The care of privies.
6. The disposal of refuse.
7. The chemical examination of water.
8. The prohibition of the sale of pies, ice cream, sandwiches, etc.
9. Recommendations for contracts with laundries, etc.
10. The employment of contract surgeons.
11. The flooring of tents.
12. The overcrowding of tents and their close proximity.
13. The establishment of urinals.
14. The purification of drinking water.
15. The removing of regiments from unhealthy locations.
16. The utilization of condemned tents for covering privies.
17. The replacing privy pits with earth closets, if the camp is to be continued.
18. The employment of cooking instructors.
19. Application for an analyst.
20. Milk inspection.
21. Detail of sanitary inspector.
22. The use of filters.
23. The change of camps.
24. The individual covering of fæcal matter.
25. Detailed instructions for the use of filters.
26. Analysis of water supply.
27. The policing of grounds around hydrants.
28. Directions concerning disinfection.
29. Report about carelessness in the shipment of bread.
30. Recommendation for military excursions.
31. The sterilization of the men's blankets.
32. Reports on water supply.
33. Inspection of cleanliness of the men.
34. Raising the tent floors.

7. Selection of Camps.—Finally, as to the selection of Camp Alger as a camping ground, it must be remembered that the location was selected by the war department, and that neither myself nor the medical department in Washington was consulted. The only fault I could find was the lack of space and the scarcity of water. Both were corrected as rapidly as possible, and as soon as typhoid fever appeared other camp sites were examined, but found objectionable. Finally, it was decided to move the command to Thoroughfare Gap, and the Second Division went there; then the war department decided to move the whole command to Camp Meade.

An army corps is not like a regimental camp, and sites where all the desirable features can be found are scarce. Before Camp Meade was decided upon a large number of places were visited by officers from the war department, among whom was one of the most distinguished hygienists of the medical corps, Colonel Smart.

This paper—I should rather call it a sketch—has been written under numberless interruptions, which are inevitable in the sanitary and medical administration of thirty thousand men, and hence omissions and imperfections may reasonably be pardoned.

A. C. Girard,
Lieutenant Colonel and Chief Surgeon, Second Army Corps.

COMPULSORY TEACHING OF THE DANGERS OF ALCOHOL IN THE PUBLIC SCHOOLS.

Hartford, Conn., *September 5, 1898.*

To the Editor of the New York Medical Journal:

Sir: Some persons have expressed very authoritative opinions against the laws making compulsory the teaching of what is termed "temperance physiology," and have declared that such laws are based on sentiment, opposed by experience, and scientifically inaccurate. They have also condemned the text-books and declared many of the statements therein concerning alcohol to be false, illusionary, and even dangerous in their influence on the minds of children.

It would appear that these critics are not familiar with the history and controversies which have followed this movement, commencing in 1882 when the first law was passed by the legislature of Vermont.

Precisely the same criticisms were made and answered before the legislatures of New York, Rhode Island, Iowa, Maryland, and Connecticut, in the years 1883, 1884, and 1885.

In 1886 a national temperance compulsory education law was passed by both houses of Congress and signed by President Cleveland, compelling all government schools to teach the evil effects of alcohol. This law was most violently opposed, and every possible objection was raised and pressed in papers, petitions, and addresses before the committee. The questions of school books, false so-called science, bad teaching, book jobbing, and all the known facts of alcohol, were argued and discussed at great length. The objections and arguments were permitted to literally exhaust the subject as far as possible. Two volumes of literature grew out of this controversy, and yet the bill passed both houses with only eight dissenting voices. From that time to the present the same law practically has been passed by the legislatures of all the States and Territories of the Union, except Virginia, Georgia, and Arkansas.

Thus, in forty-five States and Territories of the Union, compulsory laws requiring temperance instruction in common schools are in force and taught from carefully prepared text-books.

In 1895 a newer and stronger compulsory law was passed by the New York legislature, and in 1897 a similar law was passed by the Illinois legislature. In both instances the same objections and criticisms were offered and urged with the startling assumption of being new and destructive. These opponents did not realize that the same objections and criticisms had been discussed in nearly every legislative hall in the country, from the Senate and Congress down, and been decided adversely in every case. If these laws are matters of sentiment, unwise and unreasonable, they are a reflection on the intelligence of a large majority of the intelligent people of this country.

The question of text-books and their accuracy has disturbed many persons who, like the other objectors, were without knowledge of the work done in this direction. At the beginning of this movement, in 1880, the question of text-books was discussed by leading educators and scientists. The great pioneer of the movement, Mrs. M. H. Hunt, herself a practical teacher of science, formed an advisory committee of leading educators and physicians who, voluntarily and with the consent of the publishers, became a critical board to examine the books offered.

This board has been, and is now, non-partisan, and in its advice and criticisms on books have simply aimed to make them accurate in fact and statement and comply with the law. Authors have been asked to write books in their own way and style and from their own conceptions of the need of such works.

The only question for this committee to decide was the accuracy of the statements in physiology and hygiene. A large number of works were examined and some of them indorsed and published with a large sale. Others were found faulty and the large publishers refused to put them on the market. This swelled the ranks of the critics who found fault with the successful works.

Up to the present time only nine sets of books have been approved and indorsed by the committee, and probably twenty or more books are or have been competing for this favor.

The largest and best of these works for high school service is written by the late Professor Martin, of Johns Hopkins University. Others are by equally prominent men, and while they vary widely in value in the school room, their general accuracy has stood the test of most severe criticism.

In 1896 the same old bitter criticism broke out anew, denying the accuracy of the statements of the injurious effects of alcohol. Ten years before, when the temperance bill was before Congress; this subject was examined with exhaustive caution, and now it was thought wise by the committee to reopen the subject. A committee of experts was asked to read the work indorsed and reported, and they found all the statements about alcohol correct and fully sustained by the most authoritative teachings of the present time. Books were sent to a number of prominent physicians in this country and in Europe to determine the same questions of the accuracy of the statements concerning alcohol. Many of these critics were not abstainers, but all, without exception, gave a full, unqualified indorsement of the correctness of the books examined.

Thus again, ten years after it was decided in Congress, the correctness of the teachings on this subject in school books was strongly reaffirmed.

The superintendent and committee have for years tried to profit by the criticisms, by courteously inviting every critic to point out specifically the errors, and to suggest their corrections. This has been done in some cases with marked profit, but most of the objectors make vague general statements, more suggestive of their want of knowledge and of their personal feelings than of any desire to correct what to them seem errors.

While many questions relating to alcohol are not yet authoritatively settled, there are many general facts which can be most practically taught and defended as authoritative teachings of science.

This most extraordinary revolution in teaching temperance in public schools, made compulsory by law, has brought into the market a flood of books, and were it not for some independent committees of revision, great errors and real mistakes would have followed their introduction.

These books, although all written by medical men and teachers, are not claimed to be models, but like all other school books are open to change and revision constantly.

New works are called for and are in process of preparation, and both teachers and publishers realize the necessity for better and clearer work to meet the wants of sixteen millions of school children in this country.

If the hysterical critics who discover errors in the books would point them out specifically in line and page, they would render a real service to the cause; but sneers and condemnations of law and books are both simple and childish. The assumption that the whole work is confined to the Women's Christian Temperance Union, while a high compliment to this organization, is untrue, and could only spring from a limited knowledge of the facts. The equally strange assumption that this work began from ignorant enthusiasm and partisan opinions of persons who hold extreme views, which have been forced on the people of forty-five States and Territories and are not supported by sound experience and accurate science, is so obviously untrue as not to require any notice.

While Mrs. M. A. Hunt, of Boston, has been the pioneer leader of this movement, she has had from the beginning a very influential support from leaders in all the professions. An advisory committee of three educators, three clergymen, and three physicians, presided over by Dr. Harris, the United States commissioner of education, have given much time and assistance to this work.

It would seem useless to notice the same old criticisms of these laws and text-books, after sixteen years of controversy and argument and almost inexhaustible discussions, and particularly so as the laws are sustained and the text-books accepted by the entire country excepting three States.

The compulsory teaching of the dangers of alcohol in the public schools is a great reality, and now all efforts should be directed to improve the teaching. Both the publishers, authors, and committees will welcome the correction of errors, but vague sneers and denials accomplish nothing for the work.

T. D. Crothers, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of June 1, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

(*Continued from page 426.*)

Intestinal Obstruction from an Enterolith; Operation; Recovery.—Dr. George D. Stewart reported the following case of enterolithiasis which had been transferred to him for operation by Dr. Phelps, in whose service at St. Vincent's Hospital it had occurred: A. C., thirty-five years of age, an Italian laborer was admitted to the hospital on May 16th. On Friday, the thirteenth day of May, the patient had eaten for his midday meal a great quantity of baked beans, and at supper he had eaten heartily of meat. Early in the evening he had been seized with severe, colicky abdominal pains, and a little later had begun to vomit undigested food. The vomiting and general abdominal pains had continued during Friday night and all of Saturday. On Saturday the vomited matter was greenish (evidently from bile), and the patient noticed that the tenderness was greater in the left iliac region. The bowels did not move on either Friday or Saturday. On Sunday a physician, who had been called, gave an enema with but very little result. The vomiting became stercoraceous, probably, and the pain was distinctly localized in the left iliac region. On Monday, the 16th, the patient was brought to the hospital by ambulance. He was then suffering from severe shock; the extremities were cold and the face was pinched. His temperature was 98° F., pulse 96 and very feeble, and respiration 26. The vomiting on Monday was certainly stercoraceous, but not very persistent. The abdominal wall was flat and slightly rigid, and the hepatic dullness normal. There was but little abdominal tenderness except in the left iliac region, where a tumor, apparently of about the size of a small apple, could be felt beneath the abdominal wall. This tumor was freely movable and disappeared occasionally from beneath the examining fingers. Quick, interrupted pressure made with the other hand in the opposite iliac fossa caused the tumor to strike against the palpating fingers with a sudden impact. It was irregular in outline, and this, with its size and mobility, led to the opinion that it consisted of hardened fæces.

Operation was decided upon, but delayed for a time to permit the patient to react from the shock. Accordingly, stimulants were administered and artificial warmth was applied, to which measures the patient responded quickly and well, the skin becoming warm and the pulse of better tension. An enema was given, but with no result. The operation was performed on the afternoon of the day of admission. The portion of intestine containing the tumor, which was afterward found to be the ileum, was easily located and brought out through a median incision of the abdominal wall below the umbilicus. The tumor was quite hard, irregularly cuboid in outline, and presented several projecting prominences, over which the walls of the ileum were much thinned by stretching. Except at these points the gut looked normal. As the tumor could not be moved in either direction without using undue force, it was removed through a longitudinal incision in the intestinal wall.

This incision was closed by two series of sutures, the first a continuous, the second an interrupted, Lembert. The gut was then put back and the abdominal wound closed in the usual way. The after-history was uneventful. The bowels were moved on the third day by enema, and on the fourth by calomel. A slight amount of suppuration occurred in the abdominal wound, due, probably, to the hurried preparation and to the previous unsanitary condition of the patient's abdominal wall.

After removal it was found that the tumor cut easily, and showed a fibrous surface resembling somewhat the cut surface of a meat ball. This mass certainly contained some of the meat eaten on Friday, but one could not speak so positively about the beans. The speaker raised the question as to whether any cathartic could have broken up or caused the expulsion of this mass.

So-called Aneurysm of the Heart.—Dr. N. E. BRILL presented a case of what he stated was at times incorrectly called aneurysm of the heart. It was that of a patient who was admitted into one of his wards at Mount Sinai Hospital about a month before. The patient stated that thirty-five years before that time a diagnosis had been made of his disease by Traube, of Germany, who said he had phthisis, that it would be a disease of long standing, and would not be fatal. In the light of the subsequent history of the patient this was a diagnosis and prognosis which a progress of thirty-five years could not make any of us devoted to clinical work improve upon; perhaps we could not do so well.

On admission the patient gave the following history: He was seventy-two years of age, and, with the exception of his illness in his thirty-seventh year, had not been suffering with any serious illness. During the preceding seven months he had begun to feel weak, and lost flesh and strength. He had occasionally severe pain in the epigastrium and would vomit but seldom. A marked pallor, prominent signs of cachexia, and extreme anæmia were the indications, by merely glancing at the patient, for a diagnosis of carcinoma. The patient was a large man, whose mucous membranes were very pale, who was much emaciated, and who had very feeble heart sounds, accompanied by a slight systolic murmur over the mitral and aortic areas, without a history of rheumatism. An examination of his lungs confirmed the diagnosis of a consolidation at both apices.

His stomach contents showed an absence of free HCl. This fact, together with the pain of which he complained, which was very severe when present, the age of the patient, and the previously mentioned data, suggested the diagnosis of carcinoma of the stomach, notwithstanding no tumor could be felt. The cardiac murmur suggested atheroma of the aorta and of the mitral valves.

In four weeks the patient died. The autopsy revealed cheesy nodules in the apices of both lungs surrounded by dense lung substance. The heart showed some thickening of the mitral valve and a very well organized thrombus in the lower aspect of the left ventricle.

The heart muscle was atrophied and brown in color, showing retrogressive degenerative changes. Where the thrombus was attached the heart wall was very thin and transparent, bulging outward somewhat. This represented the condition which was sometimes erroneously called chronic aneurysm of the heart. The condition was due to deficient nutrition of the heart wall by reason of a diminished blood supply. On opening the left coronary artery, the atheroma of the vessel was found well marked and the presence of an old thrombus in that vessel explained the entire condition of the organ.

This pathological condition was not often found in the post-mortem rooms in this country, probably because it was not looked for; but the speaker had no doubt that it must be almost as common here as it was abroad, where it was not infrequently demonstrated.

The aorta was the seat of atheromatous degeneration. The stomach showed the presence of a carcinoma limited to the pyloric end, where it had produced a well-marked stricture. Notwithstanding this stricture, there was but little gastric dilatation. Both kidneys revealed the presence of an atrophic cirrhosis. The liver was the seat of two large carcinomatous metastases. There was some perisplenitis.

The speaker apologized for making an extemporaneous presentation of this interesting pathological condition of the heart, but, owing to the death of the patient on the eve of presentation, he had not had time to commit the report to writing or to look up the details of the case more closely.

A New Electric Urethral Sound.—Dr. Winfield Ayres presented a new electric urethral sound. Dr. Ayres said this was an improvement on the Newman sound. The instrument was intended for the treatment of resilient strictures and strictures of large calibre. The objection to the Fort instrument was that the stricture was absorbed only on one side; also, if the stricture was cut widely enough to relieve the symptoms, a deformed penis might result. The objection to the Newman sound was that it could not be absolutely controlled and healthy tissue might be injured.

For these reasons he had devised a sound with an insulated point which would guide the instrument in the canal and at the same time bring the entire circumference in contact with the circumference of the stricture. The insulated point was conical, running through three sizes. The electrode projected as a shoulder from and was three sizes larger than the base of the cone. The shaft was of the same size as the base of the cone. The sounds ran from No. 17 to 30 F. Every second size was required.

In using the instrument, a sound of the same size as the stricture was selected and passed to the face of the stricture. The current was then turned on. In from thirty seconds to ten minutes the sound would be felt to pass through, when the current must be turned off and the sound withdrawn. The amount of electricity that might be used with this instrument was considerable. Dr. Ayres had used as high as fifty milliampères, though he had found that ten to fifteen were usually all that were required. He thought that this instrument would obviate the necessity of cutting a great many strictures.

(To be concluded.)

Book Notices.

BOOKS, ETC., RECEIVED.

An American Text-book of Gynæcology, Medical and Surgical. For Practitioners and Students. By Various Authors. Edited by J. M. Baldy, M. D. Second Edition, revised. With Three Hundred and Forty-one Illustrations in the Text, and Thirty-eight Colored and Half-tone Plates. Philadelphia: W. B. Saunders, 1898. Pp. xxii–17 to 718. [Price, $6.]

An American Text-book of the Diseases of Children. Including Special Chapters on Essential Surgical Subjects; Orthopædics; Diseases of the Eye, Ear, Nose, and Throat; Diseases of the Skin; and on the Diet, Hygiene, and General Management of Children. By American Teachers. Edited by Louis Starr, M. D., Consulting Pædiatrist to the Maternity Hospital, Philadelphia, etc.; assisted by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania, etc. Second Edition, revised. Philadelphia: W. B. Saunders, 1898. Pp. xvi–1244. [Price, $7.]

A Clinical Text-book of Medical Diagnosis for Physicians and Students. Based on the most Recent Methods of Examination. By Oswald Vierordt, M. D., Professor of Medicine at the University of Heidelberg, etc. Authorized Translation with Additions by Francis H. Stuart, A. M., M. D., Member of the Medical Society of the County of Kings, New York, etc. Fourth American Edition, from the Fifth German. Revised and enlarged. With One Hundred and Ninety-four Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 9 to 603. [Price, $4.]

Symposium on the Pathology of the Diseases of the Cardio-vascular System. The Myocardium. By J. H. Musser, M. D., and J. D. Steele, M. D. [Reprinted from the *Proceedings of the Pathological Society of Philadelphia.*]

Principal Poisonous Plants of the United States. By V. K. Chesnut. Bulletin No. 20, United States Department of Agriculture, Division of Botany.

Ophthalmic Diseases and Therapeutics. By A. B. Norton, M. D., Professor of Ophthalmology in the College of the New York Ophthalmic Hospital, etc. With Ninety Illustrations and Eighteen Chromolithographic Figures. Second Edition, revised and enlarged. Philadelphia: Boericke & Tafel, 1898. Pp. xiii–17 to 647.

An Abridged Therapy. Manual for the Biochemical Treatment of Disease. By Dr. med. Schuessler, of Oldenburg. Twenty-fifth Edition, in Part rewritten. Translated by Professor Louis H. Tafel. Philadelphia: Boericke & Tafel, 1898. Pp. 7 to 178. [Price, $1.]

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Ueber die Mischinfektion bei der chronischen Lungentuberkulose. Von Dr. med. G. Schröder und Dr. med. Fr. Mennes, Aerzten der Heilanstalt für Lungenkranke zu Hehenhonnef a. Rhein. Mit Kurven und Tabellen im Text. Bonn: Friedrich Cohen, 1898. Pp. 92.

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The Value of the Autopsic Findings in Cases that have Died of Suspected Yellow Fever. By Passed Assistant Surgeon Eugene Wasdin, United States Marine-Hospital Service.

Miscellany.

Leprosy and Hawaiian Annexation.—The *Dietetic and Hygienic Gazette* for September contains an interesting editorial, with special reference to the fear entertained by many of the danger of the extension of leprosy as a consequence of Hawaiian annexation. The *Gazette* says that as a prime point it must be noted that a considerable portion of the force of the argument is due to the vagueness of the term leprosy, and the almost superstitious fear with which it is regarded by the laity. No one, for example, has opposed the annexation of Cuba or Porto Rico on account of the prevalence of yellow fever in those islands. On the contrary, many who were opposed to the war, and are now lukewarm, if not opposed, to the annexation of territory, believe that one great good may come from it—namely, the control of that disease, which every summer threatens our coast cities, hampers our commerce, and involves a high cost for quarantine establishments. Yellow fever is far more dangerous than leprosy, and while the contagiousness of both is disputed, the former is much the more easily conveyed by infected materials. The dread of leprosy arises largely from the biblical allusions to it. It is there treated as a disease of the most formidable character, requiring sequestration of the patient, and as practically beyond relief from treatment, properly so called, but rather amenable only to miraculous influences. Very few persons have ever seen a case of leprosy; indeed, comparatively few physicians have seen one.

The contagiousness of leprosy is in dispute. The weight of evidence, the *Gazette* thinks, is in favor of the affirmative, but the degree of contagiousness is so low that the disease can scarcely be dreaded from that cause. It seems to be less contagious than ordinary consumption; it is surely less so than many other forms of skin disease. It must not be forgotten that the determination of this point is not always easy. Mere coincidences may mislead. It would not be difficult to show that some forms of nervous and mental diseases are contagious, if we took simply a few instances as our guide.

Moreover, questions of contagiousness, and to a considerable extent also questions of successful treatment, must be answered with reference to the habits and methods of the people affected. Among savages and the lower orders of civilized peoples there is a mingling of persons and effects and an indifference to the true principles of cleanliness that greatly increases the opportunities for conveying disease. Highly civilized communities have improved considerably in such respects, and are correspondingly protected from the spread of contagious and infectious diseases.

It seems, therefore, reasonable to assume that the annexation of Hawaii will not involve any risk from leprosy. Indeed, the accurate study that will be made of the disease and the enforcement of proper sanitary regulations will probably be of material benefit to the lepers themselves.

The *Gazette* hopes that the extremists will not have their way about the matter and enforce the segregation of lepers with such rigor as to constitute a form of cruelty, or to bring about the conditions that prevailed among the ignorant communities of the middle ages, when the poor leper was obliged to announce his coming by beating a couple of sticks in order that every one might flee from him.

It is worth noting, adds the *Gazette*, that much of the so-called leprosy is merely a form of tuberculosis and not a distinct disease. It is also probable that many cases are constitutional syphilis, and in this aspect Washington and Honolulu may meet on equal terms.

Medical Journalism in the United States.—According to the *Louisville Medical Monthly* for September, the two hundred and seventy-five medical journals in the United States are said to enjoy a combined annual circulation of over sixteen million copies.

The Ætiology, Symptomatology, and Treatment of Locomotor Ataxia.—Dr. W. H. Riley (*Journal of Nervous and Mental Disease*, September), in a paper read at the twenty-fourth annual meeting of the American Neurological Association, May, 1898, gives the results of a careful analysis of sixty-one cases of locomotor ataxia. The patients were all men.

As regards its ætiology, he says:

A history of syphilis was given in thirty-one cases out of forty-nine. Of the remaining eighteen cases of the forty-nine, fourteen had had gonorrhœa, been excessive in sexual indulgence, or gave other evidence of possible exposure to syphilis. Of the remaining twelve cases of the sixty-one, syphilis was either denied, or this point was not determined in the history of the case. In the cases that gave a history of syphilis, from two years to thirty years intervened between the primary venereal disease and the initial symptoms of locomotor ataxia. In most cases the initial symptoms of ataxia appeared from eight years to fifteen years after syphilis had developed. In two cases the disease followed soon after a mechanical injury. A history of exposure to wet and cold was given in seven cases. One case developed immediately after an attack of typhoid fever. This last case, however, differed from cases usually seen, in that the disease was not progressive in character, and the only prominent symptoms present were well-marked ataxia in all four extremities, as well as in the muscles of speech.

The majority of these cases came from the middle and higher walks of life. In twenty-nine cases, the disease first showed itself between the ages of thirty and forty years; in twenty cases, between the ages of forty and fifty years; in six cases, between the ages of fifty and sixty years. In two cases the disease began at the age of twenty-five, and in one case, following typhoid fever, it began at the age of twenty-two years.

The symptomatology is described as follows:

In thirty-seven cases the initial symptom was pain in some part of the body, and was usually described as "rheumatic"; in three cases, it consisted of gastric crises; in three cases, of laryngeal crises; in four cases, of incoordination of the lower limbs. In the remaining cases the initial symptom consisted of one or more of the following: Various paræsthesias in the extremities, diplopia, partial blindness, vertigo, difficulty in emptying the bladder, loss of sexual function, general feeling of weakness—frequently without exertion—and digestive disturbances.

The symptoms of the sixty-one cases tabulated in the order of their frequency are as follows:

1. Knee-jerk absent in.................. 55 cases.
2. Severe paroxysms of pain in........... 54 cases.

In twenty-one of these cases severe pains were in the arm, trunk, and legs; in fifteen, in the legs alone; in thirteen, in the trunk and legs; in one, in the arms alone; and in one, in the trunk alone.

3. Ataxia in locomotion, with eyes closed (56 cases examined), present in......... 54 cases.
4. Various paræsthesias, as numbness, pricking, formication, etc., present in..... 53 cases.

In thirty of these cases, paræsthesia was confined to the lower extremities; in twenty-one, to both lower and upper extremities; in two, there was paræsthesia in the face, as well as in the lower and upper extremities.

5. Static ataxia, with eyes closed (56 cases examined), present in.............. 54 cases.
6. Anæsthesia (referring to tactile, temperature, and pain sense, one or more being affected), present in............... 45 cases.

In fourteen of these, the anæsthesia was in the upper and lower extremities; in two, in the trunk and upper and lower extremities; in two, in the face and upper and lower extremities; in the remainder, in the lower extremities.

7. Girdle sensation about trunk present in.. 39 cases.
8. Constipation present in............... 39 cases.

9.	Static ataxia, with eyes open (56 cases examined), present in	41 cases.
10.	Ataxia in locomotion, eyes open (56 cases examined), present in	41 cases.
11.	Cold extremities in	34 cases.
	Loss of sexual power, partial or complete,	35 cases.
	General feeling of weariness, with diminished motor power, in	37 cases.
12.	Area of hyperæsthesia about abdomen and lower part of trunk, with increased skin reflexes in the same area, in	29 cases.
13.	Indigestion and stomach disorders in	33 cases.
	Considerable loss of weight in	33 cases.
14.	Meiosis present in	28 cases.
	Argyll-Robertson pupil (that is, pupil contracted, responding to light, but not to accommodation), present in	28 cases.
15.	Nervous irritability and despondency in	25 cases.
16.	Accelerated pulse (85 or above) in	25 cases.
17.	Skin reflexes (plantar, cremasteric, and abdominal) increased in	24 cases.
	Incomplete retention of urine in	27 cases.
18.	Insomnia in	20 cases.
19.	Ataxia in arms in	15 cases.
20.	Diplopia usually present at beginning of disease in	14 cases.
	Skin reflexes absent in	16 cases.
21.	Delayed sensations in	14 cases.
	Partial incontinence of urine in	15 cases.
22.	Ptosis (transient or permanent) in	13 cases.
	Attacks of sudden vertigo in	13 cases.
	Partial iridoplegia in	11 cases.
23.	Partial deafness in	13 cases.
24.	Plantar skin reflexes absent, or very much diminished, with other skin reflexes normally present, in	10 cases.
	Gastric crises in	11 cases.
25.	Tenderness along the spine in	7 cases.
	Diminished faradaic irritability of muscles in	6 cases.
	Diminished galvanic irritability in	6 cases.
	Unable to walk with crutches or two canes in	6 cases.
26.	Rise of temperature during paroxysms of pain in	6 cases.
	Optic-nerve atrophy in	7 cases.
	Laryngeal crises in	6 cases.
	Diarrhœa in	8 cases.
	Pupils dilated in	8 cases.
27.	Unequal pupils in	6 cases.
28.	Polyæsthesia in	4 cases.
29.	Complete retention of urine in	3 cases.
	Complicated with marked muscular atrophy with the electrical reaction of degeneration in muscles in	2 cases.
	Tremor in hands in	2 cases.
	Anæsthesia in face in	2 cases.
	Taste affected in	2 cases.
	Area of hyperidrosis about trunk in	2 cases.
	Knee-jerk present and normal in	2 cases.
	Knee-jerk present, but unequal, right stronger, in	1 case.
30.	Knee-jerk exaggerated in	1 case.
31.	Hyperidrosis of both legs in	1 case.
	Knee-jerk present, but diminished, in	1 case.
	Knee-jerk present in one limb and absent in the other	1 case.
	Complicated with general paresis in	1 case.
	Traces of albumin in urine in	1 case.
	Complete incontinence of urine in	1 case.
	Traces of sugar in urine in	1 case.

In the writer's opinion, there are two things, or conditions, necessary to the development of this disease in any individual. One of these is an organic predisposition to the disease; that is, a neuropathic condition —a low resistance in the nerve elements. The other essential condition is the presence in the blood and tissues of a toxine, which, in a very large proportion of cases, is of syphilitic origin. This toxine, in the case of syphilis, is constantly formed in the body after it once becomes infected, and keeps up a continuous chronic intoxication for a number of years, until finally the vitality of the tissues is overcome, and the symptoms of tabes begin to appear.

Other infections, both acute and chronic, have been known to cause this disease. Cases are on record in which tabes developed after infection from tubercular disease and also from leprosy. These infections, like that of syphilis, are chronic; that is, the germs of the disease remain in the system for a long period of time, and, as the result of the life and activity of these germs, ptomaines are constantly formed, and consequently the system is kept in a state of intoxication for a period of months, or even years. The disease may also follow or accompany infections of acute diseases, such as diphtheria, typhus and typhoid fever. It is a well-known fact that in many cases of diphtheria there is a postdiphtheritic paralysis. This is quite frequently supposed to be due to a neuritis which is the result of the action of diphtheria toxines upon the nerve fibres. This same poison may, and does, in some cases at least, produce tabes. In my own experience I have seen one well-developed case of locomotor ataxia (tabes dorsalis) follow an attack of typhoid fever.

There is, however, an essential difference between cases of tabes resulting from chronic infection like syphilis or tuberculosis, and those of an acute infection like diphtheria, typhoid fever, etc. In the first instance, the disease, in the large number of cases at least, is progressive, which is a natural result if the body is kept constantly intoxicated by poisons that are formed by the infection of syphilis or tuberculosis. In the second instance, that is, where the disease develops from an acute infection, it becomes, after a period at least, regressive; it does not continue to progress as in the first instance. The best reason I can give for this difference is that in these cases poisons are formed in the body only for a limited period of time. The germs of diphtheria and typhoid fever remain in the system but a few weeks, and consequently the poisoning continues only for a limited space of time.

With reference to the treatment of this disease, the author can make only a few general suggestions. His own practice for some time past has been to direct the treatment along two lines—viz., (1) to eliminate poisons that are in all probability being constantly formed; (2) to improve the general health and nutrition of the patient, special treatment being directed to the seat of the lesion.

The first of these lines of treatment—that is, the elimination of the poisons from the body—he believes can be best accomplished by the free use of water internally. He usually instructs his patients to drink from five to seven pints of water daily, and to take it in small quantities and at short intervals between meals. This flushes the tissues, and keeps the poisons that may be in the body in solution, thus favoring their elimination. It also increases the activity of the eliminative organs. In many cases it is best to have the patient drink the water hot. Besides this, the use of warm baths, particularly the electric-light bath, which is usually very agreeable to these patients, is to be highly recommended. This does good, not only by the elimination of poisons, but also by relieving the distressing pains, which are so troublesome in this disease. By correcting all bad habits, prohibiting the use of tobacco and alcohol, and placing the patient on an aseptic diet, the further intoxication of the body from without becomes almost impossible.

The second indications for treatment are best met by the proper use of hydrotherapy, electricity in its various forms, massage and other manual and mechanical movements, including suspension treatment. He is satisfied from the results of the treatment in a large number of cases of this kind that a great deal more can be done for patients suffering with this disease than is usually supposed. He believes from his own experience that when they can be put under proper conditions—the daily life of the patient controlled, and the treatment above indicated intelligently applied—as much can be accomplished in this malady as in many other diseases affecting other parts, which are generally considered less intractable.

The author considers it certainly unjust to tell a man suffering from locomotor ataxia, in the first or second stage of the disease, that nothing can be done for him; he has had many cases concerning which such statements had been made by physicians, and yet, after taking the course of treatment as indicated, they have materially improved, the disease being checked in its onward progress, and the patient put in a position where he could be of practical service to himself and to his friends. And this is as much as, or more than, is done in the treatment of numerous other diseases which are not supposed to be as formidable as tabes dorsalis.

Orthoform.—Dr. W. Cheatham (*American Practitioner and News*, August 15th) says that at the Munich Surgical Clinic the observations hitherto made on wounds of various kinds, on burns of second and third degree, on ulcers (luetic, varicose, carcinomatous, etc.), on dental caries, etc., may be summarized as follows: 1. Loss of sensation commences on the average in from three to five minutes after application, whether as a powder or as ten- or twenty-per-cent. ointment. 2. The anæsthetic action continues on the average for about thirty hours, in many cases even for three or four days. Only in one case did the action last scarcely two hours, the powder being carried away by copious secretion. 3. Diminution of secretion is always observed, a feature which is very valuable, for instance, in transplantations, where the grafting of the transplanted skin is promoted. The reduction of very copious and troublesome salivation in a case of inoperable cancer of the cheek was also noted. 4. Non-poisonousness is demonstrated by the fact that in a case of carcinoma two ounces weekly were applied without any bad effect. 5. As regards antiseptic qualities, no special experiments were made on patients, but no bad influence on wounds was experienced. Purulent discharge was never occasioned, but when present ceased shortly after application of the powder.

An Apparently Authentic Case of Maternal Impression.—Dr. Edward D. Elright (*Medical Record*, September 3d) records the following case: He says that he has in his practice a case of maternal impression so marked that he wishes briefly to report it. In visiting a house in his capacity as physician he noticed a little girl, about six years of age, with a remarkable-shaped head and a blepharo-phimosis of the right eye. The forehead was very prominent, running to a sharp point a little to the left of the centre. The entire right side of the head was but poorly developed, being not nearly so full as the left side. He operated on the eye, enlarging the palpebral opening. There still remained ptosis. He then removed a strip of the lid and found entire absence of muscular tissue. The ball was turned decidedly upward. With regard to the cause, which is the interesting part, he learned the following: The mother when about two months pregnant saw her husband, a butcher, killing a cow. He had hit it on the head with an axe, crushing in the right side and causing the upturned eye to protrude. She hurried away, but the sight made a deep impression on her. Cause and effect, the author thinks, seem to be certainly apparent in this case.

Another Case of Maternal Impression.—Dr. Whyte Glendower Owen (*Medical News*, September 10th) records a confinement which he attended in which the child was an exact reproduction of one of Palmer Cox's "Brownies," with the grotesque features, froglike abdomen, and spindling limbs so familiar to all. Its most remarkable feature, however, was its cap—the thing which had puzzled him so greatly in making a diagnosis of the presentation. This consisted of a hood of fibrous tissue, of purplish hue, which originated in a space of probably two inches and a half on the top of the cranium and extended upward and outward about the same distance. The child weighed about eight pounds, was stillborn, and it was soon the centre of attraction for a curious throng of feminine neighbors who flocked in to view it.

Reverting to the cause of this *lusus naturæ*, the author ascertained that during the first month of the mother's pregnancy her little boy brought home a wooden "Brownie" about fifteen inches long, with its cap painted red. He threw this unexpectedly into his mother's lap, thereby giving her quite a shock, though afterward she was considerably amused upon examining the toy. Dr. Owen was extremely anxious to obtain possession of the child in order to submit it for inspection, but as this conflicted with the religious convictions of the parents he was unable to do so.

Snakebites and their Treatment.—Dr. B. Merrill Ricketts (*Cincinnati Lancet-Clinic*, September 3d), in a paper on Serpents and their Venom, referring especially to the copperhead, coral, and rattlesnake, draws the following conclusions:

1. The copperhead, coral, and rattlesnake are the only serpents in the United States which possess fangs, at the base of which is a sack containing a poisonous fluid.
2. The result of inoculation depends upon the dose, and the size of the human being or animal.
3. Most of the authentic cases of death by these serpents have been among children.
4. No authentic record of death, as the result of the bite of any of these snakes, has been found in the adult man by himself.
5. If death does not result within a few hours, it is not the venom, but other agencies, that produce it.

6. The bite of the cobra (?) is not so deadly as is generally supposed.

7. Overstimulation from alcohol and other agencies is, he believes, oftener the cause of death than virus inoculation.

8. The effect upon the body is more severe if the virus is injected into blood-vessels.

9. There seems to be no subject which is surrounded by so much uncertainty and exaggeration.

In the matter of treatment he says:

Treatment is general and local. The Australians were the first to use nitrate of strychnine intravenously. It is given this way hypodermically every twenty minutes until its physiological effects are produced, or until coma is overcome.

Hypodermic injections of alcohol, digitalis, atropine, and nitroglycerin are all more or less beneficial.

The wounds produced by the teeth should be injected with a (one-per-cent.?) solution of chromic acid, as should the surrounding swollen parts also. Chloride of gold or permanganate of potassium may be substituted for chromic acid. Massage of the swollen parts is highly beneficial, as is also washing out of the stomach, and the use of diuretics and diaphoretics. Jaborandi is also one of the most efficacious remedies.

He records cases in which treatment by hypodermic injections of strychnine (dose not stated) and bichloride of mercury with iodine were followed by success.

Testimony to the Red Cross Work.—According to the *Medical Record* for September 3d, Major J. F. Clarke, of the army medical service, in a letter to the *Philadelphia Medical Journal* from Camp Cuba Libre in Florida, bears willing testimony to the invaluable services of the Red Cross Society at that place. "No one," he says, "should write from the front without giving great credit to the Red Cross Society for the great work it is doing. Without the aid of this society it would have been difficult to care for the sick in this hospital. Each day the Red Cross gives us fifty gallons of milk, two thousand pounds of ice, thirty dozens of eggs. Besides this, it has built for us storehouses, floored our tents, given us hundreds of night-shirts, pajamas, pillows, sheets, buckets, bedpans, and dozens of other articles necessary for the care of the sick. In military channels the stream of supplies flows slowly and with many stops and much formality, but Dr. Kent, who represents the Red Cross here, gives freely and without delay. He has no regulation that prescribes how many bedpans one division must use, but gives all that are needed. This week, with the people of Jacksonville furnishing the motor power, he is going to put electric fans in all the tents."

The Cause of Ankylosis.—Dr. O. W. Phelps, of Britt, Iowa (*Railway Surgeon,* July 26th; *Medical Review of Reviews,* August 25th), cites a number of interesting experiments made by him in order to determine this question, after a review of which he says that the conclusions in his mind are clear that (1) motion is not necessary to preserve the normal functions of a joint. 2. A normal joint will not become ankylosed by simply immobilizing it for three or four months. 3. Atrophy of the muscles of the limb will follow prolonged immobilization of a joint. 4. These experiments have demonstrated to him conclusively that prolonged fixation will not produce ankylosis of a normal joint, and that motion is not essential for the preservation of normal functions. From these facts he infers that the cause of ankylosis must depend upon pathological conditions, and not upon fixation.

The question of ankylosis, in his mind, is determined by the severity of the inflammation, the duration of intra-articular pressure, and destruction of periosteum. He believes that the motion of an inflamed joint interferes with the process of repair and hastens ankylosis, and to prevent this calamity he considers it the duty of the surgeon to put the limb at absolute rest and to relieve intra-articular pressure by extension and immobilization. Inflamed joints treated by absolute rest will, he says, furnish far fewer cases of ankylosis, better motion, and less deformity.

Enterorrhaphy without Buttons, Plates, or Rings.—Dr. John I. Skelly (*Annals of Surgery,* September) thus describes an operation devised by him ten years ago, and which he asserts can be practised equally quickly with the Murphy-button operation: "A cuff half an inch wide is turned back on the distal end of the intestine and the mucous membrane is thoroughly removed. From the proximal end the serous coat is removed for half an inch. This operation is greatly facilitated by introducing some solid substance into the end of the intestine—a glass vaginal speculum or anal dilator.

"The mucous and serous coats removed, a fine catgut suture with a straight needle on each end is passed through the muscular coat of the proximal end. The needles are introduced about a quarter of an inch apart, and near the cut end of the gut. They are then passed through the exposed muscular tissue of the distal end near the line of denudation, and brought out beyond the edge of the cuff without penetrating the serous coat. These sutures are continued clear around the gut. When these sutures have all been placed the distal cuff is turned back over the denuded proximal end, and the sutures are tied. The serous coats of the proximal and distal ends are then united by either interrupted or continuous sutures. Some extra sutures may be necessary at the mesenteric attachment. If there is any doubt as to the proper coaptation of the mucous membrane, an opening may be made in the gut opposite the mesenteric attachment which will permit ocular inspection and the introduction of a finger for exploration. This has not been practised since the first early experiments. This operation is easily and speedily completed, and there is no foreign substance left in the bowel to annoy either patient or surgeon. Union is perfect, and there is no contraction."

"Tips" for Practitioners.—The following from the *Medical Sentinel* for September may prove useful reminders:

"When about to examine a septic case or one where syphilis is suspected, wash the hands in vinegar or dilute acetic acid, and the smarting will quickly disclose any little scratches or abrasions in the skin which might become the starting points of infection.

"Every physician should keep on hand sulphate of sodium to administer in carbolic-acid poisoning. It is a prompt and safe antidote."

The Pernicious Vomiting of Pregnancy.—Dr. G. W. Harris (*Medical Age,* August 25th) concludes a paper on this subject by stating that there are certain methods of procedure which the experience of this and similar cases he has met with lead him to accept as safeguards in future emergencies that may arise: First, in cases of uncontrollable vomiting of pregnancy, where the woman's health begins to fail and emaciation becomes marked, he counsels insistence on terminating the pregnancy, and, failing to gain the consent of the patient and her friends, withdrawal from the case at once. Secondly, where active interference is decided on in cases that come under treatment in the so-called third stage, he deprecates wasting time by the slower methods, and urges rapid dilatation and the emptying of the uterus at once. Thirdly, after emptying the uterus by this or any other method, the patient should always be left in charge of a competent nurse or a physician, at least during the twenty-four hours immediately following. This is important since, as in the case cited by him, the real crisis frequently follows immediately in the wake of the operation, and unless promptly met and effectually combated all previous efforts will have been in vain.

Uterine Stenosis as a Cause of Exophthalmic Goître.—Dr. Mary A. Spink (*Woman's Medical Journal*, September) records two cases of exophthalmic goître in which gradual dilatation of a stenosed os uteri by the negative pole of a galvanic battery caused the simultaneous subsidence of both diseases.

The Dressing of Arsenious-acid Cauterizations for Cancer.—Dr. de Lostalot dwells upon the importance of proper dressing after cauterization of facial cancroid with arsenious acid. As soon as the eschar has fallen, he recommends the application of the following paste, rendered mucilaginous by a few drops of boiled water:

℞ Oxide of zinc,
Subnitrate of bismuth, } ...... equal parts.
Gum arabic,

Under the influence of this application, repeated five or six times, cicatrization is generally obtained in eight days.

The Scientific Investigation of Psychic Phenomena.—Sir William Crookes, F. R. S., president of the British Association for the Advancement of Science (*Liverpool Daily Post*, September 8th), whose annual meeting took place this year at Bristol, concluded a remarkable address as follows:

"Upon one other interest I have not yet touched—to me the weightiest and the farthest reaching of all. No incident in my scientific career is more widely known than the part I took many years ago in certain psychic researches. Thirty years have passed since I published an account of experiments tending to show that outside our scientific knowledge there exists a force exercised by intelligence differing from the ordinary intelligence common to mortals. This fact in my life is, of course, well understood by those who honored me with the invitation to become your president. Perhaps among my audience some may feel curious as to whether I shall speak out or be silent. I elect to speak, although briefly. To enter at length on a still debatable subject would be unduly to insist on a topic which—as Wallace, Lodge, and Barrett have already shown—though not unfitted for discussion at these meetings, does not yet enlist the interest of the majority of my scientific brethren. To ignore the subject would be an act of cowardice—an act of cowardice I feel no temptation to commit. To stop short in any research that bids fair to widen the gates of knowledge, to recoil from fear of difficulty or of adverse criticism, is to bring reproach on science. There is nothing for the investigator to do but to go straight on, 'to explore up and down, inch by inch, with the taper of his reason'; to follow the light wherever it may lead, even should it at times resemble a Will-o'-the-wisp. I have nothing to retract. I adhere to my already published statements. Indeed, I might add much thereto. I regret only a certain crudity in those early expositions, which, no doubt, justly militated against their acceptance by the scientific world. My own knowledge at that time scarcely extended beyond the fact that certain phenomena new to science had assuredly occurred, and were attested by my own sober senses, and, better still, by automatic record. I was like some two-dimensional being who might stand at the singular point of a Riemann's surface, and thus find himself in infinitesimal and inexplicable contact with a plane of existence not his own. I think I see a little further now. I have glimpses of something like coherence among the strange elusive phenomena; of something like continuity between these unexplained forces and laws already known. This advance is largely due to the labors of another association of which I have also this year the honor to be president—the Society for Psychical Research. And were I now introducing for the first time these inquiries to the world of science, I should choose a starting-point different from that of old. It would be well to begin with telepathy; with the fundamental law, as I believe it to be, that thoughts and images may be transferred from one mind to another without the agency of the recognized organs of sense—that knowledge may enter the human mind without being communicated in any hitherto known or recognized ways. Although the inquiry has elicited important facts with reference to the mind, it has not yet reached the scientific stage of certainty which would entitle it to be usefully brought before one of our sections. I will therefore confine myself to pointing out the direction in which scientific investigation can legitimately advance. If telepathy takes place, we have two physical facts—the physical change in the brain of A, the suggester, and the analogous physical change in the brain of B, the recipient of the suggestion. Between these two physical events there must exist a train of physical causes. Whenever the connecting sequence of intermediate causes begins to be revealed the inquiry will then come within the range of one of the sections of the British Association. Such a sequence can only occur through an intervening medium. All the phenomena of the universe are presumably in some way continuous, and it is unscientific to call in the aid of mysterious agencies when with every fresh advance in knowledge it is shown that ether vibrations have powers and attributes abundantly equal to any demand—even to the transmission of thought. It is supposed by some physiologists that the essential cells of nerves do not actually touch, but are separated by a narrow gap which widens in sleep, while it narrows almost to extinction during mental activity. This condition is so singularly like that of a Branly or Lodge coherer as to suggest a further analogy. The structure of brain and nerve being similar, it is conceivable there may be present masses of such nerve coherers in the brain whose special function it may be to receive impulses brought from without through the connecting sequence of ether waves of appropriate order of magnitude. Röntgen has familiarized us with an order of vibrations of extreme minuteness compared with the smallest waves with which we have hitherto been acquainted, and of dimensions comparable with the distances between the centres of the atoms of which the material universe is built up; and there is no reason to suppose that we have here reached the limit of frequency. It is known that the action of thought is accompanied by certain molecular movements in the brain, and here we have physical vibrations capable from their extreme minuteness of acting directly on individual molecules, while their rapidity approaches that of the internal and external movements of the atoms themselves. Confirmation of telepathic phenomena is afforded by many converging experiments, and by many spontaneous occurrences only thus intelligible. The most varied proof, perhaps, is drawn from analysis of the subconscious workings of the mind, when these, whether by accident or design, are brought into conscious survey. Evidence of a region below the threshold of consciousness has been presented, since its first inception, in the proceedings of the Society for Psychical Research; and its various aspects are being interpreted and welded into a comprehensive whole by the pertinacious genius of F. W. H. Myers. Concurrently, our knowledge of the facts in this obscure region has received valuable additions at the hands of laborers in other countries. To mention a few names out of many, the observations of Richet, Pierre Janet, and Binet (in France), of Breuer and Freud (in Austria), of William James (in America), have strikingly illustrated the extent to which patient experimentation can probe subliminal processes, and can thus learn the lessons of alternating personalities and abnormal states. While it is clear that our knowledge of subconscious mentation is still to be developed, we must beware of rashly assuming that all variations from the normal waking condition are necessarily morbid. The human race has reached no fixed or changeless ideal; in every direction there is evolution as well as disintegration. It would be hard to find instances of more rapid progress, moral and physical, than in certain important cases of cure by suggestion—again to cite a few names out of many—by Liébeault, Bernheim, the late Auguste Voisin, Bérillon (in France), Schrenck-Notzing (in Germany), Forel (in Switzerland), Van Eeden (in Holland), Wetterstrand (in Sweden), Milne-Bramwell and Lloyd Tuckey (in England). This is not the place for details, but the *vis medicatrix* thus evoked, as it were, from the depths of the organism, is of good omen for the upward evolution of mankind. A formidable range of phenomena must be scientifically sifted before we effectually grasp a faculty so strange, so bewildering, and for ages so inscrutable, as the direct action of mind on mind. This delicate task needs a rigorous employment of the method of exclusion—a constant setting aside of irrelevant phenomena that could be explained by known causes, including those far too familiar causes, conscious and unconscious fraud. The inquiry unites the difficulties inherent in all experimentation connected with mind, with tangled human temperaments, and with observations dependent less on automatic record than on personal testimony. But difficulties are things to be overcome even in the elusory branch of research known as experimental psychology. It has been characteristic of the leaders among the group of inquirers constituting the Society for Psychical Research to combine critical and negative work with work leading to positive discovery. To the penetration and scrupulous fair-mindedness of Professor Henry Sidgwick and of the late Edmund Gurney is largely due the establishment of canons of evidence in psychical research, which strengthen while they narrow the path of subsequent explorers. To the detective genius of Dr. Richard Hodgson we owe a convincing demonstration of the narrow limits of human continuous observation. It has been said that 'nothing worth the proving can be proved, nor yet disproved.' True though this may have been in the past, it is true no longer. The science of our century has forged weapons of observation and analysis by which the veriest tyro may profit. Science has trained and fashioned the average mind into habits of exactitude and disciplined perception, and in so doing has fortified itself for tasks higher, wider, and incomparably more wonderful than even the wisest among our ancestors imagined. Like the souls in Plato's myth that follow the chariot of Zeus, it has ascended to a point of vision far above the earth. It is henceforth open to science to transcend all we now think we know of matter, and to gain new glimpses of a profounder scheme of cosmic law. An eminent predecessor in this chair declared that 'by an intellectual necessity he crossed the boundary of experimental evidence, and discerned in that matter, which we in our ignorance of its latent powers, and notwithstanding our professed reverence for its Creator, have hitherto covered with opprobrium, the potency and promise of all terrestrial life.' I should prefer to reverse the apophthegm, and to say that in life I see the promise and potency of all forms of matter. In old Egyptian days a well-known inscription was carved over the portal of the temple of Isis: 'I am whatever hath been, is, or ever will be; and my veil no man hath yet lifted.' Not thus do modern seekers after truth confront Nature—the word that stands for the baffling mysteries of the universe. Steadily, unflinchingly, we strive to pierce the inmost heart of Nature, from what she is to reconstruct what she has been, and to prophesy what she yet shall be. Veil after veil we have lifted, and her face grows more beautiful, august, and wonderful with every barrier that is withdrawn."

The Atlantic City Hospital.—We are informed that the following appointments have been made to the medical staff of this new hospital: Dr. W. B. Stuart, Dr. A. B. Shimer, Dr. A. D. Cuskaden, Dr. Emery Marvel, Dr. T. Senseman, and Dr. F. W. Bennett. Our information also states that four homœopaths, whose names, however, are not given, have been also appointed.

Champagne for the Sick and Wounded.—Champagne, as is well known, often proves an efficient remedy for certain morbid conditions. Some observers consider it particularly valuable in the treatment of yellow fever. Its cost, of course, renders it ineligible to the lists of commissary and medical stores. It is much to the credit of the French firm of Messrs. G. H. Mumm & Co. that they furnished to the surgeon general of our army, during the stay of our soldiers in Santiago, a large quantity of their well-known champagne, a hundred cases, we understand.

The Cohoes City Hospital, which was to have been opened for patients on October 15th, was opened on September 5th, to meet the emergency caused by the railway disaster which happened on that date, when a train crashed into a trolley car, killing fourteen persons and wounding fifteen. Although the bedding and furniture were in crates at the time, things were got ready hurriedly, and the injured, some of whom had been terribly mangled, are doing well. Dr. C. S. Prest is the resident physician.

Original Communications.

THE HISTORY OF A CASE OF CEREBRAL ABSCESS OF UNUSUAL ORIGIN.*

By CHARLES PHELPS, M. D.

Abscess of the brain disconnected with disease of the internal ear is still sufficiently infrequent to justify the record of individual cases, and the history of the one which follows is so far unique as to be specially worthy of detailed description:

The subject was a young man, twenty-five years of age, who had never suffered disease of any part of the auditory passages, who had never received an injury of the head, and who had never been contaminated by the poison of syphilis. He was evidently of a strumous diathesis. His right lower extremity was shortened from the effects of an arthritis of the hip which had existed in childhood, and he bore many deep cicatrices occasioned by abscess in various parts of the body, including the neck and extremities. These abscesses and the arthritis were in progress from his fifth to his thirteenth year. During the later years of this period abscess so repeatedly formed in the left posterior parietal region as to make it probable that a persistent sinus existed, which was closed from time to time, with consequent purulent accumulations. No history could be obtained of pulmonary or glandular lesion. For an interval of ten years there were no suppurations, and his health remained good. In February, 1896, an abscess not preceded by cephalic injury was again formed in the left posterior parietal region, and was attended by intense pain in the head until relief was afforded by incision. In August, 1897, another abscess formed in the same region, and intense pain in the head was again at once relieved by incision made after the lapse of many days. The pain, which was at first dull and general, gradually increased in severity and became localized in the parietal region as the swelling became evident. The wound healed by granulation. The remembrance of the intensity of the pain he had suffered was afterward always in his mind and the source of constant apprehension. He felt no doubt of its recurrence, and at length sought other medical advice in the hope of earlier relief by operation when the paroxysm should come. During this period, as before, his mental faculties and muscular functions were unimpaired and his special senses undisturbed. His health was good and he was engaged in his usual occupations. On February 1, 1898, he consulted Dr. D. J. Donovan, who suspected intracranial disease. He was then suffering from a dull headache during the day which became sharp and piercing at night and prevented sleep. The pain was sometimes frontal or temporal and sometimes occipital. He was anæmic, though his pulse was slow (65), and his stomach was disturbed. His heart and lungs were in normal condition. A little later he was sent to me by Dr. Donovan, for examination. From this time the pain became more severe, and the constitutional condition more deranged; loss of sleep, anorexia, nausea, and constipation continued, with increasing prostration; food and medicine were vomited; no mitigation of pain was obtained by medication; temperature ranged from 99.6° to 100°. During the night of March 7th to 8th there were two left unilateral convulsions, and on March 9th two more. After the first convulsion the left upper extremity was paretic, with muscular twitching, and the mental condition became dull.

He was sent to St. Vincent's Hospital, March 10th, and was then stupid, though conscious and rational. His nutrition was good and vision normal; temperature, 98.7°; pulse, 76; respiration, 24. Pain in the right side of the head was especially severe; the pupils were slightly dilated but responsive to light; the mouth was slightly drawn to the right side; there was incomplete paralysis of the left upper extremity with contraction of the fingers. There was no other loss or impairment of muscular function. In the evening, during a paroxysm of pain, he threw himself upon the bed and contused the left eye; this was followed by a tetanic convulsion of the left face and left upper extremity lasting four minutes. The temperature rose to 99.2°; pulse, 72; respiration, 24.

On the following day, March 11th, he was subjected to operation. The site of cicatricial depression upon the left side had been originally selected for trephination, but the later development of focal symptoms of abscess led to the making of the cranial opening over the motor centre for the left arm. It was ascertained by a preliminary curved incision that no obvious disease of the bone existed in the situation first mentioned. The trephine used was an inch and a quarter in diameter; the bone and pericranium at the site of operation were found to be of normal thickness and unaltered in character. Pus at once flowed freely from a wound made in the dura mater posteriorly by the trephine, and afterward from an incision made in the central part of its exposure. This discharge, which was thick, yellow, and inodorous, and from three to four ounces in amount, afforded upon subsequent examination pure cultures of the *Staphylococcus pyogenes aureus*. A small quantity of darker and less laudable pus was also seen to flow from the upper surface of the dura mater, though the inferior surface of bone, so far as it could be reached, was smooth and apparently free from disease.

After irrigation with a solution of mercury bichloride, 1 to 10,000, a drainage tube was placed between the dura mater and the bone, and some strands of silkworm gut in the cerebral cavity, and the wound in the scalp was closed by sutures, except in its posterior portion, in order to restrain the exuberance of the inevitable fungus cerebri. During the operation, which required little time, the pulse became exceedingly weak, rapid, and irregular, and much stimulation was required, but reaction from the anæsthetic was rapid. The mental condition of the patient was at once notably improved and his headache relieved. Temperature rose to 102°; ten hours later the temperature was 99°, pulse, 72, and respiration, 24.

From ten o'clock in the morning till nine in the evening of the following day he had nineteen convulsions, of which seventeen were left unilateral; one also involved the right leg, and one was general; each began in the left upper angle of the mouth. Five occurred in the last two hours. As their frequency was increased and it was thought possible that they might be occasioned by dural irritation, the epidural drainage tube was removed; two slight paroxysms occurred during the night, and none at any time thereafter.

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* Read before the Society of Alumni of Bellevue Hospital, June 1, 1898.

The wound was dressed daily; the silkworm drainage strands were removed on the third and fourth days and their track irrigated; from this time intracranial discharge definitely ceased.

On the day following operation ophthalmoscopic examination, which had been hitherto neglected, was made by Dr. P. A. Callan, and was repeated by him at intervals of one to two weeks during the progress of the case. At the first examination choking of and œdema of both of the discs was noted, with hæmorrhages into the left; at the second examination hæmorrhages had also occurred into the right. The œdema and choking of the discs was found to increase at successive examinations and became intense. There was moderate photophobia during the first month and slight dilatation of the left pupil late in the second. Vision, in the opinion of the patient, was unaffected, and the movements of the eyes were unimpaired. He was able to read the daily journals till within a few days of his death.

On the second day urinary control was regained, headache further relieved, paralysis diminished, and mental condition improved. On the fifth day after operation paralysis of the left upper extremity began to again increase and was soon complete. On the eighth day pulsation was felt through the scalp, and on the fourteenth day the incision was reopened and a fungus cerebri exposed. Until the twenty-first day the fungus, which was about the size of a mandarin orange and was covered by simple granulation tissue, did not increase. There was pulsation at only a single point, and moderate purulent discharge from the granulating surface. The left upper extremity could be moved only at the shoulder joint and by the action of the extensor muscles alone. The mental condition was normal, the appetite was good, and the special senses were all unimpaired. Pain in the right side of the neck was each morning of sufficient severity to cause complaint. The temperature became normal on the fourth day, and afterward during this period ranged from normal to 99° +, and but once reached 100°. The pulse was usually below 90, with a maximum of 96, and the respiration varied from 22 to 26.

On the twenty-first day a mass of softened and necrotic material, apparently disintegrated brain tissue, was forced upward through a small opening in the centre of the fungus and through a larger opening in its anterior portion. The extrusion and detachment of this necrotic tissue continued afterward in greater or less degree.

From the twenty-first to the thirty-first days the patient's general health improved, his appetite was still good, and with the use of tincture of chloride of iron his color became better. His mental condition was normal, he was cheerful, and he slept well. Considerable masses of brain tissue continued to be extruded and were detached, and the fungous mass was rather larger and more compressible. Pain occurred at intervals in the left foot and leg. The temperature, pulse, and respiration had essentially the same range as in the former period.

At the beginning of the second month paralysis of the left upper extremity was complete, and the left lower extremity was paretic. Tactile sensibility was diminished in both left extremities and in the whole left side of the body. The fungus increased in size. A little later the patient became stupid and apathetic, his sleep was disturbed, and his appetite failed. The fungus was then removed by a catgut ligature, and as it reformed, superficial portions were afterward detached and removed from day to day. His mental condition became brighter and his general health again improved. Pain occurred at frequent intervals throughout the month, almost daily, always on the left side of the body, and usually in the leg or shoulder. Left hemiplegia became complete; but facial paralysis was still noticeable only in a slight retraction of the angle of the mouth upon the right side when he smiled. An intercurrent bronchitis of some severity somewhat later was followed by renewed constitutional disturbances: mental dullness, loss of appetite, and increasing anæmia. The temperature, pulse, and respiration were not markedly higher than in the first month, though the temperature occasionally rose to 100° or 100° +, and the pulse rather more frequently reached 100.

On the fiftieth day the fungus had decreased in size, was no longer sloughy, and its margin was well covered by healthy simple granulations. His general mental and physical condition was in every way satisfactory and hopeful. His temperature was normal.

On the fifty-first day he rather suddenly began to suffer pain in the back of his head and right side of his neck; he vomited a considerable amount of undigested food, and his temperature rose from 98° in three hours to 103°. On the fifty-second day he was stupid, and at night slightly delirious. His temperature throughout the day was 104.4° The fungus was sloughy, and was again ligated and cut away.

On the fifty-third day he was mentally dull, slightly delirious, restless, and suffering pain in the head, right side of the neck, and left lower extremity. There was dilatation of the left pupil, with muscular twitching of the left side of the face and lower extremity, and for the first time since the day following operation loss of fæcal and urinary control. Temperature rose to 105.4°, and receded to 104°. The cervical glands on the right side, beneath the sterno-mastoid muscle, which were already enlarged, became swollen and painful.

On the fifty-fourth and fifty-fifth days he was less stupid and more rational, his temperature was lower, 104.6° to 102.4°, and, as he said, he felt better.

On the fifty-sixth day semiconsciousness lapsed into coma, with Cheyne-Stokes respiration, and temperature rose to 107.4°.

On the fifty-seventh day after operation he died, the temperature having risen to 107.8° F. Thirty minutes post mortem the temperature had fallen to 106.6°. During the last fifteen minutes of life respiration was reduced to three in the minute.

Portions of tissue removed from the fungous mass were submitted to Dr. D. H. McAlpin, pathologist of the hospital, and examined at the Carnegie Laboratory during the life of the patient. I insert the report which I have received from Dr. Carlin Phillips detailing its microscopic characters:

"Many of the sections show areas of necrosis with colonies of bacteria, evidently staphylococci. About these areas are evidences of newly formed granulation tissue with branching capillaries, fibroblasts, leucocytes, hæmorrhages, etc. In all the sections purulent foci are seen in abundance. In the midst of the granulation tissue, which is extremely œdematous, are seen evidences of cortical substance infiltrated with inflammatory products. The various layers of ganglion cells with neurog-

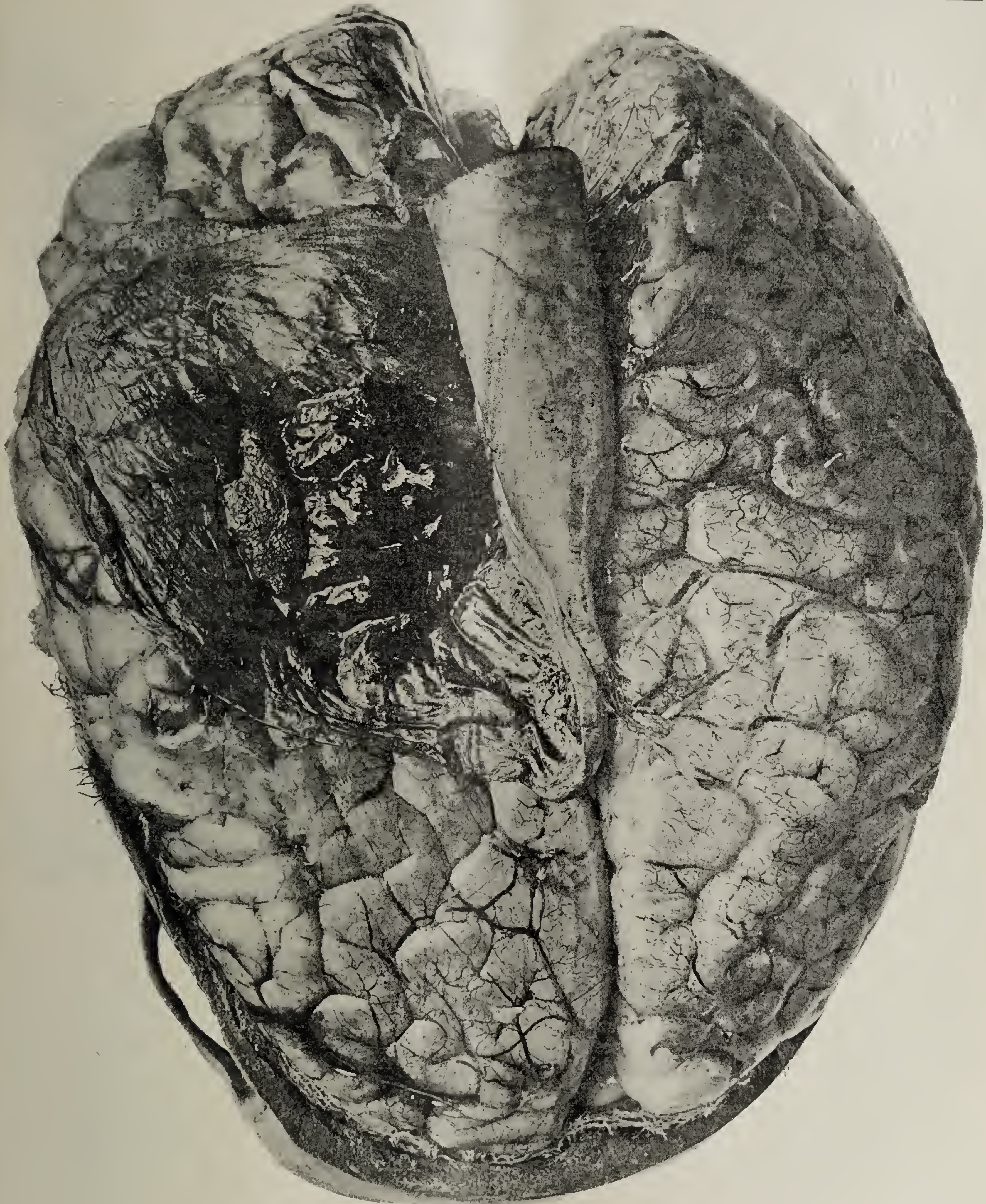

Fig. 1.

liar network are in places easily made out. There are no nuclear changes in the neuroglia cells that present evidences of a proliferation. Hence we must explain the presence of cerebral tissue by assuming that it is an extrusion produced, first, by the marked œdematous condition of the cortical tissue, and second, by the accumulation beneath these areas of the purulent material which tends to force outward the cortical tissue in front of it. The exact origin of the granulation tissue can not be made out microscopically."

Dr. Alexander Lambert, to whom the same fungous material was sent for microscopical examination, found it to contain "irregular masses of brain tissue markedly infiltrated in places with leucocytes, and with hæmorrhages scattered through the brain substance, also areas of granulation tissue and of necrosis, and in some places cells which resemble the spider cells of glioma."

Necropsy made five hours post mortem: Body still warm, and fungus still protruding from the anterior and external borders of the semicircular flap raised from the scalp during life in the right posterior parietal region. Semicircular incision in left posterior parietal region, including in its extent two small depressed cicatrices entirely healed. Periosteum much thickened in parietal and occipital regions on the left of the median line; on the right side, of normal thickness and appearance.

Calvaria: External surface normal in appearance, except for trephine and rongeur opening on the right side, of which the margin was still sharp and unaltered; small opening existed through the median line in the mid-vertex, barely admitting a large probe, and having its margin of external table eroded and exposing the diploe. Internal surface: A depression in bone on the left side, an inch and a half antero-posteriorly by an inch laterally in diameter, underneath old cicatrices in the scalp, the site of former caries of bone now cicatrized; caries of internal table, extending four inches anteriorly from the occipital tuber in the line of the sagittal suture, and at two points each of one inch in length broadening to three fourths of an inch; edge of trephine opening, anteriorly and externally, necrotic, with small loosened fragments; calvarium in its left half of nearly twice the thicknes sof the right, measuring three eighths of an inch in parietal and three sixteenths of an inch in squamous portion.

Dura mater: Normal on the right side of the brain, but much thickened on the left, an eighth of an inch diminishing to a sixteenth of an inch in thickness from median line to temporal region; falx cerebri and walls of longitudinal sinus also much thickened; pachymeningitis externa, with grumous pultaceous exudation, confined to site of old carious process on the left side and to that of the present active process in the median line; internal surface of the membrane normal.

Arachnoid membrane: Small quantity of thin, semiopaque, yellowish fluid covering surface of brain, mainly upon the left side, and occurring in larger amount in posterior basic fossa; under surface of cerebellum, pons, and left temporal lobe, and anterior surface of medulla covered with a thick, yellowish, pasty exudation.

Brain: Calvaria removed without disturbing fungus cerebri, and the adjacent dura covering vertex of both hemispheres left *in situ;* whole viscus softened, but much more markedly upon the right side; dura mater adherent to the cerebral surface about the margin of the fungus. Sections made by Dr. McAlpin.

I am again indebted to Dr. Carlin Phillips, who has studied the topography of the diseased area.

Longitudinal section: The right hemisphere just anterior to the Rolandic fissure is a dark, fungous mass projecting through and involving the dura mater. This mass measures about six centimetres in diameter and extends to within two centimetres of the longitudinal fissure. Owing to the disintegration of the brain substance, its exact relationship can not be made out. A longitudinal section of the hemisphere, taken four centimetres from the longitudinal fissure, presents the following picture: From the surface of the dura in the pre-Rolandic region a dark mass extends downward, involving everything, even into the floor of the lateral ventricle. Passing backward, the involved areas seem to follow the lines of the ventricle even into the posterior horn. In this region the hæmorrhagic area extends from one centimetre to two centimetres on either side of the ventricle; anteriorly the mass involves the upper posterior portion of the corpus striatum, extending forward and involving the upper posterior third of the white matter of the frontal lobe. The cortex of the frontal lobe appears in the gross to be uninvolved.

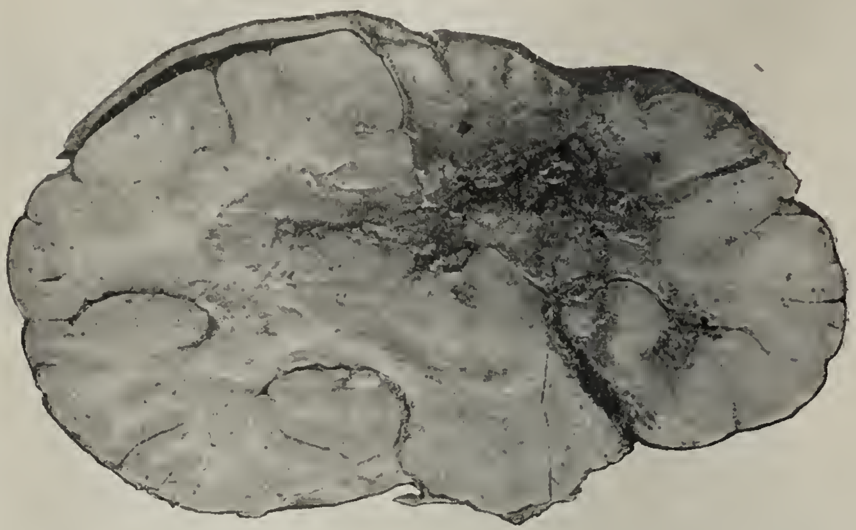

Fig. 2.

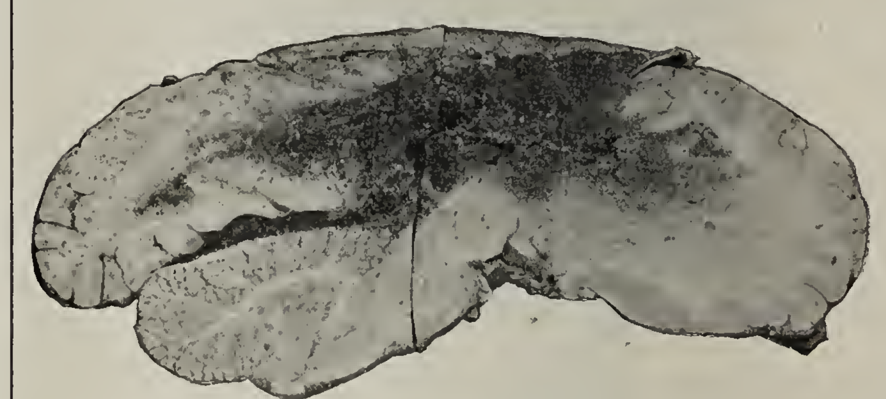

Fig. 3.

Transverse section, looking forward: The dura mater over the left ventricle and the falx cerebri are seen to be markedly thickened, and on the right side all the membranes are included in the morbid process. The third ventricle is distended and filled with hæmorrhagic material. The outline of the right ventricle is obliterated, and apparently all its walls are included in the morbid process. In the right temporo-sphenoidal lobe especially are small groups of punctate hæmorrhages. The entire right centrum ovale is softened and œdematous, and also the left, but in a much less marked degree.

Had the consistence of the tissues permitted section without resort to a hardening process, the exact limits of the diseased part might have been better observed, and the extent of the abscess cavity which has been incidentally obliterated might have been displayed. The brain itself, which I present, has suffered no further change; and the photographs made by Mr. Mason, of

Bellevue Hospital, the eminent photographer of pathological subjects, exactly reproduce its minutest lines. I regret my inability to show the calvarium or its photographic reproduction, of which I am deprived owing to the circumstances under which necropsy was made.

The post-mortem revelations make clear not only the recent, but the earlier procession of related pathic processes in the formation of this rather unusual instance of cerebral abscess. In the absence of a detailed history of the early epicranial suppurations it is not certain whether they were the result of antecedent caries of the inner table of the calvaria, or whether they constituted the primary lesion from which the bone became infected; there can be no doubt as to the relation of the more recent and still active caries to the later abscesses. In the long interval of health which followed the epicranial suppurations of childhood the osseous lesion healed. At a later period a renewed carious process, involving the mid-parietal region, was followed by an epidural accumulation of pus upon the left side, which in time (February, 1896) came to exert such pressure as to at length force itself through the biparietal suture and to form an epicranial abscess which was tardily relieved by incision and subsequently healed. A similar epidural pyogenic process with a similar history of secondary superficial abscess, relieved by long-deferred incision, occurred in August, 1897, and was followed by another prolonged interval of apparent recovery. It is conceivable that sufficiently careful examination at either of these crises might have discovered the intracranial source of suppuration, and suggested such radical methods of treatment as would have arrested the subsequent progress of the disease to a fatal termination. In February, 1898, or at some time during the period which had elapsed since the outbreak in August preceding, the continuance of the epidural suppurative process resulted in an infection of the opposite (right) parietal lobe and the formation of this cerebral abscess which in March reached the surface.

On each of the two occasions upon which epidural pus, by increasing pressure, was forced through the minute opening in the biparietal suture to form an epicranial abscess, the crisis was marked by pain in the head, at first dull and diffuse, but gradually increasing in severity and diminishing in area, until it became at length almost intolerable, and strictly limited to an evident external tumor. The patient and his family expected with absolute conviction a repetition of this sequence of pain, external abscess, and relief by incision; and when in February last dull pain began and gradually increased in severity, it is not strange that their anticipations should have been shared by his physician and myself. I had correctly interpreted the nature of the previous attacks, culminating in epicranial abscess, and had therefore advised operation, but was quite unprepared for the development of a cerebral abscess which became manifest during the short interval of delay which circumstances compelled.

Certain points in symptomatology invite special remark.

The choking and œdema of the optic discs and the retinal hæmorrhage, which were observed by ophthalmoscopic examination immediately after the operation, when intracranial pressure had been measurably relieved, and which progressively increased throughout the progress of the case, afforded an almost conclusive prognostic indication. The extensive nutritive changes which were thus known to have existed at the time the abscess was evacuated, and the advance of which, as it was thus seen, the removal of their cause was powerless to check, could only result in the continued disintegration and extrusion of the cerebral tissue until terminated by the exhaustion of the patient or by the intercurrence of some new infective process. Even the hope engendered by a long continuance of a satisfactory general condition—an almost normal pulse and temperature, unimpaired mental faculties, and improving nutrition—could only prove to be illusive in view of this obvious persistence of pathic structural changes.

The sudden occurrence of the unilateral convulsions and limited paralysis, which immediately preceded the evacuation of the abscess, indicate its central origin and the final invasion of the cortex; and the instant free discharge of pus upon incision of the dura mater makes it no less evident that the cerebral surface had already been ruptured. The patient certainly should have suffered at the time of superficial rupture a consequent acute arachnitis of intensity, but his whole history shows remarkable powers of resistance, not less to pathogenetic influences than to the ravages of acquired disease.

The great number of convulsions, commencing on the morning after operation and continuing with increasing frequency through the day, it was thought might have its source in a dural irritation caused by the drainage tube which had been left in the existent epidural space. The extreme sensitiveness of the external surface of the dura mater to irritation has been exemplified in the history of certain pistol-shot wounds in which excessive pains or violent convulsions were induced by a small fragment of bullet resting upon that membrane. The fact that in this case convulsions at once ceased upon the removal of the tube, without subsequent recurrence, seemed to confirm the correctness of the view which had been taken of their immediate cause.

The focal or localizing symptoms presented were unusually distinct, and of the highest importance in the clinical study of the case. Cerebral abscess is so generally central, or if it approach the surface so preferably tends toward the basal cortex, that the motor zone is rarely implicated. The primary paralysis of an upper extremity, with digital contraction, pointed unmistakably to its centre of control as the seat of a pathic process. The progressive and eventually complete hemiplegia, and the later hemianæsthesia, with trivial and stationary facial paralysis, supplemented ophthalmoscopic examination and the direct visual observation of the disintegration and extrusion of cerebral tissue, by determining the limit as well as the direction of the extension of disease.

The absolute integrity of all the mental faculties, without either aberration or decadence, may perhaps be regarded as having a negative value in localization. The observation of this case is at least in line with that of others made and published by the writer, which tend to show a special control, resident in the left frontal lobe, over the intellectual manifestations. In those cases, which were those of traumatisms, the same amount of structural alteration of the right frontal lobe which this case presented was unattended by deviations from the normal mental condition aside from delirium or unconsciousness, while lesions of the left lobe were marked by perverted or deficient mental activity.*

The enlargement of the cervical glands, which was noted in connection with a previous case reported by me,† and was again observed in the present instance, may or may not prove to have a diagnostic significance. Two cases are insufficient for generalization, but they are two out of five, which has been the limit of my experience, and as an attendant condition seem to me deserving of further attention in order to determine whether it is an accidental complication or a resulting symptomatic indication of the cerebral lesion.

The normal or but slightly elevated temperature and the unaccelerated pulse and respiration which attended the formation of this abscess, continuing even at the time of its evacuation, were rather characteristic than exceptional conditions of its progress. The persistence of a scarcely higher temperature and pulse rate during the many weeks of subsequent illness up to the time of access of the final complication was consistent with the nature of the altered pathogenic process, which, no longer to any great extent pyogenic, had become a simple disintegration of tissue from passive serous infiltration.

The termination of the case by a late meningeal infection was marked by an abrupt change of symptoms which in traumatic cases of arachnitis, ingrafted upon cerebral lesions, I have found to be characteristic. The sudden rise in temperature from 98.8° to 103°, which occurred between nine o'clock in the evening and midnight of the fifty-first day after operation, and was succeeded by stupor and delirium, undoubtedly indicated not only the day but almost the hour of the new septic invasion. An abrupt exaltation of temperature, with a coincident access or increase of mental disturbance, I believe to be diagnostic of the supervention of arachnitis, if of pyogenic grade, in the class of cases mentioned. In this case of similar cerebral lesion of different origin it was inferred, correctly as the event proved, that a similar development of symptoms should have the same interpretation.

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* Phelps. *New York Medical Journal*, vol. li, No. 3, 1890.

† Phelps. *Injuries of the Brain*, etc.

THE USE OF

THE BERNAYS ASEPTIC SPONGE IN THE NOSE AND NASOPHARYNX,

WITH SPECIAL REFERENCE TO ITS USE AS A PRESSURE HÆMOSTATIC.*

By W. K. SIMPSON, M.D.

The Bernays aseptic sponge, so named after Dr. A. C. Bernays, of St. Louis, its originator, is an artificial product composed of properly prepared cotton fibre, subjected to many hundred pounds' pressure, cut in a circular form with a die, and presented for our use in the shape of compressed circular discs about a sixteenth of an inch in thickness, and of two sizes: the small, an inch and a quarter in diameter, and the large, an inch and a half in diameter.

"The absorbing power of these sponges is much higher than that of gauze, cotton, or sea sponge." †

"A Bernays sponge, an inch in diameter, when dropped in water, absorbs the liquid and extends to more than fifteen times its size, absorbing twelve times its weight of fluid." ‡

"The sponges are made absolutely aseptic by compression and subjection to disinfecting vapors." #

The efficacy of their use in general surgery depends on their great absorptive power, thus enabling them to be used as ordinary sponges in the cleansing and sponging of wounds during operation, and in the subsequent packing and drying of wound cavities. After their use, they are thrown away, avoiding the necessity of fresh sponge preparation.

As their power of absorption continues they become very much increased in size, thus being able to exert great pressure, limited only by the opposing sides of the cavity in which they may be placed. When brought to my attention in a general way about two years ago, it at once occurred to me that they could be utilized with excellent effect as a pressure hæmostatic in controlling intranasal and postnasal hæmorrhage, from whatever cause. I have used them during this time for that purpose in a great number and variety of cases, and can confidently say that as a means of controlling hæmorrhage, both in the convenience of application and positiveness of result, they have proved, in my hands, superior to any of the usual methods at our disposal.

The advantage of the use of the Bernays sponge as a tampon is very marked in comparison with the usual method of packing the anterior or posterior nares with absorbent cotton or long strips of gauze, which we know is often a matter of great tediousness of accomplishment and uncertainty of result, frequently necessitating numerous repetitions, and perhaps abandonment of the method, before a complete cessation of the bleeding is secured. These inconveniences are almost entirely if not completely overcome by the simplicity of application and the great pressure caused by the rapid absorption and enlargement of the artificial sponge now under consideration.

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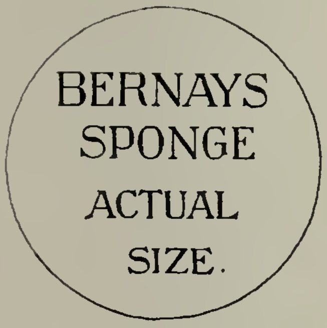
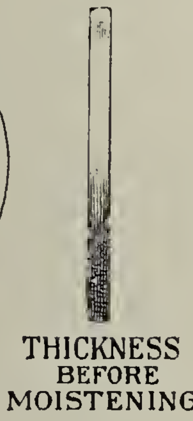
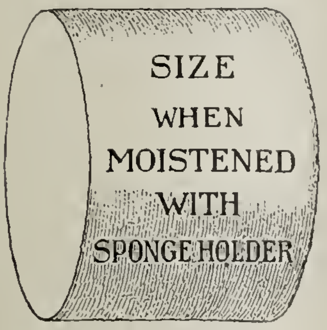
* Read before the American Laryngological Association at its twentieth annual congress.

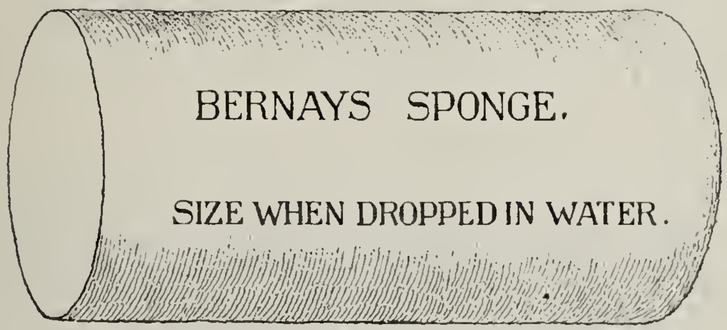
† *Asepsis.* Johnson & Johnson. ‡ *Ibid.* # *Ibid.*

This can be fully appreciated in treating severe forms of epistaxis or secondary hæmorrhage remotely following operations, and also in the security it affords us in controlling immediate hæmorrhage at the time of operation, or during the time the patient is sent away with the nose tamponed. The slow absorptive power and ease of supersaturation of absorbent cotton and gauze do not guarantee us against recurring hæmorrhage.









Mode of Application in the Nose.—The circular shape of the sponges being unsuitable for intranasal application, they should be cut in a semicircular form of the desired size, and then, with the nostril well dilated and illuminated, inserted with the convexity upward parallel with the sæptum, either with forceps or the hand. The thinness of the sponge allows it to be adjusted with ease to any remote point within the nasal cavity, when at once it will begin to absorb and increase in size.

They are removed with the forceps, or, if it has been necessary to place them very high up, or if the patient has been directed to remove them, a small hole may be made in the proximal end, to which a ligature may be fastened.

The pressure of these sponges within the nose is often very great, causing a proportionate amount of inconvenience. This may be overcome by splitting the sponge according to the size which we may deem sufficient. The patient may be furnished with a properly shaped sponge for self-introduction in case of anticipated anterior hæmorrhage. In shaping them, it is necessary to use a very strong and sharp scalpel or strong sharp scissors so as to prevent tearing the edges. For tamponing the posterior nares, the smallest size disc may be used, in some cases without any shaping; but if too large, a small piece may be cut from either side of the disc, and, after a hole is made in either end for the reception of the strings, the plugging may be proceeded with in the usual manner. In fastening the string in the sponge for posterior tamponing, it is well to leave sufficient loop so as to give the sponge a full space for enlarging.

Other Uses.—Although I have principally used them as a pressure hæmostatic, there are other purposes for which they may be used, some of which I have employed, and others which suggest themselves.

I have found them to serve as an excellent *splint* in the later stage of the Asch operation for deflected sæpta; notably in one case where the hollow tube could not be well adjusted, and where there was an overcorrection of the deformity to the convex side. The Bernays sponge acted perfectly as a splint in this instance, bringing about a complete correction. This suggests their use wherever an intranasal splint is required, especially in fractures.

They are extremely useful in preventing adhesion of apposing surfaces after operation in narrow portions within the nares, and may be covered with very thin rubber tissue so as to prevent too rapid swelling.

As an intranasal dressing, they serve an excellent purpose by absorbing the discharge, leaving the wound extremely clean; the wound itself or the sponge may be dusted with an antiseptic powder.

The sponge also may be used for conveying medicament to various portions within the nose; for producing irritation and moisture in cases of atrophic rhinitis, and for the application of cocaine prior to operation. For the latter purpose it is best to split the sponge before using.

Sometimes before using it may be advisable to moisten them very slightly, in order to hasten their absorptive properties. As with all nasal tampons, hæmorrhage may be reestablished on their removal; this may be somewhat overcome by previously applying an aseptic ointment to the sponge, which will facilitate its removal.

It was my intention to present with this communication a series of properly shaped sponges for intranasal and postnasal use, and negotiations were under way, but had to be discontinued by the manufacturers on account of the heavy demand for hospital supplies incident to the present war.

When ready, I think the nasal-shaped sponges will be an added advantage.

In presenting this device to the association, I think we will find it a most valuable addition for the uses indicated. The sponges are prepared by Johnson & Johnson, and can be procured at all dealers in surgical dressings.

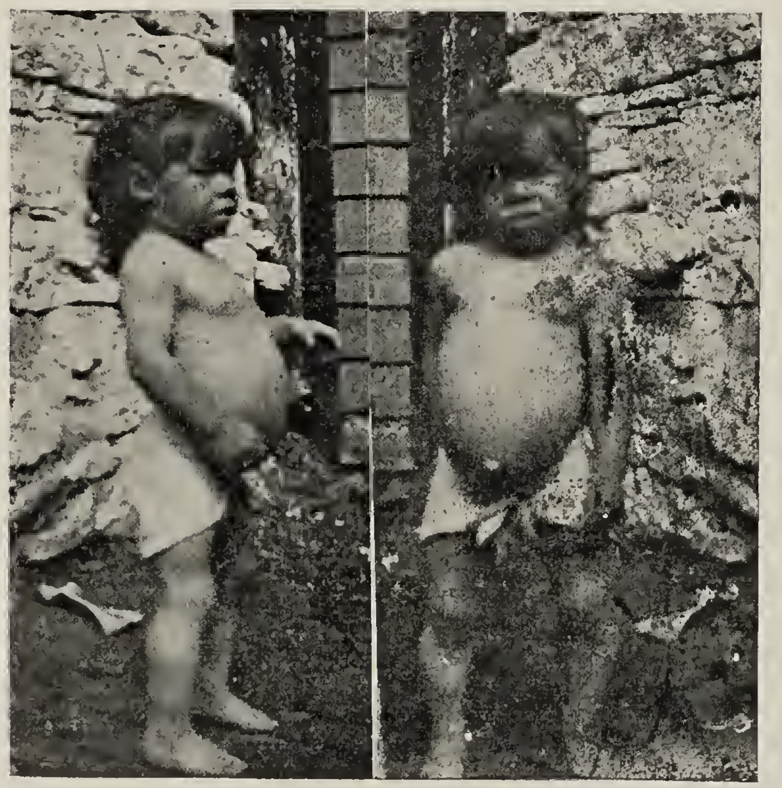
952 LEXINGTON AVENUE.

A CASE OF

CRETINISM FOLLOWING AN ATTACK OF ACUTE THYREOIDITIS.

By EDMUND SHIELDS, M. D.,
CINCINNATI.

THE following illustrates a well-marked example of cretinism, following an attack of acute thyreoiditis in a child of ten months of age: The child is one of a family of four children, two having died of diphtheria at the age of four and seven respectively. The youngest, sixteen months old, is living. The children were of normal size and development. The parents are normal in size and development. The child was well and normally developed until ten months of age, when she had an attack of acute thyreoiditis. The attack lasted about a week; it was accompanied by fever, swelling of the thyreoid, and symptoms of pressure on the trachea. The throat was normal in appearance on the inside. There was no abscess formation; the swelling and fever disappeared, with complete atrophy of the thyreoid. The child's growth and development ceased immediately after this attack, and she developed the usual appearance of a typical cretin. She is now seven years of age. She is thirty-three inches high and weighs thirty-three pounds. The intellectual condition is not developed; she says only a very few simple words. About eighteen months ago I treated her for a short time with thyreoid extract with marked improvement. Her skin and hair became more normal, the tongue protruded less, and the child looked brighter.



2008 TORRENCE ROAD.

ENLARGEMENT OF THE LINGUAL TONSIL AS A CAUSE OF COUGH.*

By BEVERLEY ROBINSON, M. D.

FOR many years past it has been recognized by most laryngologists that chronic enlargement (hypertrophy) of the lingual tonsil is a cause of cough. I do not believe, however, that many of us have appreciated the frequency of this condition in a greater or less degree, because it does not invariably occasion annoying symptoms. This statement is essentially true when the lingual tonsil has increased slowly in size and in individuals of a somewhat sluggish or lymphatic temperament. Even in these instances a time will come when constriction of the throat, the sensation of a foreign body in the region of or above the larynx, and a dry, irritative, more or less continuous cough is the source of great distress.

Formerly, I thought these cases were almost exclusively found in individuals who had passed the age of puberty. Rarely did I find lingual hypertrophy in young men; quite frequently I noticed it among young, unmarried women. Chloro-anæmia, accompanied with obstinate constipation and adjoined to improper food and undue taxation of the physical and mental forces, appeared to account for many of these instances. With women at middle life—or over forty years—gout and rheumatism played evidently an important rôle in causation. With adults of the male sex this ætiology was also efficient, but never in an equal number of cases. Among small children, I was surprised that this tonsil did not hypertrophy frequently, and I did not, I do not understand it, when I consider how often we meet with marked hypertrophy of the faucial and pharyngeal tonsils in childhood. Why should similar changes not occur in the lingual tonsil at this age? The anatomical structure is apparently almost similar; whence the difference? Why is there in this locality less tendency to disease? Perhaps it is simply because cold inspired air does not strike this tonsil so soon or so constantly. Perhaps the infectious microbes or carriers of disease can not lodge and take root in this tonsil so readily. So far as digestive disturbances are concerned, we might fairly presume from the site of the tonsil at the base of the tongue that it, of all the lymphatic tissues of the throat, would be most rapidly affected, or very markedly sensitive.

While it is recognized that hypertrophy of the tonsil may follow sooner or later some previous attack of febrile infectious disorder, yet it is also affirmed that its beginning is often very insidious and goes, as it were, without challenge or remark. Now, according to my later observation, this should not be. The previous recurring attacks of amygdalitis of the lingual tonsil do occur frequently; but they are not correctly diagnosticated. This is true of young adults particularly; it is also true even of small children or those of a larger growth.

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* Read before the American Laryngological Association at its twentieth annual congress.

The reason of this erroneous or unsatisfactory diagnosis is sometimes ignorance, sometimes lack of skill or attention. If a cough has lasted only a few hours or days, the general practitioner does not even suspect congestion of the lingual tonsil as being the cause. Usually he examines the chest immediately, and, if no trouble is found there, he examines the throat with a tongue spatula to note whether the palate is elongated or the faucial tonsils are enlarged. This examination being negative, he thinks of stomach cough, or cough produced in a reflex manner from some remote organ, provided always there is no pronounced hoarseness with or without slight expectoration. Under the latter circumstances he may think of inflammation of the *larynx* as a cause of cough, and direct his therapeutic means accordingly. At the end of his efforts he is apt to say nervous cough in a male or child—hysterical, perhaps, in a woman.

Even the laryngologist seems to have ignored acute congestion or catarrhal inflammation with tumefaction of the tonsil as a cause of cough. If the vocal cords, epiglottis, and arytænoids are seemingly normal, he is often in a quandary as to the cause of cough. It must be said, however, in his justification that, as a rule, he, the laryngologist, does not see these cases. As a matter of routine they ordinarily fall into the hands of the general practitioner. This affirmation is true not only of adults but also of children.

In adults, of course, we can in very many instances demonstrate the enlarged lingual tonsil by inspection with the mirror, and we can further corroborate our belief as to causation of cough by rational interpretation of symptoms told us by the patient. With a small child it is different. Laryngeal examinations, as we all know, are often difficult and unsatisfactory; sometimes almost impossible. As to a small child telling you just what it feels, analyzing carefully its symptoms, that, of course, it can not do. Even in children of larger growth it is too much to expect in the majority of cases. Take a child, however, of two or three years of age; let it have an irritable spasmodic cough for several days, a week or more, without obvious cause, and you will find, in my judgment, that the most satisfactory way to explain it is by holding the opinion that it is due to pressure from the enlarged lingual tonsil. Treat it merely as a nervous cough, and it may last a long while and even to the end keep the practitioner in a state of nearly continual worry. Recognize what the cough proceeds from, and we shall soon get satisfactory results from judicious treatment. The cases I have the greatest difficulty in distinguishing in small children are those in which the frequent irritative cough is nothing more than the initial stage of whooping-cough. Are cases of whooping-cough accompanied with swelling of lingual tonsil? Are the frequent spasmodic attacks of pertussis greatly aggravated at times by this tonsillar condition? As yet I can not answer these questions, but I consider them of great interest, and would be glad to hear from my colleagues on the subject. What I can say is this—viz., many times I have taken care of obstinate, irritative coughs in children in whom, after the closest investigation of every condition and circumstance, I could make no accurate and satisfactory diagnosis as to the cause. Again I have said this is either whooping-cough in its initial stage, or it is a nervous cough, the origin and cause of which I can not determine. Occasionally, whooping-cough declares itself unquestionably a week or two later. Frequently there was no whooping-cough, and sooner or later the cough disappeared or stopped, and I could not say precisely why.

As to causes of congestion or catarrhal inflammation of the lingual tonsil, I can not but say that in general they are similar to those giving rise to faucial congestion or inflammation. Why in some instances this particular gland is affected rather that the faucial or pharyngeal tonsil, I can not always reply satisfactorily even to myself. An impaired condition of general health, such as that produced by a previous acute contagious disease, or the continuance of catarrhal relaxation of the mucous membrane of the upper air and digestive tracts, are unquestionably predisposing causes of great importance and must, if possible, be got rid of. Anæmia, constipation, and badly regulated habits as regards food and rest, are frequently responsible for the presence of a tumefied lingual tonsil. In children and adults renal inadequacy is often an accompanying condition of considerable importance, and unless we consider it we shall not obtain our best curative results. The lithæmic state in a child which results from overfeeding and too abundant indulgence in candy and cake, or sweets of any kind, will often cause, as I believe, congestion of the lingual tonsil, just as we know it will a similar condition of the faucial tonsils. The rheumatic and especially the gouty dyscrasias are too evident and frequent in adults for me to ignore their essential and great importance as causative factors, which must be *attended* to, and properly attended to, if the obstinate, irritative cough is made to disappear in any brief period.

What are the symptoms of acute congestion of the lingual tonsil? Mainly an irritative, frequent cough. Accompanying this cough in the beginning there is little or no expectoration. In a day or two there is some frothy expectoration after each paroxysm of cough. Later there is usually a small amount of tough, thick, mucopurulent expectoration, and not infrequently a slight, moderate expectoration of blood, which seemingly comes from the inflamed lingual tonsil. The cough is worse, as a rule, when the patient lies down at night, and sometimes interferes with anything like quiet and restful sleep. Sometimes the patient will go to bed and after a while go to sleep for one or several hours, and then awake with a cough which is harassing in the extreme, and which usual doses of anodynes or sedatives fail to relieve, except for a short time.

There is often a feeling of stricture around the throat. When one side of the tonsil is alone much swollen, it is on that side of the larynx that a sènsation of pressure or weight or foreign body is felt. Still, deglutition is not notably interfered with; there is no fever, little or no soreness, as a rule, and, save for the cough and the fatigue and annoyance resulting therefrom, the patient calls himself well. When we examine the larynx with the mirror, we find the lingual tonsil more or less *red* and *swollen*. Sometimes the swelling is general; usually it is one-sided, at least in great part. In my observation the left side of the tonsil is more frequently enlarged than the right. Frequently the glosso-epiglottic fossæ are only in part filled by the swollen lingual tonsil. Again, we find the fossæ completely filled by the swollen gland, which even overlaps the free border of the epiglottis.

I believe that acute swelling of the lingual tonsil occurs oftener in the female than in the male sex. Why, I have not been able to determine.

When this acute or subacute swelling of the lingual tonsil occurs, it is ordinarily from a week to two weeks before it disappears in great part, even under the influence of appropriate medication. How should we treat these cases? First of all, we should endeavor to determine, if possible, if any underlying constitutional dyscrasia is present, and, if so, treat it as rationally and effectively as we can. Unquestionably gout and rheumatism should always be considered, because they are often in line, and their presence and action should be duly considered and attended to. Many a condition of swollen lingual tonsil will be unaffected by any of the ordinary cough mixtures, which will be rapidly benefited by salicylate of sodium or ammonium, colchicine, guaiacum, etc., given internally in suitable doses. Still, we should not rely always upon the efficacy of this internal medication, as it will oftentimes be of no real or apparent value. Sprays are of slight value. Local applications by means of brush or sponge are far more effective, as a rule. Among these I know of none so useful as compound tincture of iodine with an equal amount of glycerin and water. Applied once or twice every day, or every other day, directly to the enlarged tonsil, it often rapidly reduces its size, and hence lessens pressure upon the larynx and the consequent cough proceeding from it. These applications can be readily made, after the physician has reached an accurate diagnosis with the laryngeal mirror by some one in the home of the patient, and by means of a properly curved brush. The brush I recommend now for these applications is only a slight modification of one purchased for ten or fifteen cents in almost any drug store. The camel's-hair brush is mounted upon a stiff wooden handle and the brush is prevented from becoming detached either from the handle, or the quill connected to it, by a round *groove* in the quill itself, which may be cemented inside, for additional security against falling in the larynx. Sometimes intrathroat applications are not nearly so effective as repeated external counterirritation to the point of redness, or blistering, with compound tincture of iodine, or other local irritant and resolvent. With small children I am also inclined to attach great importance to the frequent inhalation of warm antiseptic vapors of creosote or cresolene by means of a suitable croup kettle or other suitable inhaler. Whenever the tonsil continues to be swollen and the cough very obstinate and distressing, despite our active intervention with the means previously mentioned, a change of air for a few days, a week or more, is clearly indicated, and will at times be markedly beneficial. An interior locality like Lakewood or Morristown is preferable to Atlantic City or other seaside resort. Still, *change of air* is the essential thing, and even going to another city, as Philadelphia or Boston, will occasionally stop or greatly ameliorate a cough otherwise very rebellious. If there is marked evidence of renal inadequacy, nothing is superior to spirit of Mindererus. Whenever a malarial infection is evident and a constipated habit prevails, give Warburg's extract in cachets or capsules for a while. To correct the evils of bad drainage and furnace air, the only treatment is to go where neither of these are effective causes, at least of the aggravation of the morbid condition present.

Whenever the lingual tonsil becomes chronically enlarged or hypertrophied, three methods of treatment remain: (1) the electro-cautery, (2) the snare, (3) ablation with a properly constructed amygdalotome. The first method is the one I approve and have personally employed. The second is especially supported by the approval of Dr. Bosworth. The third has in its favor the testimony of several good observers, and yet it still seems to be a measure somewhat too bold and hazardous.

SENSATIONAL JOURNALISM AND HYSTERIA.

By WILLIAM LEE HOWARD, M. D.,
BALTIMORE.

THE antagonist of judgment, morality, and foresight is morbid impulse. This morbid impulse is a symptom of hysteria. Hysteria exhibits itself in exaggeration, wonder-mongering, subreption, perversion of facts, and anxious, feverish desires to keep the *ego* before the public's eye. The unfortunate victims of hysteria will go to any extreme, mental, physical, or financial, to satisfy their diseased craving for notoriety, the pabulum necessary for the existence of the hysterical subject.

Although directed in different channels, spread broadcast by the modern scientific methods of news dissemination, ostensibly printed and circulated at great cost from purely national and patriotic motives, the basis of yellow journalism is as certainly an hysterical one as were the manifestations of wonder-making, miracle-producing epidemics of the fourteenth and fifteenth centuries, when egotistic, bombastic, sensational devouring prelates shouted their "extras" of a new and marvelous cure through the dispossession of the devil, thereby causing the hysterical element of the community to commit insane acts, criminal deeds, and political mistakes, for which the sane portion of society were held responsible. Let us make a clinical examination of the yellow journals and arrive at a diagnosis. We find at once that broad statements made yesterday in the yellow journals regarding some political event is denied to-day by journals in good health, while our patients remain silent. An interview with one of the officials of the navy department is an excuse for an "extra"; while this same interview is denied *in toto* the following day by the victimized official.

It is one of the characteristics of the hysteric not to remember bungles, blunder, and plunder. Contradiction of a fact stated by them is a stimulant, a charming seducer which ever feverishly allures them into further distorted and untruthful byways. To be noticed, recognized, whether with ridicule or contempt, it matters not, is the life, the pulse throb of the hysteric—ignore his existence and he ceases to be.

The earliest observers of hysteria noticed the boundless mendacity in this affection. All mental efforts are made to attract attention, court remarks, and disturb the peaceful routine of a community. The hysterical need, crave something new and marvelous every day. Night and day the yellow journals show these well-known symptoms. New sensations must be found, manufactured, or imagined daily. No matter how impossible or nasty, the morbid mobility of the mind of our patients, the excessive excitability of the imagination, demands stories—stories often without a basis of truth or reason. The conscience is misty and muddy; made so by all sorts of ridiculous and senseless ideas. The sign hung over the door of the editorial room, which should read "Temple of Truth," has been changed to one reading "Mosque of Mendacity."

Sexual and religious emotions are the fundamental causes of hysteria and always prominent symptoms of the disease. See how well the yellow journals accentuate these facts. On one page we will have a story dealing with a repulsive sexual crime, prurient details surrounding the life of the victim, and nauseous particulars concerning her companions. Then will follow, on the same page, illustrations of some notorious actress's lingerie, or salacious hints at the unfaithfulness of some European prince, the escapade of one of the *jeunesse dorée* of the paper's city, and a featured account of the intrigue of an American woman with a gypsy fiddler. Turn to another page and we will find historical sketches of some saint or virgin; an alleged account of some new facts in the life of our Saviour, as revealed by some obscure monastic writer; pictures, modern and ancient, of the crucifixion; and colored supplements redolent of angels, virgins, martyrs, and all the insignia of dreamy and religious mysticism.

The cry that the public demand these papers is partly true. Hysteria is contagious, and soon becomes epidemic. A large proportion of the public is controlled by suggestion. It is through suggestion that hysteria becomes epidemic. Given a neurotic individual who reads daily a yellow journal, or one who, in other words, is receiving daily suggestions of a nature which disturbs the emotional element in him, and we soon have an hysterical individual. This case rapidly affects others brought into contact with it, and the certain ultimate result is an epidemic of hysteria which is exhibited in the workshop, on the street, and at the fireside.

There is no doubt in the minds of those who study the insane and the criminal but that the suggestions offered by the owners of sensational journals is the seed planted which ripens into lust, murder, and plunder. It can scarcely be otherwise when the auto-suggestive ideation, which exists in a class whose impulses have never been inhibited, is the only ideation fully developed.

Nordau blundered when he stated that hysteria was increasing. Had he studied the history of medicine well he would have seen that instead of taking the old form of religious revivals, the belief in demon possession, the epidemic of the Jumpers, and the action of the Flagellants, it has only changed to a physically milder form in its support of the yellow journals. Let the yellow journals cease publication for a week—time enough for the suggestive influence to be lost—and there will be no demand for them.

The starting point, the focus from which all this injurious suggestion emanates, is that morbid entity, hysteria, which has taken its Titan-like grip upon the diseased nervous systems of the editors.

The prominent feature in the yellow journals which attracts the attention of the psychologist is the rabid impulsiveness. Rabid impulsiveness is a phenomenon demonstrating peculiar mental states.

This impulsiveness may take various forms and phases; when it takes the form exhibited in the yellow journals it shows a diminished resistance to judgment, acumen, moral discrimination, and personal responsibility; in fact, to that popular expression "common sense," a term full of meaning.

Kalif Ali remarked: "I have often observed that men are more like the times they live in than they are like their fathers." Was he living to-day he would be able to say some newspapers are more like the men who own them than they are like the times.

If one should be able to find a trace of philosophy in these journals it would be certain to be that dreamy, mythologic, deductive, false method of arriving at alleged facts so beloved by Plato. The hysterical individual could never be mentally healthy enough to work through the calm, tedious, yet perfect reasoning by the inductive method of Aristotle.

Like most epidemics of hysteria, this one of yellow journalism will soon reach its ebb and remain one of the curiosities of psychological medicine; and any attempt as to the interpretation of emotional development, and to the subsequent interpretation of the sociological phenomena accompanying emotional development as seen by the career of these journals, will be relegated to the study of abnormal mental states and allied conditions.

Any act or thought that disturbs or disarranges our normal mental attitude, any suggestion, subjective or objective, that is teasing and repugnant to our sentiments, æsthetic and moral, is as injurious to our well-being as would be a physical disease which temporarily suspends and disarranges our mental power. Such a factor in disturbing the mental growth and power of the adolescent, as well as the degenerate, the neurotic, and the illiterate, is the yellow journal. The effect on the normal mind, the intellectual individual, after reading one of these journals is marked. He will toss the paper down with disgust, and remark with Anaxagoras, "Nothing can be learned, nothing can be certain, sense is limited, intellect is weak, life is short."

After struggling through one or two Sunday editions the reader is inclined to think of Schopenhauer's remark that the universe is just as bad as it conceivably could be without falling to pieces altogether. Then the reader will continue to purchase one of those hourly "extras" with its scare heads and reiterated rumors and warnings of a great sensation to be made public on the morrow, until his feelings revolt against the vacuity which has been thrust upon them, and he inclines to believe with Novalis, that the simultaneous suicide of all human creatures is the one way of escape from miseries that are both unbearable and irremediable. Later in the evening the rapid, strident shouts of some great sensation, printed in polychromatic form, arouse the dying curiosity for the last time, and purchasing a paper the reader soon arrives at the conclusion of Chabot, that what we mistakingly call the cosmos is really the work of a crazy devil.

To the neurologist who looks over a few of these daily sheets it is plain that they are the products of psychopathic editors, whose hysterical convulsions find an outlet in this abnormal manner. Only a few days ago an editor of a yellow journal was taken away from his desk in a state of insane delusion due to the continued hysterical demand made by his employer for sensations, distorted and twisted facts, imaginary happenings, heroic predictions and divinations.*

As hysteria is contagious through suggestion it follows that the nature of the contracted hysteria depends upon the nature of the suggestion. The nature of yellow-journal suggestion distributed among the masses in our large cities is destructive to all intelligence. By the suggestions offered by these journals morals are debased, intelligence is not advanced, and society is pictured in its lowest condition through scandals and innuendoes; while politics are shown to be controlled by the baser element of mankind under the fatuous plea of exposing corruption for the weal of the community. Social sewers are dragged so that the undesirable refuse cast away by respectability, the proof of every earnest man's desire to improve self and progeny, may be flaunted should any individual aspire to honest political preferment. The editors stand on the highway tearing bandages off from putrid, sickening sores that they may be seen by the passer-by, while each and every owner of a yellow journal shouts his shibboleth, "*Humani nihil a me alieum puto.*" The owners of these publications have torn the laurel from the brows of decent intellectual journalism, and replaced it by the ivy—the companion of death.

From their diseased point of view every election is a revolution in prospect and expectations. Whatever is right and sacred is attacked. They invade the privacy of the gynæceum and disturb the solemnity of the tomb. They are instruments for the exploitation of sin and the perpetuation of crime. In fact, they make up a perfect clinical picture of hysteria when, after a thorough examination, we find they can be brought down to the psychopathic unit—no living force, nothing that can assist the well-being or happiness of communities. With the hysterics truth, reason, philosophy, and decency are superstitions of the past; moral perspicacity a puritanical myth; respect for the government and patriotism insulated in the gloomy umbrage of egotism and personal aggrandizement.

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* The striking in the face of General Shafter by a yellow journal reporter after the raising of the American flag at Santiago only accentuates the condition I ascribe to the mental state of these psychopathic employees of sensational journals.

THE SCIENTIFIC BORDER LINE BETWEEN SANITY AND INSANITY.*

By EDWARD C. RUNGE, M. D.,
ST. LOUIS,
SUPERINTENDENT AND PHYSICIAN-IN-CHARGE
OF THE ST. LOUIS INSANE ASYLUM.

Precision is a prerequisite to the best achievements of modern science, just as speculative vagueness is inimical to its progress through the steadily growing maze of natural facts. Precision is only to be attained by methods of scientific induction—*i. e.*, the logic of fact must precede the logic of thought. The era of metaphysical misconceptions in psycho-pathology is happily a thing of the past. Stahl's "soul diseases" have joined the fantastic ranks of human superstitions and historical curios. Though we may cling, for the sake of convenience, to time-honored nomenclature in discoursing upon mental or psychic diseases in contradistinction to cerebral diseases without psychic manifestations, we stand boldly united in the axiomatic assumption that psychic functions are intimately connected with the substance of the psychic organ, the brain. Du Bois-Reymond's dictum, "*Semper ignorabimus*," will ever meet us on our excursions into the realms of human soul-life; our limitations are ever to be shown by a mark-stone near which human knowledge and human faith clasp hands in kindly greeting. Psychologic research has a long way to travel before reaching this mark-stone—the work done thus far is still in the phase of pioneering.

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* Read before the American Medico-psychological Association at its annual meeting, held at St. Louis, May 10, 11, 12, and 13, 1898.

Cerebral anatomy, pathology, and chemistry must give up their treasures, thus adding zest and life to the growth of the youngest sprig of modern science, to physiologic psychology. Whether we follow Munk and Flechsig in assuming the strictly circumscribed localization of psychic functions, or their opponents, Ferrier, Goltz, and Wundt, we are certainly justified in accepting as an indisputable fact the existence of some cortical areas as centres of psychic function. We are also safe in advancing the proposition that the normal development of these centres is vitally dependent upon the peripheral life of the organism, as without the latter the organism would never pass beyond the "Caspar Hauser" phase of intellectual and soul existence.

Placing ourselves firmly upon these fundamental psychologic facts, we should encounter no difficulty in formulating a simple and satisfactory definition of insanity. It could mean nothing else than the chief symptom of an organic or functional disease of one or more psychic centres. This would also mean that the question of a border line between sanity and insanity would be solved in the following simple way: any individual whose brain manifests abnormal psychic function is to be considered insane, regardless of ætiological factors, duration, and clinical picture presented. Such psychoasthenic conditions as moral and intellectual imbecility or idiocy are excluded here from consideration as being due to developmental arrest and not directly to cerebral disease. A harelip, a cleft palate, or a foramen ovale remaining patent after the close of fœtal life, are malformations and not diseased conditions. The psychic centres with their late and slow development are, as a matter of course, apt to be unduly influenced by disease affecting the brain during the period of its growth; still, the resulting imbecility and idiocy are but manifestations of an undeveloped and not of a diseased brain.

Has modern psychiatry thus far declared itself satisfied with such a simple definition of insanity? Certainly not; and the principal reason for this reluctance must be sought in the irresistible desire to reserve a special scientific place for the brain among the organs of the human body. When I speak of the brain I confine myself to its psychic centres whose disease is chiefly manifested by psychic disturbances. We have grown thoroughly accustomed to subdividing pathologic states of all lower organs into organic and functional—*i. e.*, such as do not yield any evidences of structural change to our present methods of investigation. Whether we face a neurasthenic or an alcoholic gastritis we are certain of the fact that in either case a disease of the stomach obtains with suspended or profoundly impaired function. Even the spinal cord, which is so closely allied to the brain by embryologic, structural, and functional ties, has no claim upon any other classification of its disturbances. Not so with the brain. It is true that all authorities on psychiatry broadly classify mental diseases as functional and organic, but religiously decline to consider as insanity such mental disturbances as are superinduced by an acute poison, such as alcohol, or by constitutional diseases of a toxic nature, such as typhoid fever. Thus is created a third class of mental diseases—a class with which psychiatry proper should have nothing to do except perhaps to give it a passing notice.

In reading the works penned by the foremost psychiatric authorities one involuntarily wonders at the great amount of ingenuity displayed in the erection of an impassable rampart at a point where, in my opinion, a connecting bridge would answer the demands of sound scientific reasoning. In the chapter devoted to the consideration of conditions analogous to insanity, von Krafft-Ebing (1) says regarding acute alcoholic intoxication: "It is really nothing else than an artificial insanity." This he follows up with a graphic pen picture of a classical case of such intoxication, which passes from slight maniacal exaltation at the onset by degrees into a state of complete stupor, often simulating closely an apathetic terminal dementia. Why should such a profound psychic disturbance be called "artificial"? Certainly not because the disturbing drug reaches the psychic centres by way of self-administration, or still less because in acute alcoholism we are well aware of the pathogenic factor, while in so-called true insanity the pathogenesis is but too often hopelessly obscure. I hold that the line drawn by Krafft-Ebing is artificial, and this is strongly confirmed by his own words at the close of the chapter: "The similarity between artificial insanity and the genuine variety is also shown in some individuals of a peculiar predisposition, in whom a plain drunk at once develops into acute delirium or transitory frenzy; in other cases acute alcoholic intoxication is the immediate cause of genuine chronic insanity." According to Kraepelin (2), whose opinion finds general acceptance, the delirium of acute constitutional disease is caused by systematic irritation of the cerebral cortex. The delirium is said to differ from those disturbances which *tradition* designates as psychic disease by its evanescent nature, by profounder participation in the pathological process of the sensorium, by incoherence and confusion of the perceptive faculties, and lastly by the excessive implication of the central sensory sphere as manifested by a great wealth of hallucinations. The transition from the delirium of acute disease into chronic spontaneous insanity is not infrequent. This view, resting entirely on traditional basis, is, I think, readily proved untenable upon closer examination. Can an attack of transitory frenzy ever be excelled in evanescence? An individual, to all appearances in possession of perfect psychic health, is stricken suddenly, without a warning or a single prodromal symptom; in spite of the nearly total loss of consciousness and other ominous symptoms, the attack leaves the sufferer psychically intact. Although transitory frenzy is generally treated as a true insanity, Krafft-Ebing has his doubts about the correctness of such classification; he expresses himself as inclined to place it among the symptomatic disturbances. What is our present classification of psychic diseases chiefly based on if not on the clinical picture displayed by them? We have surely no good and sufficient reason to consider a mania, a melancholia, or any of the other psychoses as anything else than symptomatic disturbances—*i. e.*, they are the clinical expression of some pathologic process affecting the psychic cerebral centres. Returning to Kraepelin, I may well ask whether the sensorium is ever more profoundly affected than in the delirium acutum sive grave? Then, again, some cases of hallucinatory delirium can hardly be surpassed in their wealth of hallucinations and their utter intellectual confusion.

From the foregoing it can be seen that the differential points between the delirium and so-called true insanity are only comparative, arbitrary, and artificial; nevertheless, they are treated as wholly dissimilar entities. To prove that such distinction is not well grounded I will consider the matter from the point of view of pathogenesis, of clinical symptomatology, pathologic anatomy, therapeusis, and of medico-legal science. As a type for the deliriums, I select the one appearing in the course of typhoid fever, which is apt to cause such profound psychic disturbance as to have earned the designation of "*febris nervosa versatilis*" or "*febris nervosa stupida.*" What is true of typhoid will hold true of any other diseases which are accompanied by psychic manifestations, such as croupous pneumonia, acute articular rheumatism, intermittent fever, and others. In the following I confine myself strictly to an antithesis of the typhoid delirium and the functional psychoses, as they are most closely related to each other.

While the pathogenesis of the febrile delirium has not been fully established, there is no doubt that the increase of the blood temperature and the presence in the blood of some products of decomposition, of specific toxines, or possibly of pathogenic micro-organisms, act as irritants to the psychic cerebral centres. The heightened temperature can not be looked upon as the exclusive element engaged in the production of the delirium; not a few cases, especially of croupous pneumonia in severely predisposed individuals, have been observed in which the delirium outlasts the fever. We are certainly justified in assuming that the disturbances of psychic function in acute constitutional diseases are intimately dependent upon the infection or the nutritional disturbances following in the wake of the infection in cases of "inanition" delirium. What can be said of the pathogenesis of the so-styled true or chronic insanity? When we omit from consideration the general predisposing causes, as civilization, sex, age, etc., and the individual predisposing causes, as heredity, neuropathic constitution, and education, there remain to be considered the accessory or exciting causes. The exact manner as to how the exciting causes affect the brain tissue is not known, but we may broadly assume that they produce more or less profound disturbances of general and cerebral nutrition. We also know that experimental evidence has been adduced to prove that self-intoxication may play an important rôle in some cases of functional psychoses, particularly of melancholia. The verification of these experimental findings would add another link to the connecting chain between the psychoses and the deliriums. How closely they may be linked in the very same patient I will show by the case of a woman suffering with typhoid fever, which I quote below from Krafft-Ebing's report. This patient passed gradually from a delirious state into that of a stuporous melancholia. The first symptoms of the latter appeared while the body temperature was ranging between 100.5° and 104° F. What scientific reason have we to draw a sharp line between the pathogenesis of the delirium and the psychosis? I believe that the only excuse for such a course is to be sought in the desire to uphold blindly a preconceived, purely theoretical notion without regard to the facts actually observed.

Here I may be pardoned for a slight digression. In perusing the literature at my disposal I do not find any mention made of the possible rôle played by heredity as a predisposing factor in the delirium of constitutional diseases. In most of our hospitals this point is entirely lost sight of, which should not be, as the collection of statistical data in this direction would, to say the least, be highly desirable. The great psychic upheaval produced by infinitesimal quantities of alcohol in some physically defective individuals would point to a possibility of another toxic agent reacting with greater intensity on a vulnerable brain than on a brain that escaped the imprint of baleful heredity. I should by all means advise that the anamnesis, at least in cases of delirium-producing diseases, should embrace a minute inquiry into insane heredity of the patient. The ultimate results of such inquiries may furnish further proof of the non-existence of a dividing line between the symptomatic and true insanities.

Entering upon the consideration of this question from a clinical standpoint, I can not do better than cite in abstract the case reported by Krafft-Ebing:

Mrs. P., aged thirty-one years, was taken ill on the 28th of October, 1881, with a fever following an initial chill. On the 30th she escaped from her home, was caught, and brought to the hospital on November 2d. Her temperature was then 102° F. A few hours after her arrival the patient had to be transferred to the *insane division,* because she manifested great restlessness, and hostility toward the people around her, whom she attempted to strike; she refused to take food. Diagnosis of typhoid fever was made. She became more stuporous.

November 11th, while the temperature was ranging from 100.5° to 104° F., the first symptoms of melancholia appeared. The patient says that she is conscience-stricken; that she has committed most horrible crimes; that she ought to be thrown out on the dunghill in the yard, etc. Strong resistance against every one around her. Food refused partly on account of ideas of self-depreciation, partly because Christ has told her that if she would not eat she would save unfortunate souls. At the end of November defervescence begins, and the typhoid symptoms begin to disappear. The middle of December sees the patient free of fever, but, in spite of generous alimentation, she remains profoundly anæmic, emaciated, exhausted, and stuporous. Now and then the night rest is disturbed through visions of the dead and black figures; she hears voices calling her bad names.

In January, 1882, the patient becomes perfectly stuporous and filthy; powerful passive resistance; mutism; no reaction to sticks with a pin. The melancholic symptoms are submerged by the stupor; they reappear only between the 17th and 21st of January. This is followed again by melancholic delusions of self-depreciation and grandeur (she is the Virgin Mary). At the end of June there are evident signs of convalescence, and finally the patient recovers.

According to Krafft-Ebing, this case presents to the end of November the picture of a fever delirium, and afterward that of a melancholia *cum stupore—i. e.,* of a functional psychosis. I could not have selected a more striking case for my purpose, as the psychic manifestations present but insignificant variations through the entire course of the disease. Supposing we did not hesitate to fit the actual facts forcibly to our theoretical notions, and claimed that the case clearly presented two conditions closely connected as regards time and sequence, but still differing vitally as to their fundamental nature, we might put forth as a differential point the apparent fact that one disease ran an acute while the other ran a chronic course. Why should we not draw a radical distinction between an acute bronchitis and a chronic bronchitis, in which the former had terminated? I may add that the termination of a fever delirium is very similar to that of a functional psychosis—*i. e.,* they end in recovery, secondary states, or terminal dementia.

To prove that anatomical findings do not lend themselves to an argument in favor of the arbitrarily established border line between the psychoses and the deliriums, I may be allowed to quote from some authorities. First as to psychoses:

Scholz (3) says: "There is but rarely a parallelism established between the mental disease and the anatomical findings; many different forms of the former are apparently accompanied by the same results at the autopsy. We find, for instance, a serous or purulent leptomeningitis in fresh cases of melancholia or mania, as well as in those of chronic insanity and of paralysis, or the reverse; the same clinical form of insanity presents different anatomical pictures. Thus the autopsy on acute maniacal cases may sometimes show the existence of a purulent meningitis or of a leptomeningitis, and then, again, nothing but a congestion of the pia and the encephalon. . . . We are not to assume, however, that tangible anatomical changes are invariably manifest; frequently the pathological process seems to have been superinduced by more or less rapidly changing disturbances of circulation in the blood-vessels and lymphatics."

Ziehen (4) expresses himself as follows: "The gross anatomical and microscopic examination of the cerebral cortex has not yielded any positive results thus far. Mania is consequently to be classed as a functional disturbance. The different theories advanced in explanation of the nature of the disease as depending on circulatory changes in the cerebral cortex are not founded upon actually observed facts." The same is true regarding the other functional psychoses.

Kirchhoff (5) points in a few words to the negative results of anatomical investigation conducted in this direction.

Von Krafft-Ebing (6) says: "The majority of psychic diseases, like many other maladies of the central nervous system, present negative anatomical results; hence they must be classed with the so-called functional diseases, with conditions pointing to molecular changes, and to disturbances of nutrition."

Now let us turn our attention to the delirium in typhoid fever. I have scanned carefully the exhaustive reports of the Johns Hopkins Hospital, vol. iv and v, and have found in the records of the autopsies on the fatal cases no mention made of any brain lesions except that, in one case without foregoing delirium, a thrombosis of the left, middle, cerebral artery was discovered. I naturally concluded that all the other cases did not give evidence of any brain lesions. As no other monographs on this subject seem to be obtainable, I had to be satisfied with citations from text-books.

In Osler's (7) we find: "There are very few changes met with. Meningitis is extremely rare. It was not present in any one of my autopsies, and occurred in only eleven of the two thousand Munich cases. The antomical lesion upon which the aphasia—seen not infrequently in children—depends, is not known. Possibly, as Leyden states, it may be due to slight encephalitis."

From Wood and Fitz (8) I quote as follows: "Gross alterations of the brain and its membranes are infrequent, although a meningitis at times follows a complicating inflammation of the middle ear or acute parotitis. Microscopical changes affecting the ganglion cells have been described by several observers."

Strümpell (9) says: "If we seek the cause of these nervous symptoms, which are often so severe, we find that the anatomical changes in the nervous system, including the brain, bear no relation whatever to the severity of the symptoms observed during life. We sometimes meet with minute hæmorrhages in the cerebral meninges, or meningeal opacity, or œdema, or a moist condition of the cerebral parenchyma; but the connection of these and similar changes with the symptoms of the disease is often more than doubtful. Nor can the microscopic alterations in the brain, which have been reported, be regarded as important and authoritative. It is only in very rare cases that large cerebral hæmorrhages or purulent meningitis have been found. As to this last, we should always be very cautious in making a diagnosis, as symptoms which would seem to be most conclusively meningeal—such as stiffness of the neck, rigidity of the whole spinal column, and occipital headache—may appear in typhoid patients, and yet the autopsy show no trace of meningitis."

Bollinger (10) states in one place that hæmorrhages into the cerebral parenchyma occur in severe infectious diseases, and in another place that focal, mostly hæmorrhagic, encephalitis is now and then met with in infectious diseases, such as influenza, measles, typhoid fever, and scarlet fever.

These data seem to be sufficient to show that vagueness prevails in the realm of pathological anatomy of the fever deliriums and of the psychoses, and no distinction is to be made between them on anatomical grounds.

The therapeusis of deliriums follows closely the lines pursued in the treatment of the functional psychoses, chiefly of mania. In either condition our main task resolves itself into the maintenance of nutrition and the conservation of vital strength. Sedatives, particularly in shape of prolonged baths, tonics, now and then stimulants, and foremost of all nourishing assimilable food—these constitute in both instances the principal therapeutic measures at our command.

That a delirious patient is to be looked upon as fully as irresponsible in a forensic sense as a patient suffering with a functional psychosis, is so self-evident as not to require any further expostulation. I would suggest that the acute alcoholic be dealt with in a similar way. In case of any transgression against the law the inebriate should not be made to suffer for the unlawful act performed while under the influence of the drug, but he should be punished for having willfully placed himself in the state of intoxication. I mean as a matter of course, only the victim of a physiological intoxication, and not the sufferer with dipsomania.

I hope to have proved in the foregoing that the division of psychic diseases into symptomatic and genuine is not founded on sound scientific reasoning. There are other pathologic conditions of the central nervous system that, in my opinion, properly belong to the domain of psychiatry. In every work on neurology, the psychic disturbances accompanying such organic diseases as multiple sclerosis, tabes dorsalis, and cerebral tumors, are unhesitatingly classed as insanities proper. Not so with those functional neuroses in which the implication of the psychic centres play such an all-important rôle: I mean neurasthenia, hysteria, and epilepsy.

When we admit that a case of so-called cerebral neurasthenia may at times simulate the profound psychic changes of the prodromal phase of a dementia paralytica so closely as to render an error of diagnosis not only possible but even excusable, we put neurasthenia at once in its proper place. I do not think that there ever was a case of simon-pure spinal neurasthenia—in other words, every neurasthenic is to a variable degree a psycho-asthenic. The question is one of degree only—the varying intensity of the disease can not possibly affect its fundamental nature. A pathological lowering of psychic function takes a prominent part in the course of every case of neurasthenia, and at times it overshadows every other symptom that helps to make up a classical picture of the disease.

This is true of epilepsy. What more profound affection of an organ can be thought of than one manifested by the complete cessation of its functions? The impervious veil of entire suspension of consciousness thrown about the psychic centres during an attack of epilepsy puts the latter among the psychic diseases. This view is rendered still more convincing when we consider that impairment or loss of consciousness constitutes the most characteristic symptom of epilepsy, common to all of its clinical varieties.

In hysteria the psychic make-up of the patient plays such an important rôle as to stamp the malady one of chiefly psycho-cerebral origin. There is hardly a symptom or stigma of the disease that is not at bottom due to the perversion of psychic function.

In conclusion, I may briefly sum up my argument as follows:

Firstly: Insanity is the symptom of any pathologic process implicating the psychic centres of the brain; hence the border line between sanity and insanity lies at a point where brain disease parts ways from brain health, by brain being meant its psychic centres.

Secondly: The words "insanity" and "insane" should apply to any condition manifesting deviations from the normal psychic function. If objectionable, we should not hesitate to eradicate these terms and find others less obnoxious. The disappearance from our scientific vernacular of these words should be hailed with genuine satisfaction, as they carry with them an atmosphere of mediæval superstition and prejudice.

Thirdly: Such views as propounded in the foregoing would assist in dispelling the worst misconceptions of insanity and the insane. No opportunity for systematic propaganda should be missed. After insanity is once for all accepted as a symptom of actual disease of the brain, a disease like any other—amenable to treatment—we who are fighting for rational and truly humanitarian methods shall meet with fewer obstacles in our efforts to obtain what we need for the successful achievement of our aim.

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EPILEPSY AND DIGESTION.

By EDGAR J. SPRATLING, B. Sc., M. D.,
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These two conditions are implacable enemies. Perfect digestion is the deadly antagonist of all the functional neuroses; and of course that brings epilepsy under its ban.

Just how dyspepsia and malassimilation cause the various nervous derangements rests for demonstration in the laboratory within the near future. Great strides toward it are being made each day; in the New York Pathological Institute it has been found that ptyalin and free hydrochloric acid are greatly in excess and often alone in the stomach immediately before epileptic seizures. Other observers have noted too much proteids in the blood, which sometimes even goes to such extent as to force the symptom albuminuria.

When we remember that all those facts only assert malnutrition, in connection with that we keep in mind the invariable clinical observation that the higher the mental faculty the sooner it is lost; when reason teaches us that only the impairment of the physique of a cell could give the conditions observed; and knowing as we do that so long as the cellular nutrition remains perfect, the cell would not spontaneously degenerate, but would, after injury, repair itself, the road to but one conclusion remains open to us, and that road is too plainly seen to need mapping.

Injury itself is only the cutting off or diminution of the food supply of a part. Except by the interference of the nutrition injury can not be inflicted: that is an axiom, and could not with reason be discussed. Exercise of a muscle adds to its effective blood supply, and thus increases its strength and vigor, or, in other words, resistive power. And what is true of the muscle cells is certainly true of every other living particle. The value of systematic and constant work needs no further argument than is contained in the above statements.

Make the nerve cells normal, and every functional neurosis will be defied; and there is only one way to have a normal cell, and that is by giving it perfect nutrition, which means material for replacing and repairing its loss by wear and tear.

Now, let us see first the teeth. Eighty per cent. of epileptics have teeth unfit for the service that they are expected to perform; one will rarely find a patient over twenty-five years of age whose grinders are capable of doing even the lightest task, consequently the food is packed into the stomach in an unprepared state, which, in turn, sets up irritation, thus preventing its own digestion; it passes into the intestines, and the field of its evil influence is broadened. All factors that lower the activity of the secreting power of the glands concerned n digestion point toward the same downward path; such factors are too numerous to even catalogue.

The baby who regurgitates its food from simple overdistention of the stomach is unwittingly protesting against a carelessness as to its diet that may later lead to "spasms," and perhaps to a tedious existence as a chronic sufferer from a functional neurosis. The infant who requires to be fed on syrup of figs and such like drugs, is, if not guided by a skillful hand, learning unhappily to walk the same path as the child who at school eats irregularly of a small and illy prepared lunch and then gorges at supper, paying certainly this Nature's debt in sick headaches and dreamful nights. She is in a few years joined by the girl who, through carelessness or ignorance, disregards the simple duties that she owes to her own health, as well as to generations coming after her. And along with them all goes the boy who persistently saps his vitality by abusive living.

No period of life is free from the baneful effects of irregular living. The writer knows a physician who would go for a week without taking off his clothes, eating from one to four meals a day, as circumstances allowed, had repeated attacks of syncope from sheer exhaustion, but failing to heed such plain warnings is now an epileptic wreck, unable to take any but the blandest food, else a series of convulsions result. Another case came with this history by the mother: "My son is thirty-two, and has suffered with these spells since he was nineteen months old; no one has ever been able to give any reason for his having them; he was never a strong child, but was always active and fairly bright." On close inquiry from both father and mother, it was learned that while she was *enceinte* with the child she changed cooks several times, and more than half the time was forced to do the family cooking herself; this unsettled condition of the kitchen continued till after the child's fourth year, when improved finances allowed a settled domestic order. Conditions continued to improve, and from thirteen to eighteen the boy had no convulsions, when another change in fortune brought poorer food and unfavorable circumstances, with a renewal of the old trouble. Here a positive relation was traced between the kitchen and the convulsions.

The writer has never yet seen a case of so-called idiopathic epilepsy in which the kitchen did not figure. Of course there are other causes, but indigestion and malassimilation are the roots of evil in the great bulk of cases. It is remarkable how a series of seizures is cut short by the thorough cleaning of the alimentary tract.

In over a hundred cases taken haphazard, not one was found in normal nutritive condition: forty per cent. of the stomachs were dilated; ninety per cent. of the alimentary tracts were more or less catarrhal.

Those who have dealt with the epileptics will recall how frequently hæmorrhoids and prolapses of the rectum are met with; and how prone they are to scorbutic taint. Almost without exception epileptics have weak, irritable, rapid hearts, showing simply a lowered vitality.

Were the States to regulate the art and science of cooking with the same care that is exercised in the regulation of the practice of medicine, epilepsy would after a few generations, cease to be the bane of civilization and become a clinical curiosity.

A STUDY OF THE SITTING POSTURE, AND A PROPOSED APPARATUS FOR PATIENTS SHORTENED BY POTT'S DISEASE.*

By A. B. JUDSON, M. D.

I would like to raise the question whether the condition which too often follows Pott's disease can not be improved by the use of an apparatus for giving the patient greater height when in the sitting posture. Devising and improving such an apparatus, as is the case generally with mechanical inventions, would require some experimentation and what may seem to be the waste of considerable time before a useful result is reached, but I believe that a successful application of this kind would be very desirable.

Some of these patients have long limbs, and they would be tall men and women were it not for the shortening of the vertebral column. A surprising effect is sometimes produced when such a patient takes a seat, in a car, for instance. The head and shoulders continue to descend until they are considerably below the common level (Fig. 1). In standing, the shortening may not be especially noticeable, as it belongs to the whole figure; but in sitting, it belongs entirely to the trunk, and the result is one which may well be avoided, if it can be done conveniently.

The apparatus which I have in mind should be worn out of sight under the clothes. It should have a frame sufficiently strong and rigid to support the weight of the body. The frame should be so made as to collapse or to be shut up when the wearer rises, and when he sits it should come into action automatically to keep the body at a reasonable distance from the seat of the chair (Fig. 2).

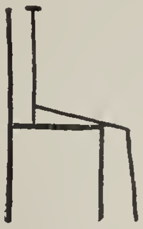
Fig. 1.

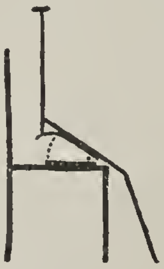
Fig. 2.

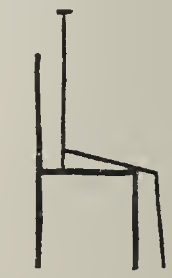
Fig. 3.

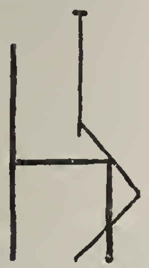
Fig. 4.

It would seem that such an apparatus should have its bearings not only at the ischiadic tuberosity, but also along the posterior surface of the femoral shaft, as it will be recalled that in sitting we often make use of the thigh bones as well as the ossa innominata (Fig. 3). When we are tired, or in a lounging mood, we may sit on the sacrum, or, if the feet are on the mantelpiece, on the lumbar region of the spine. An inquisitive European discovered that the Americans were accustomed to sit on the small of the back, and had thus ingeniously demonstrated the use of a part of the anatomy which had been supposed to have no particular function. At other times, and in other moods, we may sit comfortably on the ischiadic tuberosities alone, and if we would appear erect and dignified, we may sit with the tuberosities raised from the seat and with the whole weight of the body borne by the femoral shafts resting on the edge of the chair. In this last position the natural height is at its best, and patients shortened by Pott's disease may be observed to sit in this manner (Fig. 4) until fatigue prompts a more easy attitude with a descent of the head and shoulders (Fig. 1), which in some cases may in all probability be prevented by the use of the apparatus suggested (Fig. 2).

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Therapeutical Notes.

Lutaud's Lotion for Pruritus Vulvæ.—The *Journal de médecine de Paris* gives the following formula:

℞ Distilled water	500 parts;
Chloral hydrate, Tincture of eucalyptus, } each	10 "
Cocaine hydrochloride	1 part.
M.	

Pills for Spermatorrhœa. — Meisels (*Indépendance médicale*, August 31st) recommends the following:

℞ Citrate of cornutine	2¼ grains;
Argil	105 "

Mucilage of tragacanth, sufficient to make fifty pilules.

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NEW YORK, SATURDAY, OCTOBER 1, 1898.

A GHASTLY VIEW OF ELECTRICAL EXECUTION.

WE have always felt sure that humane motives lay at the bottom of the law of the State of New York requiring that capital punishment be inflicted by means of electricity, but we have not felt convinced that the avoidance of suffering aimed at was always accomplished. There has been a suspicion, too—and we confess to having entertained it—that death was not in all instances unmistakably due to the electrical current, but was consummated by the so-called post-mortem examination required by the law. This suspicion is more than suggested by Dr. Joseph Alan O'Neill, of New York, in the *Atlantic Medical Weekly* for September 17th.

Dr. O'Neill was present at the execution of Martin Thorn, in Sing Sing prison, on the 1st of August. After the convict had been secured in the chair with straps, the warden made a sign and the electrician closed a switch. There was a lightninglike tetanic contraction of every muscle of the man's body. At the end of a minute the current was turned off and the body sank limp in the chair as far as the straps would permit. "There was a blowing sound like the neigh of a horse," Dr. O'Neill goes on to say, "saliva came from the now open mouth, and the carotid artery began to pulsate. Again the current was applied and again the body became rigid. For thirty seconds this second current was maintained; then I was allowed to make an examination. The law does not permit any attempt at resuscitation, but the warden said I might make any reasonable tests to make sure that Thorn was really dead."

The phonendoscope, says Dr. O'Neill, revealed neither respiration nor heart-beat, but in the carotid artery he could feel a distinct thrill, and he thinks this was probably caused by the gravitation of blood from the head to the trunk. There was a slight contraction of the left pupil on touching the cornea, and the cremasteric reflex remained active for half an hour. Post-mortem lividity appeared very soon in the dependent parts of the body. "He was apparently dead, but putrefaction, the only positive sign of death, was of course absent. Yet there was an immediate autopsy." Dr. O'Neill is not quite explicit as to whether the autopsy was "immediate" upon the conclusion of his examination, or whether the half-hour's persistence of the cremasteric reflex was observed while the post-mortem was going on. This is an important point, we think. Moreover, putrefaction as a positive sign of death is hardly to be waited for under ordinary circumstances.

Dr. O'Neill concludes his article as follows: "The law requires the post-mortem mutilation. It is, in fact, a part of the penalty; for, as it reveals no cause of death and teaches nothing of interest to science, it is evident that its purpose is to complete the killing. If this is true, then that section of the law relating to the autopsy should be repealed at once. If the convict is dead, he will stay dead, without the autopsy. If he is alive, then the autopsy is a crime that outrages all decency, a crime a thousand times more horrible than the homicide for which the convict forfeits his life. Humane motives undoubtedly prompted the enactment of the existing law, but as long as the clause requiring an autopsy before there are positive signs of death continues a part of the penalty, humanity will receive a shock from each succeeding execution. To be hanged, drawn, and quartered was the sentence of the middle ages. To be rendered helpless by an electric shock and then disemboweled by doctors, before the body is cold, is the decree of our twentieth-century courts. The physician is not expected to pass upon the merits of capital punishment, but the profession at large should protest vigorously against performing the legitimate functions of a hangman."

There seems to us to be little if any ground for suspecting that in this instance the convict's death was not caused solely by the electrical current employed for the purpose of killing him, and we do not suppose that Dr. O'Neill seeks to create an impression to the contrary, but it must be confessed that he has presented a striking picture of some of the repulsive features of electrical execution and of the repugnance generally felt in the medical profession to an autopsy which possibly may not really be a post-mortem. The significant title of his article is Who's the Executioner?

MINOR PARAGRAPHS.

THE ROYAL ARMY MEDICAL CORPS IN THE SOUDAN.

WE congratulate our army medical brethren across the water on the way they appear to have justified the free hand which was given them in the management of their own affairs by the creation of the Royal Army Medical Corps and its establishment on an individual and autonomous basis. We learn from the *British Medi-*

cal Journal for September 17th that it is announced that "the Royal Army Medical Corps deserves a complete dispatch to itself, so admirably was its work done. There was a perfectly equipped field hospital fifty yards to the rear of the zariba, and a base hospital four hundred yards in the rear. The wounded were carried back by reserve companies, and attended to without the least delay or confusion." There appears, says the *Journal*, indeed to be only one opinion as to the highly efficient and successful manner in which the medical service has, in the face of very great difficulties, done its part in the Soudan campaign. The organization of the medical machinery, and the perfection with which it has worked, reflect the highest credit on Surgeon-General W. Taylor and the officers under his command, and also on the Sirdar, who, instead of treating the medical service as an inconvenient incumbrance, if not a mere superfluity in the field, has done everything in his power to facilitate its effective action. We trust that the object lesson here afforded us will cause our own people to cease abusing our army medical department for failures for which it is in no sense responsible, and to amend the system so as to give proper power to the medical authorities to do their own organization and administration in their own way.

YELLOW FEVER IN THE SOUTH.

It will be seen by the Marine-Hospital Service's health reports published in this issue that during the week ending September 24th yellow fever was reported from five localities (one including an entire county) in Louisiana and from the same number of places in Mississippi. The mortality from the disease seems to be low thus far, and, with the season so far advanced and the Marine-Hospital Service so vigilant, so capable, and so well equipped as it is known to be, little fear need be entertained, we think, of a destructive epidemic.

WANT OF DISCIPLINE AS A CAUSE OF DISEASE.

Apropos of some remarks in a leading article in our issue for September 24th concerning the lack of discipline among the volunteers as a leading factor in the army camp "scandals," we observe that in the *Evening Telegram* for September 24th General Shafter is reported to have said that the "scandals of the camps" struck him as the natural product of inexperience among the soldiers. "There has been gross carelessness on the part of new men in sanitary matters," he is said to have stated. "You can't make them understand the necessity of care. They resent being bedeviled by their officers for not picking up cigar stubs and fruit peelings and doing such apparently trivial things. In the civil war we often started out with a thousand men, and in six months lost five hundred of them through sickness." In this undisciplined inattention to apparently trivial details, and in facts disclosed by the following pregnant sentence from Lieutenant-Colonel Girard's letter published in our issue for last week, may be found the keynote to the whole matter. "The men," says Colonel Girard, "*barely controlled by their officers* (*chums and townsmen of the enlisted men*), an absence of officers trained in the knowledge of and recognizing the necessity for the strictest sanitary measures." Therein lies the essential difference between a soldier and a mere fighting man. The need of stringent discipline for an army, even in the minutest details, was openly scoffed at by press and public before the war. It has resulted, as all competent military critics feared that it would result, in an enormous unnecessary waste of health and life, not to mention money. American soldiers, whether regular or volunteer, have shown that they are "first-class fighting men"; but they have also demonstrated that when regularly trained officers do not predominate in an army and are not in entire control thereof, the fighting inevitably takes place at what may metaphorically be termed a "mechanical disadvantage."

THE HEALTH OF THE JACKSONVILLE CAMP.

Lieutenant-Colonel Maus, chief surgeon of the Seventh Army Corps, in a letter to Major-General Lee, written more than a month ago, but only within the last few days made public, says that he regards Jacksonville as one of the wholesomest places in the country for a camp, that its water supply is perfect, and that it is abundantly provided with appliances for the care of the sick. In the few cases of typhoid fever that have occurred the disease was contracted by the men before they came to the camp. That, we take it, is true for the most part of the cases in our other camps.

THE ALLEGED LOW BIRTH-RATE OF THE PROVINCE OF ONTARIO.

The alleged low birth-rate of the Province of Ontario, said to be "far below that of any other country [*sic*] in the world," is stated to have recently been made the subject of discussion in the Montreal Anglican Synod. Several reasons for the reputed state of things were given. One of them was this: "There are women of good standing who are averse to bearing children and act accordingly." So there are in many another community, more's the pity; no more of them live in Canada, we believe, than in any other similar geographical division of the civilized world.

PERMANENT TROOP SHIPS FOR THE ARMY.

It is gratifying to learn that the War Department is about to begin at once the work of fitting up a number of troop ships in a manner calculated to make them unexcelled for transportation purposes. It is almost certain that, for many months to come at least, we shall have to make frequent if not constant use of such vessels. We should never be without them again.

THE LOW DEATH-RATE IN OUR ARMY.

An editorial writer in the *Sun* gives the surgeon-general's estimate of the number of deaths from disease up to the present time as about 1,500, or only about three fifths of one per cent., in a total force of about 250,000 men. He cites a *Konversations-Lexicon* published in Leipsic—Brockhaus's, we presume—as stating the loss of life from disease in the German army during the Franco-Prussian war to have been nearly two per cent. A French medical authority, Dr. Cheun, according to the *Army and Navy Journal* (also cited by the *Sun's* writer), gives the number of "sick and frostbitten" in the French army as 339,421. The Hispano-American war has lasted thus far about five months; the Franco-Prussian lasted about seven months. The advantages of the Germans in being thoroughly prepared, the writer thinks, go far to neutralize this disparity of duration.

THE CARE OF ECZEMATOUS HANDS.

Eczema of the hands, says Unna (*Monatshefte für praktische Dermatologie*, xxvi, 11; *Deutsche Medizinal-Zeitung*, August 29th), is well known to be among the most stubborn of diseases, especially in persons who do manual work, such as bricklayers, grocers, bakers, and typesetters. The reason is, in great part, that such persons wash their hands repeatedly while they are at work. It is not the washing itself, however, that has a bad effect, but the exposure of the hands to the air immediately afterward, whereby the horny layer of the epidermis is dried and becomes the seat of little fissures that serve as avenues of entrance for dust and other injurious matters. On this account it is quite necessary that the evening ablution of the hands should immediately precede their treatment for the night, which should always be the chief treatment. If the hands are scrubbed with soap and warm water, they should then be covered at once with an impermeable coating of unguent. It is unnecessary to wash them in the morning, and the best treatment during the day consists in frequently applying some firm ointment or paste. For purposes of cleanliness, as before eating, simple rubbing with oil, followed by a dry wipe, generally suffices, and such oiling should never be omitted before or after the use of soap. Careful attention to these details, at night and in the intervals of work, will cure eczema of the hands even in washerwomen and kitchen maids, whose hands are necessarily brought in frequent contact with soap and water.

AN INSUFFICIENCY OF SURGEONS IN THE FRENCH ARMY.

The *Progrès médical* cites the *Progrès militaire* for August 24th to the effect that in the recent manœuvres, notwithstanding numerous calls upon the reserves, there was such a notable lack of medical officers as would be a serious defect in case of mobilization, one that would call for speedy remedy. In view of the extent to which our own forces have suffered from a lack of regular army surgeons it is a melancholy consolation to learn that another nation is in a like predicament.

PRINCE BISMARCK'S BRAIN.

An anthropologist named Ammon, says the *Medicinisch-chirurgisches Central-Blatt*, makes the statement that Bismarck's brain was probably the heaviest on record. He judges from measurements of Schäfer's bust of the great chancellor that his brain must have weighed 1,867 grammes (over fifty-eight ounces). Cuvier's brain weighed 1,830 grammes; Byron's, 1,807; Kant's, 1,650; Schiller's, 1,630, and Dante's, 1,420. The average for a well-built European adult man is given as 1,380 grammes.

ITEMS.

The American Academy of Railway Surgeons.—The fifth annual meeting will be held in Chicago, on Wednesday, Thursday, and Friday, October 5th, 6th, and 7th, under the presidency of Dr. R. Harvey Reed, of Rock Springs, Wyoming. The programme includes the following papers: Anæsthesia, by Dr. R. H. Cowan, of Radford, Virginia; Traumatic Injuries of the Peripheral Nerves, by Dr. D. S. Fairchild, of Clinton, Iowa; Injuries of the Genital Organs, by Dr. Milton Jay, of Chicago; The Radical Cure of Hernia, by Dr. W. J. Mayo, of Rochester, Minnesota; Concealed Meningeal Hæmorrhage, by Dr. H. Reineking, of Sheboygan, Wisconsin; The Interment of Ericsen, by Dr. W. J. Galbraith, of Omaha; Physical Examination for Railway Service, by Dr. J. F. Pritchard, of Manitowoc, Wisconsin; The Hygiene of Railway Injuries, by Dr. Granville P. Conn, of Concord, New Hampshire; Conservatism in Railway Surgery, by Dr. H. Hatch, of Quincy, Illinois; The Higher the Order of Railway Surgery the Greater the Protection to the Employee, the Passenger, and the Company, by Dr. R. Harvey Reed; Convenient First Dressing of Fractures, with Samples, by Dr. E. H. Trickler, of Cutler, Ohio; and The Surgical Treatment of Some Varieties of Disease of the Prostate and Seminal Vesicles, by Dr. G. E. Benninghoff, of Bradford, Pennsylvania.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 24, 1898:

DISEASES.	Week ending Sept. 17.		Week ending Sept. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	209	44	167	29
Scarlet fever	49	7	59	3
Cerebro-spinal meningitis	0	8	0	5
Measles	33	2	41	3
Diphtheria	102	18	109	17
Croup	7	4	6	3
Tuberculosis	169	145	133	146

The German Medical Society of the City of New York.—At the next regular meeting, on Monday evening, October 3d, Dr. R. Denig will present a case of argyrosis consequent on the use of protargol; Dr. W. Freudenthal will present one of chronic urticaria of the larynx; Dr. Sara Welt-Kakels will report a case of pregnancy with double uterus; and Dr. A. Ripperger will read a paper on Expression of the Urinary Bladder.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, September 27th, Dr. M. D. Mann was to read a paper entitled Some Common Mistakes in Gynæcology, which was to be discussed by Dr. Fredericks.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, September 24th, the following papers were to be presented: A Report of Two Fatal Cases of Hysteria, by Dr. H. C. Fairbrother; and A Report of Three Fatal Cases of Hysteria, by Dr. A. R. Kieffer.

Cornell University Medical College.—We are informed that the opening of the new college will be marked by an address from President Schurman of the university, and from Dr. Polk, dean of the medical faculty. The exercises will be held in the amphitheatre in the college building, on Tuesday, October 4th, at 8 P. M.

Erratum.—The third conclusion of Dr. H. B. Sheffield's paper on Hysteria in Childhood in our issue for September 24th, page 436, should read "eighteen months old," not "eighteen years old" as printed.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending September 24, 1898:

Small-pox—United States.

Dwight, Ala.	Aug. 1–Sept. 12	12 cases,	1 death.
Pawnee, Kan.	Sept. 15	1 case.	
Norfolk, Va.	Sept. 20	2 cases.	

Yellow Fever—United States.

Franklin, La.	From date of outbreak to Sept. 24.	70 cases,	2 deaths.
Harvey's Canal, La.		1 case.	
Jefferson County, La.		5 cases.	
Houma, La.		1 case.	
New Orleans		2 cases.	
Jackson, Miss.		2 “	1 death.
Orwood, Miss		41 “	
Oxford, Miss.		9 “	1 “
Taylor, Miss.		23 “	2 deaths.
Waterford, Miss.		1 case.	

Small-pox—Foreign.

Hongkong, China.	July 31–Aug. 6	1 case.	
London, England.	Aug. 27–Sept. 3	2 cases.	
Madras, India.	Aug. 6–12.	1 case.	
St. Petersburg, Russia	Aug. 13–20.	1 “	
St. Petersburg, Russia	Aug. 20–27.	1 “	
Montevideo, Uruguay	July 31–Aug. 6	1 “	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 31–Aug. 6	11 cases,	7 deaths.
Limon, Costa Rica	Sept. 4–10		2 ‘
Limon, Costa Rica	Sept. 16–24		2 “
Vera Cruz, Mexico	Sept. 1–8		4 “
Vera Cruz, Mexico	Sept. 8–16		6 “

Cholera—Foreign.

Calcutta, India	Aug. 6–12		71 deaths.
Osaka and Hiogo, Japan	July 16–31	4 cases.	2 “
Osaka and Hiogo, Japan	July 31–Aug. 6	1 case,	1 death.

Plague.

Bombay, India.	Aug. 9–16.		101 deaths.
Calcutta, India.	July 23–30.		4 “

Changes of Address.—Dr. I. H. Alexander, to No. 206 Second Avenue, New York; Dr. Pearce Bailey, to No. 4 West Fiftieth Street, New York; Dr. Daniel D. Devine, to No. 300 Jay Street, Brooklyn; Dr. Frederick Peterson, to No. 4 West Fiftieth Street, New York; Dr. William H. Thomson, to No. 23 East Forty-seventh Street, New York; Dr. D. J. Wallace, to No. 809 South Sixteenth Street, Philadelphia.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 21 to September 28, 1898:*

ANDERSON, C. L. G., Acting Assistant Surgeon. The leave of absence granted him is extended fourteen days.

BOYD, FRANK, Major and Surgeon, is relieved from duty with the *Panama,* and ordered to join his regiment.

CARROLL, JAMES, cting Assistant Surgeon, will proceed to Camp Thomas, Chickamauga National Park, Georgia.

COOK, GEORGE, Major and Chief Surgeon, United States Volunteers, is honorably discharged from the service of the United States.

ECHEVERRIA, RAFAEL, Acting Assistant Surgeon, will proceed to Jacksonville, Florida, for duty.

GONZALEZ, STEPHEN M., Acting Assistant Surgeon, will proceed to New York to take the first transport to Ponce, Puerto Rico, and upon arrival there will report to the commanding general at that place for assignment to duty.

GORGAS, WILLIAM C., Major and Surgeon, is granted leave of absence for one month.

HOLLIDAY, FRANCIS E., Acting Assistant Surgeon, will proceed to Camp Hamilton, Lexington, Kentucky, and report to the commanding officer at that place for duty.

JONES, ROBERT F., Acting Assistant Surgeon, will proceed to New York to take the first transport for Ponce, Puerto Rico, and upon arrival there will report to the commanding general at that place for assignment to duty.

MACLEAN, DONALD, Major and Chief Surgeon, United States Volunteers, is detailed as a member of the examining board.

MUNSON, EDWARD L., Captain and Assistant Surgeon, is detailed as a member of the examining board.

SIMONTON, A. H., Acting Assistant Surgeon, is granted leave of absence for one month.

SMITH, GEORGE A., Major and Brigade Surgeon, United States Volunteers, is honorably discharged from the service of the United States.

SUMMERS, THOMAS O., Major and Brigade Surgeon, United States Volunteers, is honorably discharged from the service of the United States.

YOUNG, WILLIAM G., Acting Assistant Surgeon, will proceed to New York to take the first transport for Ponce, Puerto Rico, and upon arrival there will report to the commanding general at that place for assignment to duty.

Society Meetings for the Coming Week:

MONDAY, *October 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Monmouth, N. J., County Medical Society (Freehold); South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, *October 4th:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Broome (annual), Columbia (semiannual—Chatham), Orange (semiannual—Goshen), and Washington (semiannual), N. Y.; Hudson (Jersey City) and Union (quarterly), N. J., County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Chittenden, Vermont, County Medical Society; Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *October 5th:* American Academy of Railway Surgeons (first day—Chicago); Utah State Medical Society (first day—Salt Lake City); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society

(Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *October 6th:* American Academy of Railway Surgeons (second day); Utah State Medical Society (second day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association: Obstetrical Society of Philadelphia; Washington, Vermont, County Medical Society; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

FRIDAY, *October 7th:* American Academy of Railway Surgeons (third day); Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *October 8th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Born.

ROCQUET.—In New Orleans, on Tuesday, September 20th, to Dr. and Mrs. Albert P. Rocquet, a daughter.

Married.

ADAMS—ELLIOTT.—In Boston, on Wednesday, September 21st, Dr. Herbert W. Adams and Miss Ethel G. Elliott.

CHAPIN—DICKINSON.—In New York, on Wednesday, September 21st, Dr. Amory Chapin and Miss Anna M. Dickinson.

JANEWAY—ALDERSON.—In Bryn Mawr, Pennsylvania, on Tuesday, September 27th, Dr. Theodore Caldwell Janeway, of New York, and Miss Eleanor C. Alderson.

MUNIER—CUSHMAN.—In New York, on Wednesday, September 21st, Dr. Vincent Maurice Munier and Miss Mildred L. Cushman.

NOYES—ELIOT.—In Pasadena, California, on Saturday, September 17th, Dr. George K. Noyes, of Milwaukee, and Miss Clara Eliot.

Died.

CURRIER.—In the Adirondacks, on Friday, September 23d, Scott H. Currier, son of Dr. Andrew F. Currier, of New York.

HALLOCK.—In Cromwell, Connecticut, on Friday, September 23d, Dr. Winthrop B. Hallock, in the sixty-first year of his age.

ISOM.—In Cleveland, on Monday, September 26th, Dr. John F. Isom, in the sixty-seventh year of his age.

Obituaries.

ABRAHAM M. OWEN, M. D.

ON Sunday, September 18th, at his home, in Evansville, Indiana, Dr. Abraham M. Owen died, aged forty-nine years. He was buried in Evansville on the 20th. Dr. Owen was a native of Kentucky. He was a graduate of the University of Virginia and of the Bellevue Hospital Medical College. His death is understood to have been due to some cardiac trouble.

Dr. Owen was one of the most capable surgeons in the country; he was also a teacher and writer of great ability. Above all this, he was a man of the noblest nature, every deserving person's friend, and he was beloved by everybody who knew him. Many people whom the family knew nothing about went to his funeral. Gray-haired men, we learn from a gentleman who was present, went up and stood by the side of the coffin, tears rolling down their cheeks, then stooped to kiss Owen's brow, and turned and walked sadly away. Nobody knew who they were or whence they had come, but evidently they were men who had met with some kindness from the dead and realized that a good friend of theirs had gone. The house was crowded, and so was the street, and even after the remains had been committed to the earth, through the whole afternoon, groups of people were to be seen going to the grave to lay flowers on it or returning from the performance of that act of affection.

Dr. Owen had been president of the Mississippi Valley Medical Association and a member of the judicial council of the American Medical Association, and was widely known to the physicians of North America. He was everywhere recognized as an accomplished, self-reliant, wise, generous, and genial man. He was handsome and winning in appearance, dignified and at the same time tender in bearing. The world has too few such men. We feel that we are quite within the truth when we say that a large proportion of those few are to be found in the ranks of our profession. One more of them has gone, and a great throng mourns its loss.

Special Articles.

CAMP WIKOFF: AN ACCOUNT OF THE DISEASES PREVALENT THERE.

[*A Report by our Special Commissioner, dated September 23d.*]

PROBABLY no collection of cases of tropical fevers has ever existed in a northern latitude similar to that which has passed through Camp Wikoff during the last few weeks. Out of nine thousand sick it is no exaggeration to say that at least ninety-five per cent. have suffered at this camp from active malarial infection or its sequelæ. It is a rare exception to find any patient from Cuba who asserts himself to have been entirely free from fever while on that island. The exceptions are principally among the officers, most of whom were rather better quartered while around Santiago than were the privates. Yet many officers also perished from this disease. Nearly all of those who slept on the ground after the battle of July 1st to 3d contracted some form of malarial fever. The worst cases developed, as a rule, among those men who were compelled, as most of them were, to sleep on the wet ground without any bedding other than their army blankets.

One regimental surgeon tells me that every one of a number of men who slept on the ground at a certain spot near "Bloody Bend" died later of pernicious malaria.

The "mosquito theory" of infection seems to have been put to a rather severe test, for in many of the worst cases the sufferers assert that they were not seriously troubled with mosquitoes. Others, however, state that mosquitoes were an almost constant pest.

As judged by the cases reaching Montauk, the negro troops tolerate malarial infection much better than the whites. There have been many cases of severe malaria here among the negroes, but very few deaths, although the negroes will not take quinine regularly.

About ninety per cent. of the cases of Cuban malarial fever are of the æstivo-autumnal variety, the tertian organism being rather rare, but causing, nevertheless, some of the severe and fatal cases.

A moderate number of cases have shown the mixed infection with tertian and æstivo-autumnal organisms. Two cases only of quartan fever were found out of several hundred patients examined.

The first symptoms of the disease were usually rather mild, many patients stating, when asked if they had had chills and fever in Cuba, that they had "more fever than chills." The tertian infection, however, invariably caused severe chills.

It was gathered from a large number of accounts and histories that the average case of Cuban malaria is marked by three paroxysms, each lasting about one week, followed at once or very soon afterward by relapses of increasing severity, and unless energetically treated, proving fatal in the third attack. A great many died in their third relapse at Montauk. The use of quinine had usually broken the regular course of these relapses, and every possible variety of quartan, tertian, quotidian, irregular, or continuous fever has been observed.

The most striking group of cases has been that of the cerebral type. Anywhere from one to twenty patients of this class of case have been received in a comatose condition every day during the arrival of transports from Cuba, for on most of these transports the disease seemed to have had nearly free course. Most of these patients presented the rather characteristic appearance of deep stupor, or "coma vigil," or complete coma, with anæmia and slight jaundice, considerable elevation of temperature, rather rapid pulse, but usually with pupils reacting to light. Most of them responded in a few hours to hypodermic injections of quinine, or in unfavorable cases the coma only shortly preceded death.

It has been a surprising fact that in a considerable number of these patients their fatal seizures developed after several days' sojourn and duty at the regimental camps, quinine having been omitted during the interval when the patient seemed fairly well.

Most of the comatose cases showed the presence in the blood of the early ring-shaped æstivo-autumnal parasite, often associated with the older crescents. Some showed crescents only, and several had double infection. In over one hundred such cases the organisms were never absent from the circulation.

It seemed to be a fairly constant rule that when the coma failed to yield to hypodermic injections of quinine within twenty-four hours the disease proved fatal. Very large doses, one hundred grains or more, of the dihydrochloride were often administered with success.

Many atypical forms of the cerebral variety were observed and led to various provisional diagnoses. The symptoms were sometimes indistinguishable from those of meningitis, but such symptoms, rigidity, spasms, etc., were usually transient. A few cases exhibited general convulsions. Some were suspected to be cases of insolation, the temperature in one or two instances during the heated term reaching 107° F.

Sudden relapses of coma were often noted. One patient, who smoked his pipe constantly in the intervals, became suddenly unconscious three times during five days, the pipe dropping on the floor. After remaining unconscious for from three to four hours he would suddenly recover, pick up his pipe, and resume smoking.

The gastric type was a very frequent form of seizure. These patients were subject to severe and uncontrollable vomiting. In a few instances blood was vomited in large amounts. One case proved fatal. The patients usually responded readily to quinine. The blood generally showed an abundance of parasites, either of the early ring-shaped forms, indicating a recent sporulation, or only crescents. In some cases the rings were missed from the blood, but two or three days later crescents appeared in abundance.

The majority of the cases of æstivo-autumnal fever were of the irregular remittent type. In a considerable number there was observed the typical weekly paroxysm, the fastigium being reached on the second or third day, and the temperature dropping to normal by the seventh day. These patients usually responded well to quinine. If the cases relapsed under quinine the temperature remained lower and became more uniform.

Of true remittent malarial fever there have been many cases. These all gave a previous history of acute seizures of severity.

As usual, they were refractory to quinine. The plasmodia were not present in numbers in the circulation. Many of them ran a prolonged course and reached a mild typhoid condition, recovering with severe anæmia, but much more rapidly than similar cases of typhoid fever. The exact limits of this group of cases are, of course, uncertain.

In apparently typical cases the blood showed severe anæmia, no distinct plasmodia, occasionally "quinine organisms," pigmented leucocytes, and lymphocytosis, or mixed leucocytosis. The blood failed to give Widal's reaction, and abdominal symptoms were absent.

Several hundred cases of typhoid fever have developed among the Santiago troops, so that the opportunity to study mixed typhoid and malarial infection has been very great.

That such cases of mixed infection—*i. e.,* cases of genuine typho-malaria—exist here in abundance it is impossible to deny.

Nearly all the cases of typhoid fever give an unequivocal history of previous malarial infection, often immediately antecedent. Several patients have tinct quotidian or tertian rigors, the temperature continuing high and abdominal symptoms developing later.

Nevertheless, out of over one hundred cases of undoubted typhoid fever, the writer has been unable to find the plasmodium of malaria in the blood in a single case. Many of these cases, of course, showed the typical erratic temperatures of typho-malarial fever.

On the other hand, in several cases, *after recovery from* typhoid fever, malarial parasites have been found in the blood during some sudden exacerbations of fever, usually preceded by a distinct chill.

Moreover, fatal cases of typhoid fever have shown at autopsy the presence in the marrow and spleen of active rings and crescents.

The writer has therefore been convinced on anatomical grounds of the coexistence of these two infections, and is compelled to accept the view held by nearly all old army surgeons that the mixed infection does exist.

It would appear, however, that when typhoid fever develops in a malarious subject the progress of the malarial infection is largely inhibited, to develop later during convalescence from the typhoid. The absence of the plasmodium from the blood must stand as strong evidence that the irregular exacerbations of typho-malarial fever are not due to sporulation of the malarial parasite.

Besides the cases of typho-malarial fever many cases of typhoid fever of ordinary character have been treated in the hospitals here.

Within a week past forty to fifty cases of typhoid fever have developed in the camp. These have been of extreme severity in onset, resembling malarial infection. Some have run a short course and are recovering, others are passing through the usual course, and yet others have died in very early stages from very severe typhoid toxæmia.

The majority of these cases came from the camp of the Second Infantry, most other localities having apparently remained free from infection.

Dysentery is the only other disease of importance affecting the Santiago forces. A simple catarrhal diarrhœa of a few days' duration, yielding to opium and camphor, has been an extremely common complaint.

Cases of *amœbic dysentery* have been of frequent occurrence, and the mortality from them has been high. The stools from most of these cases (about twenty have been examined) contain the *Amœba dysenteriæ* in great abundance. The *Amœba coli mitis* has not figured in any of these cases, and the writer is inclined to doubt the accuracy of the descriptions of the smaller amœba sometimes described in tropical dysentery.

The *Amœba dysenteriæ* at Camp Wikoff measures 40 to 60 μ in diameter while actively amœboid, and a little less than this when dead. Occasionally slightly smaller forms were observed.

Trichomonads were found in enormous numbers in several of these stools as well as in other conditions.

The association of amœbic dysentery and pernicious malarial fever has been an interesting and rather frequent occurrence. In most of the cases the existence of malarial infection was entirely masked by the symptoms of the dysentery.

Naturally, the mortality from the combined causes has been very high.

As to the general mortality in the hospital, opinions are at variance. Considering all cases treated, it is about four per cent. Considering only those cases treated here throughout their illness, it is nearer three per cent.

Typhoid fever is lately furnishing the majority of deaths, and the percentage of mortality is high, just as the type of infection is undoubtedly very severe.

The number of deaths from pernicious malarial fever has been lamentably large, and as this disease is undoubtedly under the complete control of quinine, if properly administered, it strikes one as a great pity that army surgeons individually have not been more on the *qui vive* against this very insidious foe.

Yet the regimental surgeons can hardly be blamed, when, as an army surgeon tells me, they were publicly informed by a high authority on yellow fever that the army had little to fear from Cuban malarial infection.

The course of all diseases has been largely influenced by starvation and exposure, the evidences of which were in many instances very startling.

A survey of the hospital has from the first fully borne out the trite statement of a well-known commander that "war is hell." And Camp Wikoff has assuredly been a large feature of the present war.

Letters to the Editor.

A NEW USE OF DR. J. B. MURPHY'S METHOD OF IMMOBILIZING THE LUNG.

Terre Haute, Indiana, *September 17, 1898.*

To the Editor of the New York Medical Journal:

Sir: Lizzie A., suffering with advanced consumption, came under my care early in August, 1898. She had been troubled with frequent hæmorrhages, which kept her weak and anæmic, and on several occasions had almost cost her her life. Two days after I first saw her she was seized again with such a violent hæmorrhage that her life was almost despaired of, so that I determined to compress the lung for the purpose of arresting the hæmorrhage as soon as she rallied sufficiently to admit of any operation.

Accordingly, while she was still having considerable hæmoptysis, I injected eighty-five cubic inches of nitrogen gas into the pleural cavity. I decided that the right lung furnished the blood from an eroded vessel in a cavity beneath the second intercostal space, and accordingly the gas was introduced into the right pleural cavity.

The night after the introduction she spat up one or two mouthfuls of blood, which I decided came from a wound of the lung which I had made with the trocar, as, owing to difficulty of introduction, I was compelled to use the perforator to effect entrance into the pleural cavity. The difficulty was due to the exceeding narrowness of the intercostal spaces and the nervousness of my patient, so that I was compelled to make the puncture quickly.

The introduction of the nitrogen at once arrested the hæmoptysis, and it has not returned to this date.

There was small lung space in this patient, as she had a very narrow chest and was much emaciated.

The liver was forced down rather more than three inches, and the heart pushed to the left three quarters of an inch. The temperature fell from 103° F. to normal in three days, and the patient became quite comfortable, except that there was considerable dyspnœa on the slightest exertion. However, at the end of a week she came to my office, walking a block from the street cars. Owing to the presence of numerous and dense adhesions, the lung was compressed irregularly, and I think this fact added to her discomfort and dyspnœa. It prevented me from introducing a larger quantity of gas. The infection of the left lung was also quite extensive, since there is infiltration extending to the left third intercostal space.

The effort to secure a Röntgen picture was a failure owing to overexposure of the plates.

The purpose of this short communication is to call attention to the value of gas injection into the pleural cavity having the object in view of arresting hæmorrhage from an eroded vessel, or when due to a rupture of a small aneurysm in a cavity, which is the cause of about half the cases of fatal pulmonary hæmorrhage.

Walker Schell, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. THOMAS R. FRENCH, of Brooklyn, in the Chair.

(*Continued from page 388.*)

The Use of the Bernays Sponge in the Nose and Nasopharynx was the title of a paper read by Dr. W. K. SIMPSON, of New York. (See page 474.)

Dr. MAYER: Dr. Simpson was kind enough to come to my clinic at the New York Eye and Ear Infirmary a few days ago, and to demonstrate the utility of the Bernays sponge in checking hæmorrhage after operations on the nose.

The cases selected were three in number. All of them had enchondroses of the sæptum, which were removed by means of the electro-trephine. Instead of packing with iodoform gauze, as is my custom, the Bernays sponge was used and the hæmorrhage was promptly checked.

Twenty-four hours later the sponge was removed and not replaced. There was some complaint of pressure, and this is perhaps the only objection, if any, that may be made.

I think this is a valuable aid to us in intranasal operations, as it has shown its efficacy in cases other than these here mentioned in which I have used it.

Dr. MACKENZIE: I want to ask the author whether the power of sudden expansion in this substance, when used as a packing for the nose, would not give rise to considerable pain. Also whether this latter would not outweigh its advantage in other directions.

Dr. SWAIN: I would ask the author if, where it has been long under pressure, the sponge may become again contracted or reduced in size, so that it may be readily withdrawn. I would also ask whether withdrawing it causes a return of the bleeding, for it would seem almost impossible to avoid this latter contingency if there is no loss of the resilience of the sponge.

Dr. CASSELBERRY: I would ask how long this sponge will remain aseptic after it is placed in the nose. We know that with iodoform gauze, when used for the same purpose, the packing may be allowed to remain for a couple of days. Would Dr. Simpson feel as secure with the Bernays sponge after an operation as if he had used iodoform gauze?

Dr. SIMPSON: In reply to the question as to the amount of pain caused by the Bernays sponge, I would say that I have not met with this objection. The expansion is limited by the walls of the nasal chamber where the pressure is made sufficient to check the hæmorrhage. The sponge, as it absorbs moisture, soon expands and meets the sides of the nose.

As regards the questions of Dr. Swain, I would say that the sponge does not again contract. Of course, in removing the sponge the hæmorrhage is likely to recur if we disturb the clot, and this will happen with iodoform gauze and absorbent cotton as well as with the sponge. Its recurrence must sometimes be expected. The danger of hæmorrhage when removing may be reduced by applying some form of antiseptic ointment to the sponge before introducing it into the nose.

How long the sponge would remain aseptic, of course I can not say, nor can I speak as to its relative safety in this respect when compared with iodoform gauze. Iodoform, if desired, could be dusted on the sponge before introducing it into the nose, or it might be incorporated with the sponge in its manufacture. I do not see why this could not be done if thought desirable.

As an illustration of the convenience and value of this expedient for checking epistaxis, I might quote a case of typhoid fever in which there was hæmophilia, with hæmorrhages from various mucous membranes, but excessive bleeding from the nose. Several kinds of packing were resorted to and soon became saturated without checking the hæmorrhage, but on inserting a piece of Bernays compressed sponge the hæmorrhage was thoroughly controlled.

Enlargement of the Lingual Tonsil as a Cause of Cough.—Dr. BEVERLEY ROBINSON, of New York, read a paper on this subject. (See page 476.)

Dr. NEWCOMB: In the class of cases to which attention has been called in the very practical communication of Dr. Robinson, there are two remedies especially which have been of much service to me. One is the local application of the glycerite of boroglycerin, combined with the internal administration of oxalate of cerium in doses of ten grains every half hour until the patient has taken a drachm. This acts as a sedative to the cough.

Dr. RICE: I am sure it is of benefit to the association to have its attention called to enlargement of the lingual tonsil in children as a cause of irritative cough. Dr. Robinson has expressed surprise that we do not find more trouble from this condition in young children than we do. I think it is because of the fact that the epiglottis is placed so far back in young children that it is less likely to be irritated by the lingual tonsil. In adults, I have frequently seen, as the result of such pressure by these growths, much local irritation and even enlargement of the epiglottis, but in children this does not often occur, because, as I have said, there is rarely contact, and we must remember the lingual tonsil is not often greatly enlarged in children. Personally, I have found that many of these cases of irritative cough are due to postnasal adenoid growths and enlargement of the faucial tonsils. I do not remember having seen cases of enlargement of the lingual tonsil in children without enlargement also of the faucial tonsils, and often adenoid enlargement too, and I have always felt that the latter conditions were more potent in producing cough than enlargement of the lingual tonsil.

Dr. FARLOW: There is a practical point to which I would like to call attention in examining patients for the presence of enlarged lingual tonsil. In the ordinary method of introducing the laryngoscopic mirror this region is often overlooked. If the mirror is held more nearly horizontal and just in front of the base of the uvula, the glosso-epiglottic fossa is easily seen, and it is always well to introduce the mirror slowly, looking at the dorsum and base of the tongue before examining the larynx.

Symptoms similar to those described by Dr. Robinson may be caused by enlargement and prolongation downward of folds or projections from the *faucial* tonsils, which press against the sides of the epiglottis and tongue even when there is no enlargement of the lingual tonsil.

Dr. SWAIN: I think that I have been interested in the lingual tonsil and its diseases perhaps as long as any member present. It was in 1885 that I reported a series of sixty-eight cases from the clinic of Professor Hagen, in Leipsic, at which time I was his assistant. I was much interested in Dr. Robinson's remarks concerning his observations on children. We are all aware that at birth no adenoid tissue is found on the base of the tongue; it is only after the third or fourth year of the life of the child that adenoid tissue appears there. It is from this period on that the child becomes subject to various exanthematous diseases, during the occurrence of which all the adenoid tissue of the nasopharynx and throat undergoes enlargement. I was at one time of the opinion that the lingual tonsil was not the subject of disease prior to the period named, and that it rarely was found until after puberty. I no longer hold the opinion that enlargement of the lingual tonsil does not exist in young children, and I am glad to add a mite to what has been said by Dr. Robinson on that point. At the same time, acute enlargements of the tonsil are not common.

I also wish to confirm the remark about the method of introducing the mirror mentioned by the last speaker. It is very easy to overlook the glands at the base of the tongue unless they are especially sought for.

I might also emphasize what I said at Pittsburgh, that frequently the cough is the result of the enlargement of the lower part of the faucial tonsil. Cough is not only produced by friction between the glandular tissue of the tongue and the epiglottis, but also by the contact of the lower part of the faucial tonsil, or the enlarged nodes below it, with the lingual hypertrophy. The inflammation of these lingual structures is to be treated on the same general principles as are useful in other tonsillar affections, both acute and chronic.

Dr. **Roe**: When Lennox Brown, who was the first to call the attention of the profession to this subject, pointed out the relations which many disturbances of the throat sustain to diseases of the glandular structures at the base of the tongue, he gave a clew to the explanation of a great many affections of the throat, the cause of which had been previously overlooked. But even at the present time, as Dr. Farlow has just said, diseased lingual tonsils are often overlooked in an ordinary examination of the throat.

When the pharyngeal and faucial tonsils are diseased, it is quite common to find a diseased condition of the lingual tonsil also, for the reason that the chain of glands surrounding the fauces are composed of the same kind of tissue, and the influences that cause an enlargement and disease of one collection of glands will at the same time affect the others. In a great many cases the persistent coughs in children, and also in adults, are caused by an enlargement or diseased condition of the lingual tonsils coming in contact with the epiglottis, which, by keeping up a persistent tickling, excites a hacking cough with a constant inclination to clear the throat. In many cases, as Dr. Robinson has pointed out, this persistent cough in children will continue, notwithstanding all forms of medication which are not directed to this region, and sooner or later it is ascribed to some unknown reflex cause located in some other part of the body.

With reference to the removal of the lingual tonsil, I would say that several years ago I invented a lingual tonsillotome for this purpose which operates on the principle of Mackenzie's amygdalotome, but curved so as to pass over the base of the tongue. In many cases where this tonsil is a rounded projecting mass, it can be most easily and satisfactorily removed with this instrument. In those cases, however, in which the tonsil is lobulated and so flat that the mass can not readily be engaged in the fenestra of the instrument, I have found the use of a snare having a curved stem most satisfactory. The wire should be so stiff that, with a little pressure, the loop can be imbedded in or around the mass of tissue to be removed. In these cases it is often necessary to remove a piece at a time, but with a little patience, care, and dexterity, the entire mass can be completely removed. A smooth surface is then left which quickly heals, and the operation is almost entirely free from pain and not followed by the soreness that results from the removal of this tissue with the galvanic cautery. The use of the galvanic cautery, however, is extremely serviceable in the obliteration of the enlarged or varicose vessels of this region, where the enlargement of the tonsil is due to an increased vascularity instead of a true hypertrophy.

Dr. **Gleitsmann**: I was very much interested in Dr. Robinson's paper, as I read a paper before the Laryngological Section of the Academy of Medicine of New York, about eleven years ago, upon hypertrophy of the lingual tonsil, in which I discussed both the pathology and treatment. I reported several cases in that paper in which cough was the principal symptom, and have had others since. One was in a young lady, twenty-eight years of age, who had a constant dry cough, which, in the minds of her relations, was a sign of beginning consumption. In that case I removed a mass of lingual tonsil, and entirely relieved the cough. I read a paper in Brooklyn a year later, and reported that the same patient had come back to me and stated that her cough had returned. If I had not recognized the patient as the one who had previously suffered with cough from hypertrophy of the lingual tonsil, I would not have known where to look for the cause, but on careful examination I found an enlargement of a small mass of glandular tissue in the glosso-epiglottic fossa, which I removed and thereby relieved the cough permanently.

I have not had much experience with this condition in young children, and feel obliged to Dr. Robinson for expressing his views.

In adults, the galvano-cautery and lingual tonsillotome are what I have generally used in the removal of hypertrophied masses from the base of the tongue.

Dr. **Langmaid**: I am constrained to range myself by the side of Dr. Rice in the discussion of this subject. Since hearing Dr. Swain's paper on the lingual tonsil, I have been on the lookout for the cough from enlargement of that structure. I regret to say that I have failed to find any evidence either of cough or other disturbance of this reflex character. I have seen large growths in this situation, but they were unattended by any such result. I have not met with a case such as Dr. Gleitsmann has referred to. I have also looked for it as a cause of cough—as Dr. Robinson has so graphically described—in children, but thus far I have not been able to find it acting as a cause.

My reasons are these, and I think, without comparing myself with others, I have found myself reasonably successful in the treatment of these cases: There is no reason, in the first place, why such a result should follow enlargement of the lingual tonsil. Where a cough is present in such cases, I have always found in addition enlargement of the tissues in the vault of the pharynx. Now we know that there are very few reflexes which start directly from the base of the tongue. In fact, there is no comparison between the frequency of the reflexes starting from the pharynx and those from the base of the tongue. At the same time, I am much obliged to Dr. Robinson for calling attention to this as a possible cause of cough and I shall continue to look for cases of this character.

Dr. Robinson: I am, of course, perfectly familiar with the very important work done by other members of this association with regard to disturbances resulting from enlargement of the lingual tonsil, but from my knowledge of the work of this association I did not believe that the attention of the fellows had been called directly to the possibility of acute congestion and enlargement of the lingual tonsil as a cause of cough in children.

I know that cases have been sent to general practitioners by specialists in this line because cough had persisted after removal of the faucial tonsils; but I must say that it is only since my attention was called to enlargement from acute congestion of the lingual tonsil in children that I have been able to understand these cases of irritative cough.

The local treatment which I have used consisted in the application, directly to the glands, of the compound tincture of iodine twice daily. All other local treatment I have stopped, as it gave me no result whatever. The relief to the symptoms was very marked, showing that the cause of the cough had been removed. Previous to my knowledge of this, I could arrive at no satisfactory explanation of this class of cases. Although you may not have met with these cases, yet I must express my strong personal conviction that when you come in contact with general practitioners you will find that they admit enlargement of the lingual tonsil in children as a cause of persistent irritative cough.

(To be continued)

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of June 1, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

(Concluded from page 462.)

The History of a Case of Cerebral Abscess of Unusual Origin.—Dr. Charles Phelps read a paper with this title. (See page 469.)

Dr. Lambert said that a microscopical examination of the section of the brain from the case presented by Dr. Phelps had shown areas of necrosis, with irregular areas of brain tissue, a few areas of normal neuroglia, and small areas of hæmorrhage and of tissues infiltrated with leucocytes. There were also some cells resembling the spider cells seen in glaucoma, and areas of granulated tissue extending into the cerebral tissue, and sometimes abruptly separated from it.

Dr. Joseph Collins said that the case which had been so admirably presented by Dr. Phelps was very interesting from both a pathological and a diagnostic standpoint. As Dr. Phelps truly said, cases having a preceding and clinical history similar to this one were very rare, and the individual did not encounter many of them. A number of cases had been reported in which the pathogenesis had been similar to this case, but in the majority of them trauma, with an open wound communicating with the air, was an ætiological factor. He ventured the belief that in Dr. Phelps's patient the abscess formation had been of long duration, and had perhaps causal connection with the caries of the cranial bone. He believed that the pyogenic process had existed for a year or longer before it had manifested itself significantly. A case had been reported from Glasgow of a man who had been struck on the head with a musket, resulting in an abscess, though there was no connection with the open air. The pathogenesis was not difficult to interpret if one kept in mind the anatomical relations. One remark had been made that some might take exception to—viz., that abscesses in the central portion of the brain were extremely rare. They were relatively rare, but when they did occur, they were usually from trauma. Those located in other parts of the brain came more often under medical than surgical supervision in the beginning. He wished to ask if Dr. Phelps had made the diagnosis of abscess positively before operation.

In regard to treatment, it seemed to him that the present mortality justified laying bare the abscess, scraping out the cavity, and thoroughly cleaning the affected area. The occurrence of the epileptic condition was remarkable. It was important to see if some measure could not be devised which would prevent the hernia cerebri and subsequent vegetations, and thus the facility with which the secondary infection took place and destroyed the brain. He was not inclined to attach any importance to the spider cells found in this case, or the glioma cells found in the pieces of vegetation removed, even if they were present. This case showed the importance of the pathology of infections of all kinds. It might have been possible to utilize lumbar puncture in the early weeks of the disease, and thus had the attention drawn earlier to intracranial suppuration.

Dr. C. L. Dana said that the history was a very typical one of cerebral abscess. These abscesses could generally be recognized and their origin traced, but the difficulty was to remove them without killing the patients, as the brain was an organ very peculiar in its susceptibility to injury and its power of absorption. No other organ had such extended lymphatics, and no other organ had such an absorbent area. For this reason the brain, when affected, became œdematous, and the pressure prevented resorption and carrying off of the œdema. He thought the patients might be benefited by extensive bleeding, counter-irritation, etc., and that it was possible, by relieving the blood pressure, to secure the resorption of the congestion, and the carrying off of this matter. It was important that the medical side of the question should be studied as well as the surgical.

Dr. Edward D. Fisher said he had been interested in the cases reported before by Dr. Phelps. It was very probable that in case of trauma the point of infection was overlooked, and in many cases there was a small nidus for infection. The rise of temperature in these cases was important from a diagnostic standpoint. The question as to which side of the brain was affected, for instance, in an injury, reminded him of a case which came under his observation some years ago. An Italian had a portion of the frontal lobe shot away, yet he made a good recovery, with no special mental disturbance.

Dr. Phelps said that the origin of the trouble in the case under consideration was not known to be trauma. He could not say that the man had never received an injury in the head, but he could find no history of one. He thought there was nothing strange in a case of infection through the lymphatics. During the time from August till February he was not able to find any symptoms that pointed to cerebral abscess, and the man considered himself in good health, interrupted only on the two occasions on which superficial abscess formed. In reference to the localization in the frontal lobe, he did not consider this case conclusive; only one in line with others.

At the time of the operation the abscess was not more thoroughly opened and curetted on account of the patient's condition, for it was difficult to keep him alive. The patient's strength often failed during the operation, and he was glad to get through with the case as well as he had. Cases of this form of infection were rare. He had records of five hundred and seventy-three cases of injuries of the head, and out of these, four were cases of cerebral abscess. One patient was operated on just before death. In the past, when it was considered wrong to remove bullets, spicula of bone, etc., cerebral abscesses were more common than at the present time. He did not see anything in the case to lead to the conclusion that the abscess had existed for a long time, even a year before. He had not mentioned in the history that the diagnosis had been correctly made, as it seemed sufficiently indicated.

Book Notices.

The Mineral Waters and Health Resorts of Europe. The Treatment of Chronic Diseases by Spas and Climates, with Hints as to the Simultaneous Employment of Various Physical and Dietetic Methods. Being a Revised and Enlarged Edition of *The Spas and Mineral Waters of Europe.* By HERMANN WEBER, M. D., F. R. C. P., Consulting Physician to the German Hospital, etc., and F. PARKE WEBER, M. D., F. R. C. P., Physician to the German Hospital. With a Map. London: Smith, Elder, & Co., 1898. Pp. xiii–524. [Price, 10*s.* 6*d.*]

WE have already had occasion to speak in commendation of the work of which this volume is the revision and enlargement; and we have rated it as unusually meritorious. It is therefore a pleasure to us to see its reappearance so soon and to note its development. The present edition departs in no vital respect from its predecessor; its plan and its scope are the same, but there is on every page the evidence of most careful revision and on many pages there are additions of interest and importance. A chapter on grape cures, milk cures, and similar forms of special treatment is a notable addition to the volume, but in quality is somewhat of a disappointment, chiefly because of an undue brevity. The work, as we have already stated, will more than repay the possessor.

Chirurgie de l'intestin. Par M. JEANNEL, Professeur de clinique chirurgicale à la Faculté de médecine de Toulouse. Avec 363 figures dans le texte. Paris: Institut de bibliographie scientifique, 1898. Pp. xi–409.

M. JEANNEL, who is professor of surgery in the medical school in Toulouse, has evidently presented the world with a labor of love, for he modestly announces in his preface that he has no other excuse to offer for this addition to the literature of medicine than that he is interested in his subject. The results of the application of this motive are excellent. The technique of the surgery of the intestine is exceedingly well described in carefully arranged chapters. The general operative procedures are first considered, the methods of suture are described, the special instruments which are used in intestinal work are noted, and lastly a short section on post-operative care finishes the first part. In the opinion of the author little or no opium, early but careful feeding, and a laxative on the second or third day are the chief points in the after-treatment. He allows solid food at the end of a week.

The rest of the volume is devoted to the consideration of the special operations on the large and small intestine. A short *résumé* is given of the history and development of the particular method under discussion, and then follows a detailed description of each operation, aided by a large number of excellent illustrations. Due credit is given to surgeons of other countries than France, a practice which is becoming more noticeable every year, as is also that of furnishing a book with a good index. This volume is remarkable in the latter respect, as it possesses no fewer than five of various sorts, the last being arranged on the decimal system now used in classifying titles in scientific bibliographies.

Notes on Military Hygiene for Officers of the Line. A Syllabus of Lectures formerly delivered at the United States Infantry and Cavalry School. By ALFRED A. WOODHULL, LL. D. (Princ.), Lieutenant Colonel, Medical Department of the United States Army. New Edition, revised and augmented. First Thousand. New York: John Wiley & Sons. London: Chapman & Hill, Limited, 1898. Pp. 181.

THIS convenient little volume contains interesting and valuable chapters on military clothing, food, camps and marches, water, etc., that give concise information on these subjects. A timely addition to the revised text is an essay upon the care of troops in the field, especially in warm climates.

La thérapeutique des empyèmes. Par le Docteur E. CESTAN, Ancien interne des hôpitaux de Paris. Paris: Georges Steinheil, 1898. Pp. iii–5 to 394.

THIS monograph on the treatment of empyema covers the subject in a very complete way and, what is more remarkable, draws largely from American literature, especially as regards the operative results obtained in this country. The reports of a large number of cases have been tabulated and the results and methods discussed in a very clear way, though the author adds no new results of his own. To one interested in the subject it offers the most recent review of the methods and results of treatment in this important surgical field.

Yellow Fever. Clinical Notes. By JUST TOUATRE, M. D. (Paris), former Physician in Chief of the French Society Hospital, New Orleans, etc. Translated from the French by CHARLES CHASSAIGNAC, M. D., President of the New Orleans Polyclinic, etc. New Orleans: New Orleans Medical and Surgical Journal, Ltd., 1898. Pp. xiv–206.

THIS volume is almost entirely clinical, as its title indicates, and, as the production of a physician of wide experience, furnishes a valuable source of information. The first portion of the book is concerned with the general symptomatology of the disease, special emphasis being laid on the so-called law of Faget. This law is simply a formulation of the clinical fact that the pulse in certain stages of yellow fever does not follow the temperature in its upward course, but falls continuously. Touatre maintains that it is of great value from a diagnostic point of view. A large number of clinical histories and temperature charts occupy the third chapter, while the last three are devoted to diagnosis, prognosis, and treatment. The author is a strong advocate of cold baths and sponging, combined with free use of the alkaline mineral waters internally.

Le rôle du ferment salivaire dans la digestion. Par le Dr. Godart-Danhieux. Travail fait à l'Institut universitaire de physiologie. Bruxelles: Hayez, Imprimeur de l'Académie royale de Belgique, 1898. Pp. vi–128.

This purely physiological work is devoted to the determination of the digestive power of the saliva and the inhibition of its action. The results obtained confirm our previous knowledge on the subject, but add nothing new.

BOOKS, ETC., RECEIVED.

A Text-book of Materia Medica, Therapeutics, and Pharmacy. By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc. Second Edition, revised. Philadelphia: W. B. Saunders, 1898. Pp. 11 to 860. [Price, $4.]

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XV. Infectious Diseases. New York: William Wood and Company, 1898. Pp. 3 to 658.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., LL. D., F. R. C. P., Examiner of Midwifery to the Universities of Cambridge and London, and to the Royal College of Physicians, etc. Seventh American from the Ninth English Edition. With Seven Plates and Two Hundred and Seven Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xvii–33 to 687.

A Clinical Manual of Skin Diseases. With Special Reference to Diagnosis and Treatment. For the Use of Students and General Practitioners. By W. A. Hardaway, M. D., A. M., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis, etc. Second Edition, revised and enlarged. With Forty-two Engravings and Two Plates. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xii–17 to 557.

A Text-book of Mechano-therapy (Massage and Medical Gymnastics). Especially prepared for the Use of Medical Students and Trained Nurses. By Axel V. Grafstrom, B. Sc., M. D., Late House Physician, City Hospital, Blackwell's Island, etc. With Eleven Pen-and-Ink Sketches by the Author. New York: O. M. Foegri & Co., 1898. Pp. 5 to 139.

Essentials of Modern Treatment of Disease. For the Use of Practitioners. (Alphabetically arranged for Ready Reference.) By K. M. Nadkarni, Associate Editor, Indian Medico-Chirurgical Review, etc. Part I. Madras: N. K. Rao & Co. London: Baillière, Tindall, and Cox, 1898. Pp. vi–212.

Le pain de froment. Par M. le Docteur Tison, Médecin de l'Hôpital Saint-Joseph, etc. Paris: A. Maloine, 1898. Pp. 26.

Bericht über die Dr. v. Ehrenwall'sche Kuranstalt für Gemüths- und Nervenkranke zu Ahrweiler (Rheinprovinz). Mit 23 Lichtdruck-Tafeln und 10 Plänen. Köln: J. P. Bachem, 1898. Pp. 64.

A Tragedy of the Great Plague of Milan in 1630. By Robert Fletcher, M. D., Editor of Index Medicus, etc. [Reprinted from the *Bulletin of the Johns Hopkins Hospital.*]

Hæmorrhagic Glaucoma—Report of a Case with Microphotographs. By E. C. Ellett, M. D., of Memphis. [Reprinted from the *Annals of Ophthalmology.*]

A Case of Tenonitis. By E. C. Ellett, M. D. [Reprinted from the *Ophthalmic Record.*]

Acute Inflammation of the Middle Ear. By E. C. Ellett, M. D. [Reprinted from the *Columbus Medical Journal.*]

The Determining Cause of the Site of Ulcers on the Nasal Sæptum. By E. C. Ellett, M. D. [Reprinted from the *Laryngoscope.*]

A Clinical Report on the Use of Argonin in Gonorrhœal Ophthalmia. By E. C. Ellett, M. D. [Reprinted from the *Memphis Medical Journal.*]

Treatment for Consumption by Electricity. By J. Mount Bleyer, M. D. [Reprinted from the *Scientific American Supplement.*]

The X Rays and their Safe Application. By J. Mount Bleyer, M. D. [Reprinted from the *Medical Times.*]

Glaucoma with Detachment of Retina. By William Cheatham, M. D., of Louisville. [Reprinted from the *Annals of Ophthalmology.*]

Orthoform and Extract of the Suprarenal Glands. By William Cheatham, M. D. [Reprinted from the *American Practitioner and News.*]

Post-operative Insanity. By R. Harvey Reed, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Diabetic Gangrene. By N. S. Davis, Jr., M. D. [Reprinted from the *Journal of the American Medical Association.*]

Fracture of Femur and its Treatment. By W. A. Kuflewski, M. D., of Chicago. [Reprinted from the *Chicago Clinic.*]

A Case of Chronic Intestinal Obstruction from Incomplete Volvulus of the Sigmoid Flexure. By Maurice H. Richardson, M. D., of Boston. [Reprinted from the *Transactions of the American Surgical Association.*]

Appendicitis; Remarks based upon a Personal Experience of Seven Hundred and Fifty-seven Cases; including One Hundred and Fifty-one Consecutive Cases Successfully Operated upon "in the Interval." By Maurice H. Richardson, M. D., and G. W. W. Brewster, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

Kryofine. By John H. Curtis, M. D., of Chicago. [Reprinted from the *Therapeutic Gazette.*]

Cystic Degeneration of the Chorion Villi with Coincident Cystic Tumor of Both Ovaries. By Henry Kreutzmann, M. D., of San Francisco. [Reprinted from the *American Journal of Obstetrics.*]

The Prevention of Diseases now Preying upon the Medical Profession. By Leartus Connor, M. D., of Detroit. [Reprinted from the *Bulletin of the American Academy.*]

A Temporal Algometer. By A. MacDonald. [Reprinted from the *Psychological Review.*]

Miscellany.

A Dangerous Fascination.—The *Western Medical Review* for September 15th quotes the following from an article on A Poison Factory in the *Boston Drug Market:*

In another room were tons upon tons of the finished cyanide of potassium, looking for all the world like white crystallized sugar.

"It looks good enough to eat," I remarked jocularly.

"Ah," replied my guide gravely, "that is just one of the dangers we have to guard against. For some inexplicable reason, cyanide of potassium exercises a remarkable fascination over the men engaged in its manufacture. They are haunted by a constant and ever-recurring desire to eat it. They are perfectly alive to the fact, however, that to give way to the craving would mean instant death, and are consequently usually able to resist. But not always. During the time I have been here three of our best and steadiest workmen have committed suicide in this strange manner, impelled thereto apparently by no cause save this mysterious, horrible longing. I myself have felt this same strange lust when I have been exposed to the cyanide fumes, and have had to leave the works for a time in consequence. So well is this curious fact recognized that there are always two men at work together in this branch of our business, and a jar of ammonia, which, as you may know, is the antidote to the poison, is kept constantly near at hand."

Our Military Blunders.—The following words from the *Philadelphia Medical Journal* for September 17th are strong, but perhaps not stronger than the occasion demands. The *Journal* says: "We have never prided ourselves upon our military and naval superiority to other nations, but we did think that no men of simple business, such, *e. g.*, as of the railway, were superior to those of our country. We stand before the world in concealed disgrace; we were not able to conduct a really small business matter or transport troops and supplies better than a barbarian tribe. Wholly unprepared, we went into a needless and useless war for a worthless lot of corrupt semisavages, and showed ourselves incapable of buying provisions, or of transporting our men and materials in a land gridironed with railroads and boundlessly rich; we then come home from easy victories over a pitiable enemy to see our highest officials quarreling among themselves as to who is to blame, like a lot of schoolboys. Finally, enraged at our national blundering, and stung by a deriding self-consciousness, the jingoes and yellows now seek to make a scapegoat of the medical department. Certainly our soldiers have suffered more than was necessary, and there have been a greater number of cases of sickness and deaths than should have been. But the profession and its journals—those that are genuinely such—must see to it that the scapegoat theory shall be met by the truth."

Sawdust Urinals.—Dr. G. V. Poore (*Lancet*, September 10th) calls fresh attention to the great value of sawdust in rendering urine filtered through it thoroughly aseptic, and advises that sawdust urinals be given a trial, as his increasing experience in this matter leads him to say that when properly constructed they are thoroughly satisfactory. There should always be complete exposure to light and air, but protection from rain is advisable. No better urinal can be devised than a tall bushel basket filled with deal sawdust and placed in a shed. Such a urinal in dry, hot weather will take a surprising amount of urine without affording any filtrate, owing to the freedom of evaporation. If the use of such a urinal is not excessive, and if it is stirred occasionally, it will increase in effectiveness with use. If the nose is placed close to the surface of such a urinal it will be found to be strongly ammoniacal, but he has never known one to be foul. The filtrate is usually slightly aromatic and has never shown any disposition to putrefy. He does not know how often the sawdust needs to be changed. He lately examined the sawdust which had been used for three months in the urinal of a country public house and found it absolutely free from all offensive odor.

When such urinals are not made of basket work they must have an outlet at the bottom through which the aseptic filtrate may escape to the drain. He refers those who wish for further details as to the construction of sawdust urinals to his little book, *The Dwelling House*, published by Longmans.

The Alleged Inhumanity of the Spaniards.—Lieutenant-Colonel Senn, U. S. V. (*Medical News*, September 17th), in an interesting article on The Invasion of Puerto Rico from a medical standpoint, cites the following interesting incident: "The day was hot and our troops had to ascend a steep hill from the crest of which the Spaniards defended themselves. One of the volunteer soldiers, outrunning his comrades, advanced far ahead of his line, and when he had nearly reached the Spanish position was overcome by heat. He fell in a semi-unconscious state. A Spanish doctor rushed to his aid with a stretcher and two hospital-corps men, administered the necessary restorative, and had him conveyed at once within our line." On this Colonel Senn remarks that this one act alone goes to show that the Spaniards have often been unjustly accused of being cruel and inhuman. This certainly has not been the case during the present war. From his own observations he is sure that they have respected the Red Cross. In fact, he says, the Red-Cross people of Puerto Rico, composed largely of Spaniards, have shown the greatest activity and interest in their humane work during the entire campaign.

The Ætiology of Yellow Fever.—Dr. F. G. Novy (*Medical News*, September 17th) sums up an exhaustive research by stating that:

1. The Havelburg and Sanarelli bacilli are distinct.
2. The Havelburg bacillus belongs to the colon group.
3. The Sanarelli bacillus undoubtedly belongs to the typhoid group.
4. Neither the Havelburg nor the Sanarelli bacillus is the cause of yellow fever.

The ætiology of yellow fever, he says, is yet to be worked out. The microbes of Havelburg and Sanarelli are to be placed in the already long list of disproved causes. The negative bacteriological results, taken in connection with the epidemiological facts observed in this disease, would seem to indicate that the cause will not be found in our group of bacteria. It is more than likely that the germ of yellow fever, as well as those of small-pox, measles, hydrophobia, etc., belongs to a group of organisms, smaller than our bacteria, and as yet unknown, awaiting discovery. The recent work of Roux and Nocard on the microbe of pleuropneumonia already proves the existence of organisms smaller than the "infinitely small" bacteria.

Premeditated Suicide.—*Langsdale's Lancet* for July quotes the following lament of a wearied layman, from *Judge:*

I ask a glass of water, or of claret, or of beer;
I go to kiss a pretty maid—she turns away with fear;
I eat some lemon jelly that's been standing on the sill;
And they tell me all are loaded—warranted to kill.

I put a pencil to my lips; I gulp down pounds of air;
I visit all the cattle at the Wayback County Fair;
I buy a paper of a boy, and handle dollar bills;
And they tell me every one of these has that on it which kills.

I'm not much up in science, but I know a thing or two;
I know that if I do not eat or drink or kiss a few
Of these fashionable, dreadful germs, I certainly will die,
For I'd have to give up breathing to escape the bacilli.

Bacteria, bacteria! I'm not afraid of you!
The world would roll around the sun for all that you can do.
So on dollars and on papers and on kisses and on food,
Just hand me common bacilli—I'm not a science dude.

And what's the use of living if you can not eat or drink,
If pretty girls and dollar bills, and even printer's ink,
And country fairs and pencils are only other terms
For the rapid-transit system of the scientific germs?

The Teachings of the Tongue in Disease.—Dr. Charles B. Hardin (*Langsdale's Lancet,* July) thus summarizes for the general practitioner some of the principal characteristics of the tongue in disease:

In meningitis, by reflex action the tongue is coated white at the centre, which afterward may assume a brownish color, with red edges.

In dengue, there are white fur at the centre, red edges, body swollen, the coat increasing as the disease advances, and assuming a dirty yellow color.

In erysipelas, the tongue is dry, parched, cracked at times, and coated with a reddish-brown hue. In less severe cases it is covered with a yellowish-white paste.

In idiopathic parotiditis the tongue is heavily coated.

Mild scarlet fever coats the tongue with a thin whitish fur; the papillæ are enlarged, and hence the organ assumes the "strawberry" appearance so characteristic of the disease.

In typhus fever this is at first a thin whitish fur, which may continue throughout in mild cases; in more severe cases it thickens to a dirty brown or even black color, with furrows or cracks, which may bleed at times.

In yellow fever it is moist and usually free from coating; if such is found, it is due to some complication.

In pyæmia, the tongue aspect is considered a reliable criterion to the clinician. After a few days the tongue is dry and excessively red and smooth, owing to the collapse of the papillæ, while the dryness is owing to diminished secretion. Again, it is covered with brown crusts, which must be cleared off ere the patient is considered safe; sometimes it is of a shiny aspect, as though covered with collodion.

In relapsing fever the body of the tongue is swollen, the central portion covered with white fur on the second day, with clean edges and tip. Sometimes in certain epidemics these appearances are not present, but the tongue is moist, rather large, with clear edges, the tip clean, with white fur in the centre. Some observers do not notice in this disease anything peculiar about the tongue, and describe it as moist and covered with a thick white fur. This cleans off to reappear on the advent of a relapse of the symptoms.

In typhoid fever, first the tongue is covered with a white coat; in eight or ten days this coat assumes a brownish color, leaving the edges and tips clean and swollen. Cracks and fissures sometimes occur. This fur cleans away to reappear again should a digestive or bowel complication supervene. Tremulousness of the tongue is also present in this disease.

Thus we see that the tongue is pallid in anæmia, yellowish in bilious disorder, red in glossitis, scarlet fever, and gastritis; furred in indigestion, gastrohepatic catarrh, and in the early stages of various febrile states; dry, brown, and fissured in typhoid and typhus fever; bare of epithelium in advanced phthisis, and in imperfect convalescence from severe acute diseases.

We recall a remark of a well-known lecturer: "There is a great deal of information to be gained from the tongue, gentlemen, provided you look at it only and do not listen to it."

Quinine in Malaria.—Dr. J. S. Van Marter, Jr. (*North Carolina Medical Journal; Louisville Medical Monthly,* September), thus summarizes his conclusions:

1. As a preventive, quinine will not do for those who are compelled to live indefinitely in a severe malarial climate, since it acts in time as a vasomotor poison.

2. Quinine acts nearly as a specific in all malarial fevers characterized by intermissions or well-marked remissions, but fails in continued fevers, those with typhoidlike symptoms, those malarial conditions without high temperature, and the cachexias and anæmias due to malaria.

3. Quinine is thus a poison to the plasmodium itself, but useless against the toxine manufactured by it.

4. In the last condition Warburg's tincture has an action, not yet understood, on the toxine (or eliminative system) by which the system is put in condition to benefit by quinine.

5. Quinine should never be used in hæmoglobinuria, or given subsequently to one who has suffered from it, being liable to bring about a recurrence of the condition.

6. Only those living in regions of severe malaria can become competent to settle the question *pro* or *con.*

Tuberculosis conveyed from a Man to a Cow.—Huon (*Riforma medica,* August 22d) related to the Congress for the Study of Tuberculosis a case in which a man who subsequently died from tuberculosis, as proved by autopsy, infected a healthy cow which he tended, and which was isolated for vaccination purposes. The cow was subsequently sacrificed, as it began to show signs of tuberculosis and reacted to the tuberculin test, and it was found to be suffering from *recent* tuberculosis.

The Preparation of Specimens for the Microscopist.—Dr. Hughes B. Hoyle (*Charlotte Medical Journal,* August) gives some concise instructions, which may be of service to busy general practitioners who desire to send specimens of sputum, tumors, etc., for microscopical examination by an expert. He says:

"Always label the specimen so that it may be distinguished from any similar one.

"Be sure to tell how you prepared your specimen, and what you suspect it to be.

"1. Sputum for *Bacillus tuberculosis.* Collect sputum from the patient early in the morning. That containing 'cheesy masses' is the best. Put it in a small phial, stop securely, and send by express.

"2. Pus for gonococci: The pus may be collected on a cotton swab, placed in a phial, stoppered securely to prevent evaporation, and sent by express. A better way is to spread the pus thinly on a 'cover slip' by means of a platinum wire, dry in the air, pack in cotton, and send by mail. Several slips had better be prepared, as the spreading may be too thick in some of them.

"3. Diphtheria: Swab out the throat with a sterile cotton swab, place in a sterile test tube, stop with cotton, and send by express.

"4. *Plasmodium malariæ:* Cleanse the finger with a four-per-cent. solution of carbolic acid, then with alcohol, wrap tightly to produce a temporary congestion, prick with a new sharp needle, collect a large drop of blood on one slide, and with a second slide spread the blood over the entire surface at a single stroke. Several slides should be prepared, as some of them are likely to be imperfectly spread. The spreading should be done quickly before coagulation begins. These slides may be packed in cotton and sent by mail.

"5. The serum test for typhoid fever: The finger is wrapped and pricked as in No. 4. Three or four drops of blood are collected in a small phial, which is securely stopped and sent by express. An easier method is to collect the blood on a piece of filter paper, dry in the air, and send by mail. There should be at least one square inch of filter paper saturated with blood. This test is not conclusive before the second week of typhoid fever. Should a differential diagnosis be desired, both the serum test and the examination for the malarial organisms should be made.

"6. Urine: Urine for either microscopical or chemical examination should be a portion of the mixed urine of the whole day; but in hot weather, when docomposition begins early, a portion of the morning's urine may be used. Put four ounces in a bottle, stop securely, and send by express.

"7. Water: Water for bacteriological examination should be collected in bulbs prepared for the purpose. These may be obtained from any dealer in microscopical goods, or from a microscopist. Immerse the bulb several inches below the surface of the water and break off the point of the stem. The bulb will fill with water. Seal the stem in the flame of an alcohol lamp, pack in ice, and send at once by express. Several such bulbs should be prepared. In case the bulbs are not obtainable, a glass-stoppered bottle should be sterilized by boiling an hour. Then fill with water and seal with sealing wax and pack in ice.

"8. Tumors: Cut a specimen from the developing part of the tumor at least an eighth of an inch square. Put in alcohol and send by express. Always send a clinical description of the case and be sure to state the part of the body from which the tumor was taken."

Tetanus following Laparotomy.—E. Koch (*Deutsche Zeitschrift für Chirurgie,* 1898, vol. xlviii, No. 4, p. 417; *Presse médicale,* August 20th) describes a case of tetanus which evidenced itself on the sixth day after operation in a woman of forty-two who had undergone hysterectomy and removal of the appendages for a fibromyoma. The autopsy showed an absence of any trace of peritonitis, but about the pedicle, which had been treated extraperitoneally, was a little serous exudation and an abscess the size of a nut developed about a thread of catgut. The pus from the abscess and serous exudation, when sown, developed *Bacterium coli,* but the subcutaneous implantation in mice of the thread of catgut gave rise to typical tetanus.

The author concludes that the infection of the wound with tetanus bacilli was therefore due to the catgut.

New Preparations from Creosote.—Dr. Brissonnet (*Journal des sciences médicales de Lille,* August 20th) described to the Congress for the Study of Tuberculosis new combinations obtained by him from creosote, of feeble odor and savor, and well tolerated. Phosphate of creosote, a colorless liquid, and tannophosphate of creosote, an amber-colored liquid, determine an increase of urea and urinary acidity. Creosoform is a greenish powder resulting from the combination of formic aldehyde with creosote.

The Influence of Phosphoric Acid with Creosote in Tuberculosis.—Dr. Boureau (*Nouveau Montpellier médical* for August 28th) has published a work in which he extols the favorable influence of phosphoric acid combined with creosote in the nourishment of tuberculous subjects. The amount of urea, the urinary acidity, and the weight of the patients have consistently increased in tuberculous children under observation in hospitals. The phosphoric acid appears to act by creating a state of hyperacidity, thus modifying the condition of the tuberculous, which is nearly always hypoacid.

Luxurious Traveling.—According to the *Railway Surgeon* for September 6th, the new Siberian train which has just been sent to St. Petersburg for inspection by the Czar contains some luxurious features which might astonish even the American traveler, accustomed to all the comforts and improvements afforded by the latest style of Pullman and Wagner coaches. The new train is made up of two coaches for second-class and one for first-class passengers, with dining and baggage cars. There are the comforts of a bathroom, with gymnastic apparatus, a library in several languages, a piano and selection of music, maps, guide books, albums of views, an ice cellar, and an arrangement for boiling water in three minutes by means of steam. The train is fitted with plates indicating the next stopping station and the length of the stop, if over five minutes.

A barber, who is also qualified to give medical assistance, and a superintendent, who speaks Russian, French, German, and English, are among the other conveniences provided. The train is lighted inside and out by electricity, and electric cigar lighters are found in the dining car. A photographer's dark room has been fitted up in the second-class car, in which plates can be changed and developed during the journey. Electric bells and portable electric reading lamps are in each compartment. The kitchen is equipped to furnish a hot dinner for a maximum of sixty people. Paper and envelopes will be supplied free at the buffet, where hot and cold drinks of all kinds can be had. There is no charge for the barber's services, but the price of a bath is about a dollar and fifty cents, and three hours' notice beforehand must be given. From Moscow to Irkutsk is six days' journey, and the charges for the trip under such luxurious circumstances are very moderate.

The Indian Medical Service and the New Army Rank.—Our brethren of the Indian medical service have not had to wait long for the extension to themselves of the military rank and titles accorded to the Royal Army Medical Corps. This concession was extended to them by a warrant published in the *London Gazette* for August 26th. There is not, however, any Indian army medical corps, and the Indian officers are still staff or departmental officers.

Infelicitous Loyalty. — The *Philadelphia Medical Journal* for September 17th quotes from the *Practitioner* the following anecdote:

"A distinguished physician of the medical establishment of the court, being on one occasion called to an exalted personage, had a notice posted up intimating to all whom it might concern that 'Dr. ——, having been summoned to Balmoral to see Her Majesty, will be unable to lecture to-day.' The effect of this announcement was rather spoiled by the fact that some one, with an inopportune display of loyalty, had written underneath 'God Save the Queen!'"

The Medical Department of the United States Army.—The *British Medical Journal* for September 10th, after quoting Surgeon-General Sternberg's letter of August 16th to the *Philadelphia Medical Journal*, adds:

"It may be added that the testimony of unprejudiced observers is decidedly favorable to the department. The Hon. Sherman Hoar, who, as agent of the Volunteer Aid Association, recently inspected the Massachusetts Volunteers in the Southern Hospital, writes as follows:

"'In fact, the medical department of the army, though overworked, is doing splendid service for our men wherever I have been. Every carefully considered suggestion is quickly received and acted on, and the malignant criticism too often seen is for the most part undeserved. Mistakes have been made, undoubtedly, but every effort possible is being made to prevent their repetition. I send this in justice to the medical department, who, from the surgeon general down, are doing an indefatigable and valuable work in an emergency which few can appreciate unless they have been in touch with it, as I have been for the last two months. The war department is doing all in its power to take care of the sick.'

"This evidence," says the *Journal*, "proves that there has been, to say the least, very gross exaggeration in the sweeping charges of neglect and incompetence which irresponsible critics have brought against the medical department of the United States army. Surgeon-General Sternberg has asked for a court of inquiry."

The Nature of Lupus Erythematosus.—Dr. C. P. M. Boeck, professor of dermatology in the University of Christiania (*British Medical Journal*, September 10th) arrives, in a paper presented to the Section of Dermatology of the British Medical Association, at the following conclusions:

"1. Lupus erythematosus is always and in all its forms an eruptive inflammatory disease of which the localizations are determined by the vasomotor centres of the skin. It is never merely a local process.

"2. Local irritation by heat, cold, and drugs plays only an accidental and determining part by bringing the vasomotor system into play.

"3. In view of the very frequent coincidence with tuberculosis it must be admitted that the latter plays an important part in the ætiology of the skin affection, and is probably the real and essential cause of it. The fact that a connection may be traced between all forms of lupus erythematosus and certain affections the dependence of which on tuberculosis is beyond doubt, is an evidence for the tuberculous origin of lupus erythematosus.

"4. As the tubercle bacillus can not be proved to be present in the inflamed skin, it is probable that the inflammation is brought about through the toxines of the bacillus, which act in the first place on the vasomotor centres, and in the second place on the parts of the skin in which the vasomotor disturbances are set up.

"5. The main anatomico-pathological changes are vasomotor dilatation of the blood-vessels, secondary poisoning of the tissue cells, and inflammation—the whole resulting very often in atrophy, rarely in necrosis."

Formalin in Blepharitis.—Dr. H. Moulton (*Journal of the American Medical Association*, September 17th), in a paper presented to the Section of Ophthalmology of the American Medical Association at Denver, says that during the past year he has employed formalin in all cases of blepharitis. To apply it he uses a toothpick with a small cotton mop wrapped on the tip so that it does not take up enough solution to run into the conjunctiva. The solution is made of the strength of two-tenths per cent. to one per cent., beginning with the weaker. It must be frequently renewed or prepared at the time of using, in order to insure uniformity of strength.

The lid is drawn away from the eyeball. The mop dipped in the solution is rubbed gently along the margin among the lashes until all the scales and crusts are removed and until the surface of any little pustule is rubbed off. The site of disease is thus left clean and smooth. The mop is renewed a time or two during each operation. A little bland oil may be applied afterward, or the formalin may be used in the oil. The applications are made daily if possible by the physician's hands. Otherwise they may be made by the patient at his home.

The correction of all refractive errors he holds to be of prime importance; likewise the improvement of local or general conditions which may predispose the margins of the lids to disease. With these precautions taken, he says, it is gratifying to note how rapidly patients will improve under formalin treatment. It will invariably improve all cases and will cure many of them. Some of those cured will relapse, but a renewal of treatment again relieves them. Several of his cases had been treated by himself by other means with little or no benefit, but improved rapidly under formalin.

A Spanish Military Surgeon's Observations in the Cuban War.—The *North American Practitioner* for September quotes from the *Lancet* some observations by Dr. Gonzalez Granda, medical officer of the first class in the Spanish army, published by him in the *Revista de Sanidad Militar* for February 1st:

"The Spanish surgeon formulates his observations as follows: (*a*) The projectiles used by the rebels were, in order of frequency, the ordinary Remington bullet, an explosive bullet, the bullet used in the Mauser cartridge, and, finally, a repeating-rifle bullet. (*b*) Of all wounds the least dangerous were those caused by cool steel. Several moderately dangerous incised wounds are far graver than a single severe wound. (*c*) Of all gunshot wounds those due to the Mauser rifle were the least fatal.

(*d*) The danger in a wound due to a Remington bullet depended chiefly on the range. Usually when a long bone was struck by a bullet the result was a comminuted fracture, but in many cases repeating-rifle bullets did not produce this effect; the leaden projectile, unenveloped by a metallic jacket, was easily deflected, causing damage to the soft parts alone. (*e*) The explosive bullets so freely employed by the rebels produced comminuted fractures of terrible extent, together with horrible crushing and laceration of the soft parts. These wounds are exceedingly grave '*quoad vitam et quoad functionem.*' The range of an explosive bullet is short, but in the Cuban war this did not benefit the Spanish troops because the encounters always took the form of surprises or ambuscades, the shooting being invariably at close quarters."

Hysteria in Animals.—According to the *North American Practitioner* for September, von H. Higier, of Warsaw, reports (*Neurologisches Centralblatt*) two interesting cases. The first is that of an intelligent young pet cat which was deeply bitten in the back by a dog and immediately became lame. It also mewed plaintively for several minutes. Five or six weeks after the accident the animal moved only the fore legs, the body, hind legs, and tail being the seat of flaccid paralysis and anæsthesia, strongly suggestive of dorsal myelitis, though there was neither vesical nor rectal incontinence. A few days later a housemaid purposely dropped the cat, back downward, from an open window to the ground, to see if it would land on its feet after the usual manner of cats, which in fact it did, and never afterward showed any lameness or anæsthesia. The mother of this cat during the last weeks of pregnancy had suffered severely from choreiform spasms.

The second case was that of a canary bird which, after a few moments of complete unconsciousness, from which it was aroused by sprinkling with cold water, became absolutely mute, though previously a good singer, but upon having its cage knocked down by a cat, it completely recovered in six weeks and a half.

Three cases of hysteria in dogs are also quoted from the work of Gilles de la Tourette.

The Surgical Treatment of Acute Rheumatism.—Dr. John O'Conor (*Glasgow Medical Journal*, September) records two cases of acute articular rheumatism treated by arthrotomy with good results in the British Hospital, Buenos Ayres. In the first case, a man, aged forty, the temperature on admission was 101.4° F.; the tongue furred; there was profuse sweating; the urine was scanty, high-colored, and albuminous. The patient complained of intense pain and stiffness in the left ankle, right knee, and left elbow. There was considerable periarticular inflammation about the ankle, and the slightest attempt at active or passive movement caused excruciating pain. The right knee was swollen, distended, immobile, and painful to the touch, and the left elbow was swollen, fixed, and tender. Twenty grains of salicylate of sodium were administered every two hours, the joints were enveloped in flannel, and milk diet was given. As no improvement had followed after two days of this treatment, operation was decided upon.

On December 18th the left ankle joint was opened by a small incision parallel to the inner border of the external malleolus, and nothing but synovial fluid was found. Multiple incisions were then made through the swollen and inflamed periarticular structures, and the cellular tissue was freely opened up, the capsule extensively exposed, and the presenting tendon sheaths incised. All the wounds were irrigated and packed with perchloride gauze. In fact, the treatment adopted was identical with that employed in severe cellulitis.

The right knee joint was opened by a two-inch incision, and six ounces of green, turbid, flocculent (almost purulent) serum were removed. Many flakes were detached from the recesses of the joint by the index finger and removed by irrigation; finally, a gauze drain was inserted.

The left elbow joint was exposed and opened by a three-inch incision to the outer side of the olecranon, and a tablespoonful of turbid serum was removed; irrigation and drainage followed.

The patient moved his elbow normally on the second, his ankle on the third, and his knee on the sixth day. The temperature fell to, and remained at, normal on the third morning. He was allowed out of bed on Christmas day and ate a full meal. A week later he was able to walk about, and was discharged cured on January 10, 1898.

Before leaving, he said: "I was as bad when I entered the operation room as when I was admitted to hospital, and on waking up from chloroform my pains had gone."

In the second case of a man aged forty-three, the temperature on admission was 102° F., with all the classic symptoms of rheumatic fever. Both wrists were red, tender, swollen, and stiff; the left knee was slightly swollen, distended, and fixed. Salicylates, flannel, and milk diet were most assiduously tried by the junior medical officer, Dr. Halahan, until December 19th, when Dr. O'Conor was asked to particularly inspect the patient, who was becoming very emaciated and losing his appetite; the fever and sweats continued; and the condition of the joints was getting worse.

On December 20th both wrist joints were opened, and nothing abnormal was found in their interior. The inflamed surrounding structures were freely opened up by multiple incisions, and the wounds irrigated and packed with gauze. Arthrotomy was then performed on the left knee, and two ounces of the usual dirty serum removed, with irrigation and drainage.

The temperature became normal in forty-eight hours. When dressed on the third day there was not a trace of rubor, dolor, tumor, or calor about the wrists or the knee, and what was more wonderful, the patient voluntarily moved the three joints through their normal range without the least pain.

On December 24th the patient was allowed out of bed and was given farinaceous diet. On the 27th, he walked out of the garden and was allowed full diet.

No trace of the disease having reappeared, he was discharged cured on January 11, 1898.

These two cases, says Dr. O'Conor, evidently tend to show that surgery is a curative agent in acute rheumatism, and that the sooner the latter term is dropped and acute infective arthritis substituted, the sooner shall we be in a position not only to better understand the complaint, but to more successfully combat it by prompt operative measures.

Death of Dr. Alexander Lindsay.—The *Glasgow Medical Journal* for September records the death, at the ripe age of eighty-two, of Dr. Alexander Lindsay, formerly professor of medical jurisprudence in Anderson's College, Glasgow.

Discovery of a Temple of Æsculapius.—The *Gaulois,* says the *British Medical Journal* for September 10th, announces an interesting archæological discovery which has recently been made in the Island of Paros. During the course of some excavations carried out on that island not long ago by the German Archæological School of Athens, the remains of the celebrated temple of Æsculapius, described by several Greek authors, were uncovered. The temple, which attracted crowds of pilgrims in antiquity, is in almost perfect preservation; its dimensions are 41.25 metres in length by 19.50 in breadth. There is nothing now left of the treasures which once made the temple one of the wonders of Greece. There is neither gold nor ivory, statue nor bas-relief. Everything that could be "looted" was taken at one time or another by ancient collectors of curios, or by pickers up of unconsidered trifles of a different kind. From the purely archæological point of view, the discovery is of the highest importance, for many marble tablets and columns have been found bearing inscriptions of great historic interest. At the foot of a rock not far from the temple the excavators have come upon a fountain which is believed to date from the fifth or sixth century before Christ. It is of white marble, and the water in it is abundant, clear and fresh, and will form a valuable addition to the water supply of the inhabitants of Paros. Close to the fountain have been found remains of ancient walls as to which there is much speculation among the archæologists. Further excavations are being made.

The Late Dr. J. E. H. Nichols.—A special meeting of the medical board was held at the Manhattan Eye and Ear Hospital on September 13, 1898, to take action on the death of Dr. J. E. H. Nichols.

The following resolutions were adopted:

Whereas, We have heard, with sorrow, of the death of Dr. J. E. H. Nichols, in North Carolina; and

Whereas, He has been connected with this institution for the past twelve years, the latter five of which as surgeon; therefore, be it

Resolved, That in the death of Dr. Nichols the hospital has lost one of its most efficient and faithful workers and we, his colleagues, a loved and valued friend.

Resolved, That the flag of the hospital be displayed at half mast until after his interment.

Resolved, That we extend to his family our sincere sympathy in their sorrow.

Resolved, That these resolutions be spread on the minutes of the medical board, and that a copy be sent to his family and published in the *New York Medical Journal* and in the New York *Medical Record.*

[Signed.] D. B. St. John Roosa,
President of the Medical Board;
Frank N. Lewis, *Secretary.*

Apropos of Reform by Compulsion.—The *Indian Medical Record* for August 16th credits the following, in which we wholly concur, to the *Medical Brief:*

No individual or nation has the right to set up a standard of morality for another, farther than to "Do unto others as they would have others do unto them." We are too apt to mistake a desire to impose our own wishes and views upon others for the self-sacrificial zeal of the true reformer. Morality is too often mere narrow-mindedness, bigotry, intolerance, which easily degenerate into persecution. Love of dominion and lust of power, conjoined with the better-than-thou sentiment, actuate the moralist far oftener than he suspects.

For instance, men of delicate appetites look with scorn upon the grossness of other men whose vigorous and healthy senses clamor for indulgence. Before the ascetic condemns the Sybarite, he should reflect upon his own poverty of body and ask himself if he would feel the same intolerance had he the other man's superior physical endowment. The man who sickens when he smokes a cigar is apt to think that smoking is wrong, but he has no right to prohibit others from the exercise of a free-will choice. If a man finds that certain articles of food disagree with him, he must not try to prevent others from eating them.

We learn by our mistakes. The fullest liberty of choice is essential to progress. No man, or nation of men, is perfect, and to generalize for the race from a narrow experience is hurtful. To lay down arbitrary standards is not only injudicious, but it does no good. It has no permanent effect and is demoralizing. People will always find a way to evade the spirit of laws which hamper Nature. When an individual, or a nation, reaches the moral state through evolution, they will keep the moral law, not from fear, but from love. Compulsion, therefore, is not the weapon of the true reformer. He instructs, advises, suggests, exemplifies in his own person the great truths which he believes. Those who really desire the welfare of men are satisfied to *teach and not to coerce.*

The Southern Surgical and Gynæcological Association will hold its next meeting in Memphis on the 8th, 9th, and 10th of November. The secretary, Dr. William E. B. Davis, of Birmingham, Alabama, informs us that the meeting promises to be one of the most successful in the history of the association, papers having been promised by many of the leading surgeons and gynæcologists of the country, especially of the South. Members of the medical profession are cordially invited to attend.

Bellevue Hospital.—We are informed that the following appointments have been made to the visiting staff: Dr. Egbert Le Fevre, physician; Dr. B. Farquhar Curtis and Dr. George D. Stewart, surgeons; Dr. L. Bolton Bangs, genito-urinary surgeon; and Dr. Henry C. Coe, gynæcologist.

Dr. Joseph M. Mathews and the Kentucky School of Medicine.—The *Western Medical Review* for September 15th states that Dr. Mathews has resigned the chair of surgery in the Kentucky School of Medicine to accept a corresponding post in the Hospital College of Medicine.

The St. Louis Medical Society.—At the regular meeting, on Saturday evening, the 17th inst., Dr. G. Wiley Broome was to report a case in which he found four distinct ovaries on the horns of a bifurcated uterus, and Dr. Joseph Mulhall was to exhibit a patient who wore his tube for cleaning and draining the maxillary sinus.

Yellow Fever in Puerto Rico.—General Brooke has informed the War Department that in the few cases reported on September 14th the patients are continuing to improve, and that no new cases had appeared. He thinks it probable that the spread of the disease that was feared has been averted.

THE NEW YORK MEDICAL JOURNAL, October 8, 1898.

Original Communications.

PARANOIA.

By ROSS GEORGE LOOP, M. D.,
ELMIRA, N. Y.,
LATE RESIDENT PHYSICIAN, ERIE COUNTY HOSPITAL, BUFFALO.

Of the various forms of mental derangement due to disease of the brain there is perhaps none more interesting than that variously known as monomania, primary delusional insanity, or paranoia.

Paranoia (παρά, beside, and νόος, the mind) is defined as a mental disease characterized by systematized delusions, in which heredity usually plays an important rôle. The fundamental characteristic of the disease is a delusion which has become part of the belief of the individual and which he considers himself able to explain and defend.

This disease is more rarely met with than is either mania or melancholia, and differs quite radically from them in most of its manifestations. The systematized delusions, which are the essential features of the condition, may be either expansive or hypochondriacal in character, or both may be present in the same patient at different times.

The intellect is rarely much involved, and this class of patients used to be included under the head of the partially insane. They are dangerous to be at large, owing to their peculiar delusions and apparent rationality. "They have in themselves a law sufficient unto themselves."

Paranoia is a neurosis in which the element of heredity is strongly marked. There is often a history of insanity, or, at least, of a nervous temperament in one or both parents.

Maternal impressions, malformation or injuries of the skull, diseases of childhood, such as infantile convulsions or delirium and meningitis, and overstudy in children, all predispose to the acquired form, which may manifest itself in early life or adolescence. It is also often associated with the periods of puberty, adolescence, and the climacteric, while masturbation and systemic disease predispose to the development of the condition. It occurs more frequently in females, celibates, and especially those born out of wedlock.

It comes especially under the class of degenerative diseases. The stigmata of degeneration, such as asymmetry of the skull, irregularities of the jaw, palate, nose, ears, and eyes, are quite often but not invariably present.

The pathological anatomy is not well understood. There seems to exist a morbid sensitiveness of the cerebro-spinal system.

Paranoia exists in two forms—viz., the primary or *Wahnsinn*, and the secondary or *Verrücktheit;* and several subdivisions, such as the ambitious, querulent, erotic, etc., are made.

1. *Wahnsinn.*—This form comes on quite suddenly, the delusions and hallucinations being rapidly combined and associated. There is usually considerable mental excitement, and delusions of depression are interspersed with those of exaltation, thus simulating mania circulaire, these periods not being so definite, however, as in the latter-named disease. The depressing delusions also resemble melancholia, but the patient does not on their account suffer mentally; he never despairs; he anticipates and considers escape from the persecutions possible if only the right methods are employed.

The more violent and characteristic symptoms are usually preceded by a longer or shorter period of insomnia and irritability, during which the patient may draw unpleasant conclusions from ordinary perceptions. Following this prodromal stage, delusions of persecution become dominant. He grows suspicious of his friends; while outwardly friendly and attentive, they are really plotting to injure him; he hears people making remarks about him on the street; he is suffering unjustly; he is always right, and no one can explain any falsely interpreted remarks or noises to him.

In some cases mechanical restraint is needed. There may be long periods of terror and systematized delusions and hallucinations, with now and then a period of interruption, not, however, due to exhaustion, as in mania. The patient sleeps well and is well nourished and may be quite rational except in regard to his delusions.

Those cases characterized by delusions of grandeur are chiefly religious. The patient is inspired. He sees heavenly visions and hears revelations. He may have exalted delusions regarding his physique and be fond of appearing in public in gaudy attire.

These symptoms may subside, but the improvement is frequently of only temporary duration, and often terminates in confusion or dementia.

In this form of paranoia, sedatives, such as the bromides, and non-stimulating tonics are indicated. The prolonged use of iron and the animal extracts is highly recommended. A well-regulated diet and exercise is also essential. Isolation is best when illusions exist, and company when hallucinations are prominent.

2. *Verrücktheit.*—In this form of paranoia, delusions of persecution and grandeur, usually with hallucinations, are carefully and slowly combined into a progressive delusional system. There is almost always an hereditary taint, and the stigmata of degeneration are frequently noticeable. It usually runs an unfavorable course.

There is a permanent and profound change in personality, but consciousness remains unaffected. In childhood there is manifested an unnatural love of solitude and of interest in the subjective rather than the objective. At puberty this tendency continues, and distrust and suspicion develop. "Long before recognized as an actual lunatic, he is styled a 'crank.'"

Delusions of exaltation and depression are noticed, although concepts are rationally combined in so far as they are not opposed to the dominant delusions. The delusions and hallucinations have not yet obtained convincing reality to the patient, who tries to overcome them by reasoning, but with only temporary success, thus showing his loss of the power of criticism.

Real misfortunes do not affect him, and he attributes them to their proper causes. Retrospection and combination of past events with fresh impressions are noticed, thus forming a chain of occurrences all going to prove, to his satisfaction, the persecutions to which he is subjected.

Auditory hallucinations also develop. The patient hears depreciating remarks about himself; he is mocked and insulted by people on the street. Generally he does not know his enemies, and makes no effort to find them out, thus showing his failing judgment. He is threatened on every hand, and at last attempts to escape by going to some other part of the country, but his enemies soon get on his track again and renew their plots against him. This fleeing from one place to another to escape persecution is a prominent symptom of paranoia. After several such unsuccessful attempts, he at last despairs of escape and may become less reticent and timid and may even speak to his persecutors about their inimical conduct, or he may become more secluded than ever. He locks his doors and windows, stops the keyholes, cooks his own food, and, in short, shuts himself away from the world as much as possible. But escape seems impossible. His enemies read his thoughts and he hears them spoken almost before they are formed. At length he may appeal to the civil authorities for protection, and this failing, he naturally concludes that they are in league with his persecutors. He may have hallucinations regarding his physical condition, declaring that his brain or spinal cord have been torn out or injured by his enemies; he has pains in his abdomen, etc. Hallucinations of the special senses are sometimes met with. The air is full of disagreeable odors and sounds. His food tastes like excreta. Hallucinations of vision are less common.

Delusions of grandeur may develop primarily, or as the result of those of persecution. The general attention and observation to which the patient is subjected is due to his greatness. He now experiences new sensations of magnetic currents in his body; he awakens to a new life, and may suddenly announce that he is a great ruler, a prophet, or a son of God, showing the frequent religious basis of *Verrücktheit.*

In the so-called ambitious form delusions of grandeur are constantly present. It is to this class that the political reformers, nihilists, and anarchists, such as Guiteau and Prendergast belong, while those who direct their affections toward people in a higher plane of society—*e. g.,* where a peasant falls in love with a queen or princess—belong to the erotic form.

These patients are frequently very bright. They often coin new words to express their ideas, and many remarkable discoveries and inventions have been made by them. One of the best German-English lexicons was compiled by a paranoiac while in confinement. Hallucinations are rare in persons not previously bright mentally.

Verrücktheit is common, especially in females, and begins usually at puberty, although it may develop at any age. It rarely begins in old age. The disease is usually preceded by a period of depression and irritability, but may come on suddenly with violence. It progresses by fits and starts, rather than by gradual advancement, and during its course there are marked remissions.

The prognosis is unfavorable. It runs a chronic course and may terminate in incomplete recovery, the chronic state, dementia, or death. These patients are dangerous to society during the disease, but after the development of dementia or confusion they need not be confined.

Treatment is unavailing. Much can be done when peculiarities are manifested in childhood by training a child properly—teaching him to bridle his imagination, and encouraging healthful sports and exercises—directing his mind toward the objective. In well-developed cases, sometimes travel, a sea voyage, mountain climbing, etc., always under observation of competent nurses, may prove beneficial, but frequently are harmful.

The following cases illustrate many of the foregoing symptoms:

Case I.—Mr. B., observed at Buffalo State Hospital through the kindness of Dr. Crego. Admitted November, 1892. Age, thirty-two years; occupation, no settled work. Habits good. Family history not known.

Physical Examination. — Fairly well nourished; marked vasomotor disturbance; eyes bright and restless; voice low and tremulous; negligent in dress; nervous in actions. Has prominent cheek bones, narrow forehead, protruding lower jaw, Gothic hard palate, and narrow dental arch. Biparietal diameter of skull rather long in proportion to other diameters. Has always been an erratic, queer individual, very nervous, and at no time settled. For five years previous to admission had been irregular, wandering about the country doing peculiar things. Spent part of his time studying medicine in St. Louis, but became suspicious of the professors and left. He squandered quite a sum of money, but labored under the delusion that a clergyman had defrauded him and had threatened his life. For a time after admission was very talkative, irritable, suspicious, refusing to take medicine or food, fearing they contained poison. Has gradually formed extravagant ideas of his strength and mental ability. Has very typical delusions of persecution and grandeur. Says he understands drugs better than any pharmacist, by noting their action on himself; that by studying their effects he can tell the kind and quantity of drugs contained in any mixture; that his brain is more fully developed than that of any living man; these statements showing his introspective tendencies. Challenges any one to box with him, or lift weights, or debate. Says he will meet any one in an argument on their chosen subject, and, without any preparation, will show his superiority. Says in preparing for a debate he follows the only proper method—studying his own mind, not books. Says he is unjustly confined because his ideas are so strikingly original that ordinary minds can not comprehend them and he is considered insane. Says doctors have tried to ruin his brain by thousands of drugs.

One statement which he made sums up the idea of persecution and greatness: "They are trying to ruin the brain of the greatest living thinker."

Case II.—Thomas C., aged thirty-eight years; nativity, United States; married; laborer; father was very eccentric, quarrelsome, and secluded; was brutal to his wife. One sister exhibits many symptoms of the disease.

Physical examination shows a strong, muscular development. High cheek bones, irregular nose, Gothic palate, while his feet exhibit the condition of talipes equino varus. No vasomotor phenomena present.

From boyhood he has been egotistical, selfish, and suspicious, accusing his best friends of endeavoring to do him injury. He has had constant trouble with men with whom he works, saying that he is always blamed for mistakes, while in reality he is never at fault; that he understands his business too well to make errors.

Although quite ignorant, he has undertaken several large enterprises and attributes his failures to the interference of his persecutors, not to his own incapacity.

His married life was not happy. He became suspicious of his wife's parents, and finally accused his wife of plotting against him. He would leave home in order to escape these persecutions, but says that they would send bad reports in advance, and he would find enemies wherever he went. Says that he would make one of the most successful business men in the country if his persecutors did not misrepresent his character.

At last he became violent and threatened to kill his wife, forcing her to leave home at night, and since then has been going from one part of the country to another, always finding enemies, and soon leaving, in order to escape them.

It was found that he had squandered a large sum of money recklessly and foolishly, most of which he had received from his father-in-law, whom he considered his worst enemy.

Case III.—Samuel Lang, aged thirty-three; born in the United States; occupation, farmer and general laborer; unmarried. Family history negative so far as obtainable.

Physical condition good. Patellar reflexes slightly exaggerated. Appetite good and bowels regular. Has a peculiar scaphocephalic head, narrow forehead, and prominent cheek bones. No vasomotor disturbance. Eyes bright and restless. He rarely looks directly at the person he addresses, but glances rapidly from one point to another in the distance. His voice is low and speech slow.

He has the delusion that he is "mesmerized" by a company of "electricians and millionaires," who are using him as a tool. They first gained control over him by compelling him to masturbate, which so weakened his mind that they have had him more or less under control since. As soon as he rallies from the effects of one masturbation, he is at once driven to it again, and thus is kept entirely in their power.

He says that his persecutors—electricians and millionaires of several countries—seem to be in a grand conspiracy to overthrow the United States government. China is the leader in this movement, and England and Germany closely follow. Just what part he plays he will not explain. Says that his persecutors prevent his divulging what he knows, but that his most important work is performed automatically, and he does not know it himself. But this he knows positively: that he alone is necessary to the success of their plans; without him they would fail. In other and minor affairs he says they persecute him to show their complete mastery over him. His food tastes like fæces; he is kept awake by voices mocking him or repeating his thoughts; he is forced to walk through certain streets; they have ruined his brain and spinal cord—in short, his life—and he would commit suicide if he could break from their powers long enough to do so.

He has worked at railroading, farming, in the Pennsylvania lumber woods, and in the mines, and has traveled the country over, from Texas, his home, to this State, vainly trying to escape from his persecutors.

432 Pennsylvania Avenue.

GROWTH IN SPONDYLITICS.*

By HENRY LING TAYLOR, M. D.

One of the most striking and serious results of Pott's disease is the dwarfing which it produces. A direct reduction in stature is caused at any age by loss of vertebral substance and spinal deformity, while in the young growth is retarded by the malnutrition incident to the disease. The amount of dwarfing will therefore depend in a given individual on the age of invasion, and the location, amount, severity, and duration of the morbid process, as well as upon the hygienic and surgical management of the case. The ultimate result, in all but a few exceptionally favorable cases, is a stature (and weight) considerably below normal. All of the foregoing statements have been verified by measurements of private patients, taken from time to time, and, while the number of observations is too small to establish growth curves for spondylitis under varying conditions, the results seem to be of sufficient interest to warrant a preliminary discussion of the topic, especially as the measurements in a number of cases have extended over a series of years, giving fairly complete individual records.

In general it may be said that the severe, early cases suffer most, and especially those where early, strict protective treatment is omitted. The growth curves of patients treated early show more progress than those of patients whose treatment was delayed. Strictness and laxity of treatment are also plainly registered in the curves.

Disease of the cervical region is least harmful in this regard; disease of the dorsal, especially the lower half, the most so; while disease of the lumbar region occupies an intermediate position. An average annual growth of an inch to an inch and a half extending over a number of years, instead of the normal two inches and upward,

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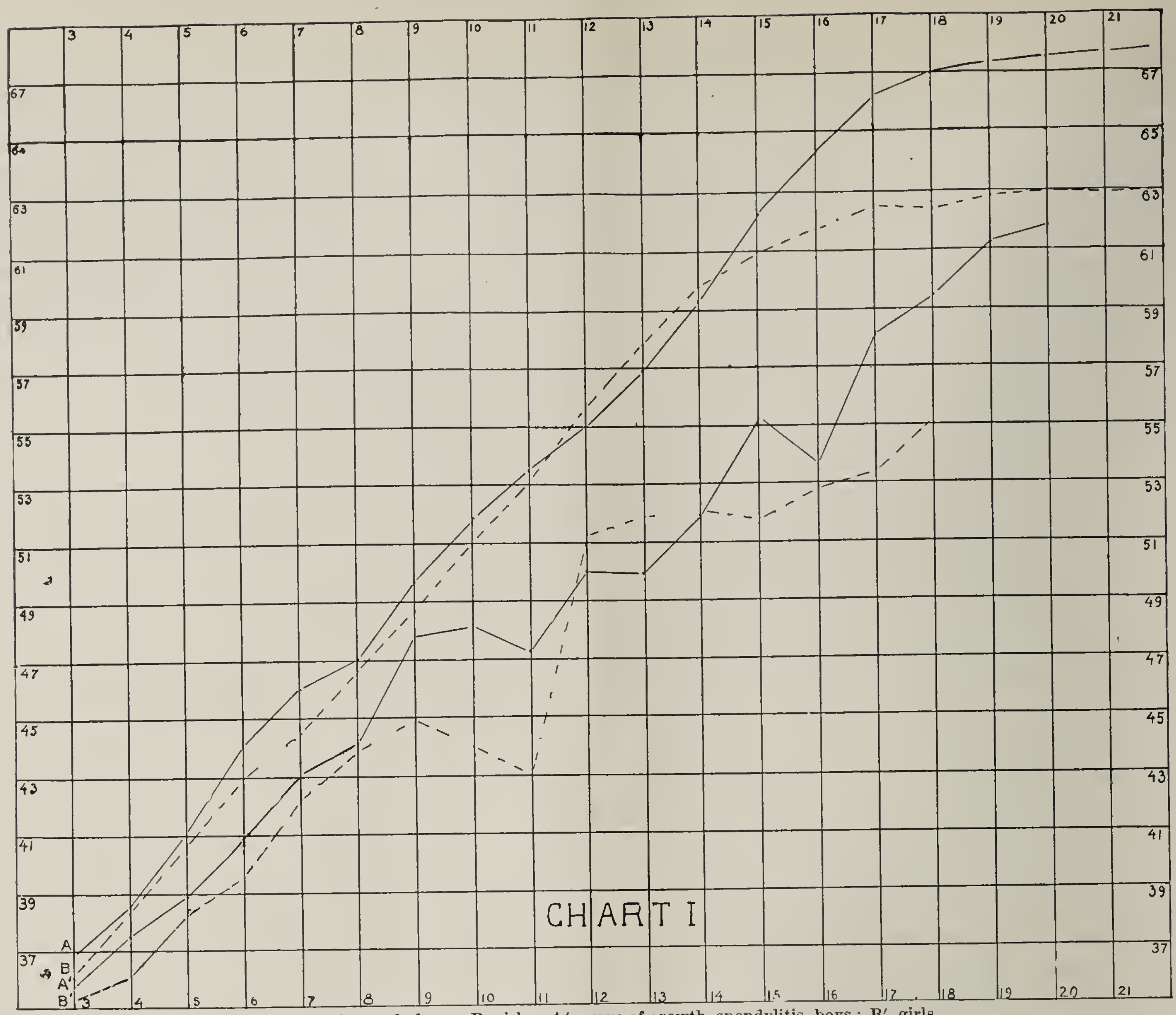
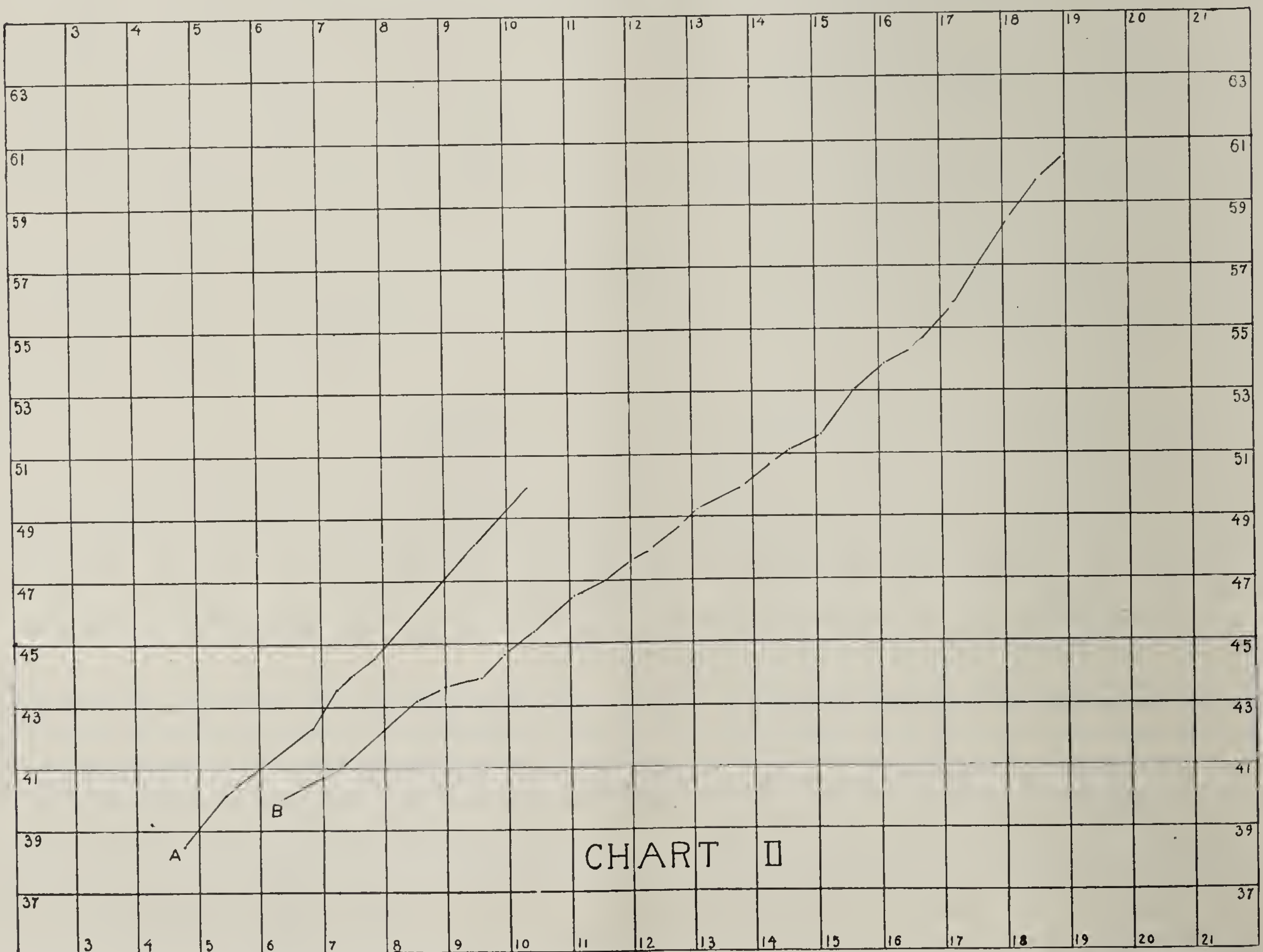
* Read at the meeting of the American Orthopædic Association, May 19, 1898.



A, curve of growth, boys ; B, girls. A′, curve of growth, spondylitis, boys ; B′, girls.



A, male ; disease at the age of two years ; seventh cervical to third dorsal ; slight deformity ; growth in five years and a half, eleven inches and a half ; yearly average, 2.06. B, male ; disease at the age of two years ; seventh to twelfth dorsal ; severe, prolonged ; growth in twelve years and a half, nineteen inches and three quarters ; yearly average, 1.61.

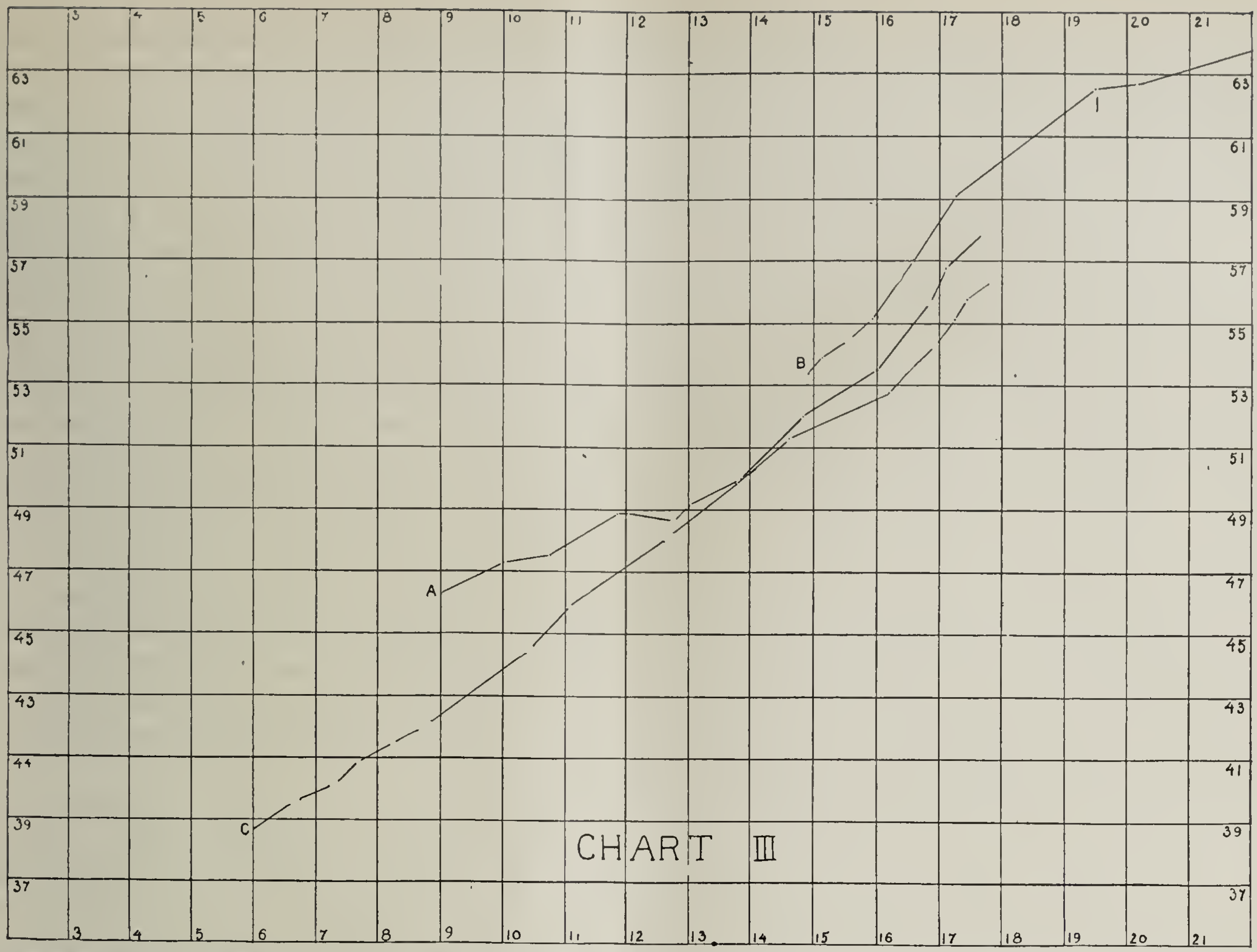


CHART III

A, male ; disease at the age of one year ; eighth to ninth dorsal ; severe, prolonged ; visits infrequent ; growth in eight years and three quarters, eleven inches and three quarters ; yearly average, 1.34. B, male ; disease at the age of five years ; lumbar, severe, prolonged ; growth in four and a half years, nine inches ; yearly average, 2. C, male; disease at the age of one year ; tenth to twelfth dorsal ; severe, prolonged ; growth in ten years and three quarters, sixteen inches ; yearly average, 1.50.

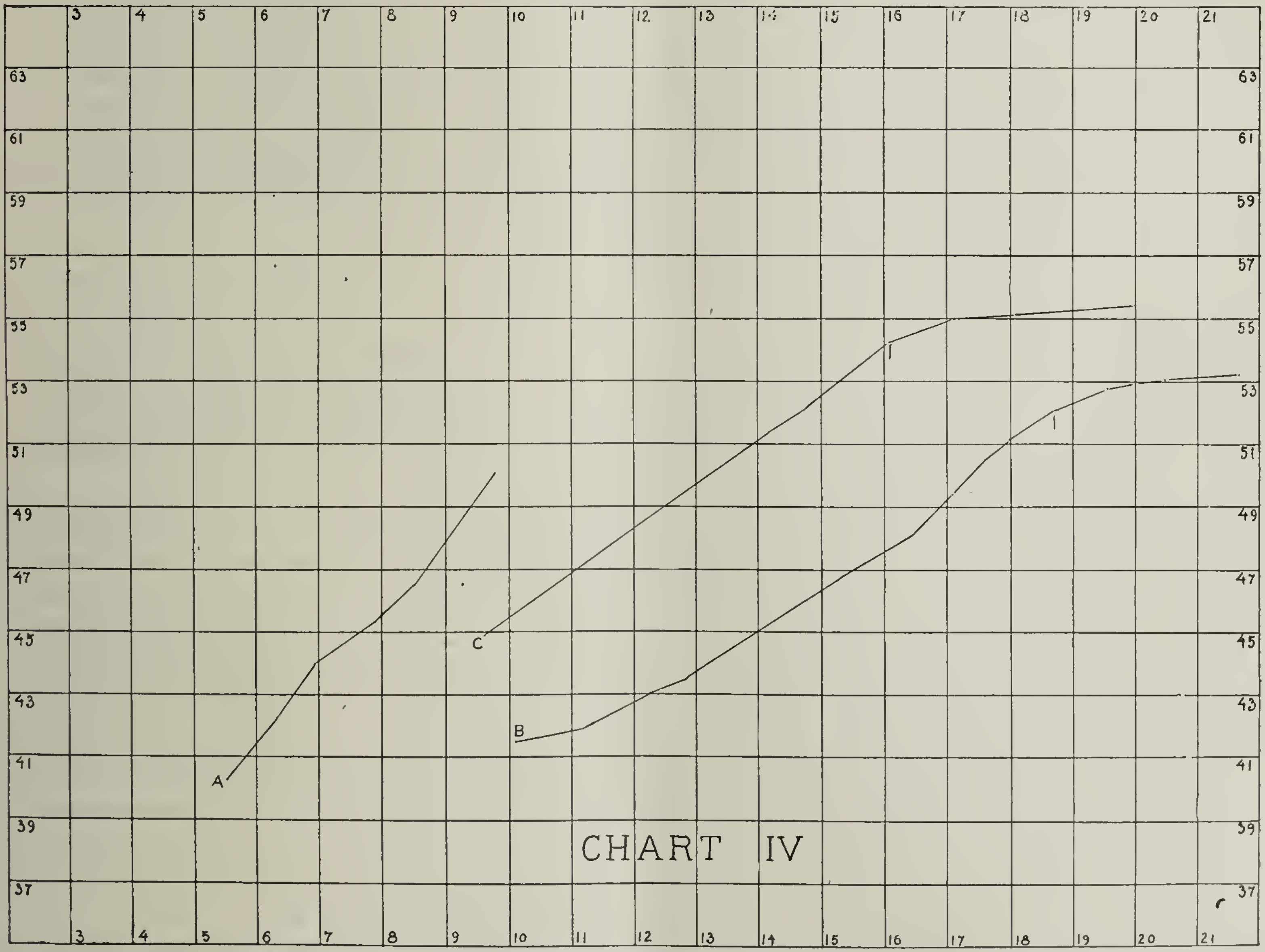


CHART IV

A, female ; disease at the age of two years ; tenth to eleventh dorsal ; slight deformity ; growth in four years and a half, nine inches and three quarters ; yearly average, 2.30. B, female ; disease at the age of two years ; tenth to twelfth dorsal ; severe deformity ; treated late ; growth in ten years and a half, eleven inches and a half ; yearly average, 1.10. C, female ; disease at the age of five years ; sixth to ninth dorsal ; infrequent visits, severe deformity ; growth in seven years and a half, ten inches ; yearly average, 1.35.

is fairly satisfactory for patients under treatment during or soon after the active stage of the disease. An annual growth of an inch and a half to two inches for a similar period indicates that disease is arrested or is retrogressive; in other words, that the case is doing well. Very slow or absent growth indicates progressive disease or impaired vitality. Intercurrent disease or too long absence from surgical supervision is often followed by a diminution in the growth rate; but pulmonary phthisis in a delicate lad now under observation does not appear to have interfered with his growth. It has seemed to me that under unfavorable conditions girls suffered more than boys—that is, the resulting dwarfing was more extreme.

Although, as stated, the number of observations is too small to plot a definitive curve of growth for spondylitis, the provisional curve preserves in a general way the relations of the curves of average growth, as shown on the chart (I),* where the spondylitic curves for girls and boys are compared with curves plotted from Roberts's measurements of English school children. A comparison shows that the spondylitics are far below the average height for age; that the girls are below the boys, except between twelve and fourteen, when their line crosses that of the boys, as in normal children.

The curves of a number of individual spondylitics (Charts II, III, and IV) show even more clearly than the curve of averages that the period of prepubertal acceleration is delayed to the sixteenth or seventeenth year, as might be expected from the postponement of puberty itself. Cases that have recovered or are recovering, even if severely deformed, experience a marked acceleration of growth during the seventeenth, eighteenth, and nineteenth years. Childhood is, in fact, prolonged in these cases, and we find, in addition to the postponement and accentuation of the prepubertal acceleration, a prolongation of the period of growth for several years; appreciable gains are even possible in the twenties.

Measurements of the standing and sitting height previous to, during, and after the adjustment of supporting appliances will afford definite information as to the efficiency of the manipulations, and give much aid in keeping the support at a high standard. Measurements of height also afford valuable information on a point where information is much needed—namely, in connection with the discontinuance of mechanical support, often a difficult point to decide. Apparatus should not be removed during the growing age unless the patient has exhibited a fair rate of growth for at least a year or two preceding. Moreover, after an apparatus has been removed, if measurements show a decided retardation of growth, it should be reapplied. In this connection it should be remembered that even after long quiescence or definite arrest of the disease, the removal of supporting apparatus is often followed by increase of deformity due to static conditions. The observed facts justify and even compel in many cases retention of support long after all acute or focal symptoms have subsided. It is hardly necessary to say that the measurements should be taken after removal of the shoes, and at about the same time of day, also in all cases under treatment with the apparatus applied.

The retardation of growth is probably felt in all parts of the body, though a series of measurements to determine the relative effects in the trunk, head, and limbs would be interesting. The direct effect of the deformity is exhibited in the trunk alone. The limbs are, therefore, relatively much longer than the body, and the latter is proportionately more curtailed than even the measurements of stature would indicate. For this reason it would seem very desirable to take the sitting height, and perhaps measurements from the iliac spine to the malleoli, in addition to the standing height. The weight taken at stated intervals also affords valuable information.

In so far as one can measure and weigh results, art is reduced to science. Lead-tape tracings of the spinal contour, noted from time to time, give perhaps the most exact and valuable knowledge obtainable of a patient's progress during a series of years, and are simply indispensable for recording the results of treatment. If such tracings are supplemented by systematic records (say two to four times a year) of the standing and sitting heights and the weight of each patient, our data will be superior to those which we possess for most diseases, and would not only give valuable information with regard to the progress of each case, but would soon enable us to judge with scientific exactness of differing methods of treatment.

71 West Fifty-fifth Street.

MEDICAL CHARITIES.

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No doubt the mind of the profession is well-nigh surfeited with opinions on this subject, more especially as the question of "abuse" seems to be inseparably attached thereto. It remains yet, however, to point out a cure for this evil, and if the diagnosis is faulty, and we can not agree that it is wholly correct, wherein can medicine remedy? Two things are certain: you can not successfully treat if the patient refuses your medicine, and men will ever reserve the right to demand truth, whether they tell it or not. It is an open question at this time whether or not the *abusers* of medical charities are not as much in need of correction as the "abuse."

In stating the evil, much of untruth has been told, but perhaps it is through ignorance; hence this paper may prove pleasant reading.

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* In all the charts the vertical row of figures represent inches, the horizontal years. All patients wore supporting apparatus.

First, as to the source of medical charity. It must not be lost sight of. Whether good or evil, the world is indebted to the ambition and humanity of the physician for this vast institution. No grander monument has been raised to the honor of any portion of mankind than this magnificent edifice of medical charity. Granting that personal ambition is at the root of it all, will facts prove that such ambition is a condemnable selfishness? Is not every life full of deeds that such a judgment must damn, though all the world applauds? That there is no true charity is but the outcry of the skeptic, who of all men is least sincere, and the everlasting shout against success is most often the cry of a lesser capacity for labor.

It has been said that this so-called charity robs many that a few may be benefited, yet in no field of labor are more called that a sufficiency may be chosen. Hundreds are welcomed into the workroom of every institution for every one who becomes in any sense a part of it. By no one is indolence, irregularity, and lack of concentration more often seen than by the chief at a daily clinic. And the explanation offered by delinquents is a proof of the establisher's quality, for their constant cry is, "No wages, no conscience." Suppose his motto had been the same! It has been shown times innumerable that the personal ambition and greed masquerading as charity are not successful.

Of the use of this charity it has been hinted that a majority of humanity would rather be treated gratuitously than not. This gross libel is best refuted by a personal application. Reasoning by analogy, these accusers must be actuated by their individual tendency. The statement is based, we are told, on statistics; but how are these statistics gathered, if not from the annual reports of the institutions accused?

Now, every separate diagnosis counts as an individual, and this for good scientific purposes. The books of dispensaries are kept for the benefit of those who do the work at the dispensaries; they are maintained at great expense and labor. If at the year's end their tabulated results or contents are sent to the physicians of the community, it is that they may benefit by the facts suggested or proved. Some may consider them an advertisement, and they are just as much so as the physician's carriage, or better, the reprint of his article. This main cause for the doubling of cases is altogether a product of modern specialism. There are, however, other causes of big totals, and an important one is the fact that patients are frequently treated for affections of which they were ignorant.

Again, statistics tell nothing of family history, nor yet of recurrent attacks of the same trouble; and these, with the frequent movings of the poor, are sources of numbers, but not of separate individuals. These facts being known to those who have so strongly used statistics, make their interpretations thereof little short of willful misrepresentation.

Again, it has been said that the reputation of certain institutions attracts patients to obtain free consultation. To this the poor are certainly entitled; but to assert that people able to pay do this to any considerable degree is to argue a lack of public confidence in both the complainant and his choice of consultant. It must never be forgotten, however, that the value of consultation, as frequently prepared between physician and friend, is of so small a dimension as to make it no wonderful matter that patients seek further. This same condition, that of seeking the institution for consultation, is another factor in augmenting figures.

Then we must not forget the matter of attendance. It has been truthfully said that dispensary patients receive more thorough treatment than pay patients. This is so from the necessity of the case. Two or three calls distributed over as many weeks would be ample for a case of tinca in a family of moderate means; the same case in squalor would come almost daily to a dispensary, the mere glance of the physician affecting some home care. This is not abuse, but it does increase the number of visits. Again, every honest man or, let us say, every interested man regrets at times his inability to follow particular cases as closely as he could wish; in dispensaries such following is possible, is proper, is educational, and, in part, is a payment by the patient.

But that all the above is true is not a denial of certain abuses, which may be imperfectly summed up as two:

First: Gratuitous treatment of patients able to pay.

Second: The existence of institutions without the pale of the truly charitable.

There are multitudinous abuses claimed, and, no doubt, the abuses are as innumerable as the imperfections of mankind. One certainly can not expect human institutions to savor more of perfection than do their founders and directors, and dispensaries claim no more for these than does the world for its good men.

Abuse number one exists and is deplorable, but it has been shamefully exaggerated. Fortunately, mere affirmation carries little weight, but investigation will enlighten any one who really desires the truth. In every case where a systematic investigation has been made, the results show a surprisingly low percentage of frauds.

Now, dispensary doctors must not claim an extra human judgment, but neither can they allow it to others. They may claim a larger experience, and, granted equal ability, extra facility is abler judgment. The man who stands at a dispensary door six days a week for fifty-two weeks in every year learns something perforce. If he is practising medicine for a living, it is to be supposed that he will not be altogether blind to his own interests, nor yet a voluntary martyr; he must be both if he insists on treating the unworthy against his own interests and in opposition to the wishes of the supporters of the charity. Is there a dispensary mania with which all these misanthropes become afflicted, hypnotized by the appeal of the well-dressed fraud?

To be accused of running these institutions for abuse's sake rather than for charity, and then to be told that the great proportion of the city's inhabitants are with us in the effort, makes the case too strong. Too strong hurts as little as too weak. One might admit his own hypocrisy, but that so much of the world is evil endangers one's discrimination between evil and good. It is true that evil number one exists. It is untrue that it is a tremendous evil, for it can not be proved that any dispensary exists for the purpose of fostering a great evil.

The question, "What is ability to pay?" has not been answered by the complainant; but a satisfactory answer must do more than give a simple definition. It must tell as well, "How can this ability be recognized?" "How can a man be convinced of his ability to pay?" and "Once convinced, how can he be quarantined so that no wicked one will treat him gratuitously?" remembering that it has been said that this man prefers charity to purchase.

As to evil number two, it seems to be as incorrigible as human vanity. It belongs to a class of enterprise found in every trade, art, and profession, and it is based on the undeniable constitutional right of men to disobey the spirit so long as they honor the letter of the law; and the difficulty of obtaining legal proof is the torrent that separates spirit and letter. To be morally certain that some institutions are but side doors to their proprietor's office, privileges men to cry out in wrath; but moral certainty is not legal proof. Every man wishes at times that his personal certainties might be accepted universally as facts, but, fortunately, personal error almost always kills the desire before its consummation. Speaking generally, nothing can be more absurd or more often false than opponents' opinions of one another; hence the remarks of dispensary doctors of their accusers, and *vice versa;* but the non-attendant must ever be in the dark of necessity; the attendant may be dishonest, but he must be posted. Visions of *coupés*, sealskins, diamonds, and fat purses grown suddenly compatible with squalor and perspiration; dreams of mercenary doctors piling up the dollars of patients they have hoodwinked under the guise of charity—these are the effluvia of ignorance or malice. If such dreams are true, they are not of abuses of medical charity, but of the results of specialized industry. Neither do they injure the outcrying complainant, for self-communion will assure him that these could never be of his.

This evil, like that of prostitution, can never be suddenly crushed. To fight it is to advertise it. Education will some day render it a minimum danger, but the expressed hatred of competitors is an excellent fertilizer.

Remedies.—We physicians prefer to treat causes. Symptomatic treatment is only permissible to ignorance, so we accompany our descriptions of disease with an attempt at ætiology. The evils attending medical charities have causes. May not one cause be egotism, that unfortunate condition which makes a man consider himself at least the equal of every other throughout the gamut of learning, being possessed that one knows all the specialties with the specialist, mistaking general ability (which is granted) for universal expertness (which is denied); knowing that specialism narrows (so do all), but forgetting that wise specialism advances and experiences the specialist (which some remember). May not here hang an ætiological factor? For the people are coming to believe that the electrician knows more electricity than the carpenter, and the belief is confirmed after they have paid a carpenter to fix their electric apparatus. To be at it, we must admit that the tendency is to get the best for the money. (The best is always given by true charity. Do or do not the dispensaries of New York offer the best?) Now, if the class that can pay should learn that the best could be had at moderate cost, and that the physician, like the storekeeper (permitted to keep what goods he likes), will only tell when he is out of a certain line, this class will seek the privacy and comfort of the office rather than the publicity and stench of the dispensary.

Legislation will not bring this change about. Law has never successfully regulated private affairs. Canceling charters can not frustrate ambition. Charity committees must still be human. They do not to-day correct flagrant rottenness in the institutions under their control, and they are often corrupt proportionately with size and powers.

But if truth is in the charities of Greater New York, if the spirit of sincerity is in their critics, there is a way out. Not a miraculous turning of corruption into purity, but a slow, sure progression out of error into right; and this way is from within.

We have attended many meetings for the discussion of the correction of abuses, some held by one side, some by the other. As usual, how not to do it, received its giant share of argument; so also the rehearsal of wrongs was done full justice; but one thing noticed in all was that neither side was fully or even satisfactorily represented. The dispensary side meeting was composed of representatives from the very dispensaries least criticised. The other side meeting consisted of some vehement but not always wise or well-informed gentlemen. Where is the rank and file of both sides? This fact is momentous. It prevents action.

Let the executive head of every dispensary attend a meeting. Present the matter in this wise: There are certain evils in *your* institution. They are principally two. *You* treat unworthy persons! This robs worthy physicians of patronage. If you admit it, the following may help bring order out of chaos; if you deny it, this same plan can do you no harm.

Treat all children, sent from school and applying alone, whose simple family history—*i. e.*, age, address, number of brothers and sisters and others depending on parent for support, and father's work—is moderately satisfactory.

Treat all non-self-supporting minors suffering from disease demanding long-continued special treatment.

Demand from all adults proof of their employment (if females, place of work will set the figure of their wage). Upon this and social history—*i. e.*, as above—and required treatment, base your action.

Be sure that persons do not pay dispensary doctors for treatment received at dispensaries.

Except for consultation, and then only at physician's request, treat no one from districts where equal facilities are offered.

Providing each and every charitable institution obeys these, or modifications of these rules, the rounder and the fraud will soon find themselves forced out.

Of course, this puts the burden on the physician's judgment and on the patient's veracity, and the utility of the suggestion depends on the universality of its acceptance. It throws out two possibilities—*i. e.*, that a majority of physicians are fools or knaves and that a majority of persons are liars. It takes into consideration the fact that at all times physicians have found instances wherein they have been unable to collect bills. It also throws out of the question any investigation beyond that looking to the above facts. Seeking the details of a private nature, as frequently done by certain associations, is mischievous. It effects no good, concludes erroneously, and encourages an unbearable inquisition. Letters I have received regarding persons I have wished investigated have filled me with indignation. The disgusting trivialities of unfortunate life have been spread out with a gusto rivaling ghoulishness. Such should be illegal. Moral unworthiness is not a factor of inability to pay, however much it may be a cause.

Let us neither quibble nor quarrel among ourselves. In the words of another, "Let us not stultify ourselves by demolishing what for centuries we have been erecting." We can not read the secrets of other hearts; thank God that it is so, for who yearns to disclose his own? Ponder the uses of dispensaries in the education of the profession, in the known good work accomplished; see in them monuments of civilization, and be loath to condemn them as the cause of your ledger's showing.

Since there are two sides to most questions, let us not reach too hasty a conclusion that one side or the other is biased or unreasonable. If you are of those who have given years to dispensary work, look carefully over your household, be awake to faults, and seek to remedy them in the same spirit with which you would seek a better diagnosis or abler treatment. If you do no dispensary work, at least learn their use before you speak of their abuse. Take up judgment before taking up arms. Remember that as many men seek glory in destroying as in founding. The advertisement accomplished by the champions of antiabuse in the past year exceeds that obtained by any dispensary doctor or professor in a generation. Lastly, compare the lives, means, and ends of those engaged in charitable work, and, admitting their labor, imagine how they can administer daily to the fraud and yet maintain a humble existence and remain sane.

157 West One Hundred and Twenty-third Street.

SUBMUCOUS OPERATIONS ON THE NASAL SÆPTUM,

WITH ATTEMPTS AT MEMBRANE GRAFTING.*

By THOMAS AMORY De BLOIS, M. D.,
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Perhaps, as a prelude to the short communication which I shall make, I might state what led up to this slight departure from the ordinary manner of removing some of the convexities which so frequently are found on the nasal sæptum. In the month of October, 1897, a young woman came to the Boston City Hospital Throat Clinic with a history of persistent epistaxis from the right nostril. She gave a story of having been operated upon by some gentleman from Albany (whose name I did not care to learn) for a spur on the sæptum. On examination, I found the mucous membrane completely removed from the cartilaginous sæptum for a space of about the size and shape of a ten-cent piece. The centre of this cartilage might have been cut through, but it appeared to me as if it were only very thin. Treatment was commenced around the borders of the mucous membrane, where the bleeding points appeared to be, with ordinary astringents and also by touching these points lightly with the galvano-cautery. The treatment appeared to be beneficial, but one day she came to the hospital with a small perforation through the very centre of the denuded cartilage. This perforation became larger and larger, and there seemed to be no way of arresting the destruction. It then occurred to me that as skin grafting had proved so beneficial in the healing of deep burns, it might prove useful to graft mucous membrane on the periphery of this denuded surface. As I remembered skin grafting, it consisted in anchoring a number of pinhead-sized particles of skin on the granulating surface. So I removed pieces of mucous membrane from a pharyngeal tonsil which I had just cut, adjusted them on to the denuded surface of the sæptum, and covered the whole with elastic collodion. In twenty-four hours the grafts had disappeared. In talking the matter over with a gentleman who had done a good deal of plastic work, he advised using much larger pieces of mucous membrane. My next attempt on this same case was a day or so afterward, and here I was able to take large grafts from the mucous covering of a uvula which I had just removed. This time I placed three grafts covered with collodion, and did not see the case for two days. Two of the grafts had disappeared, but the remaining one, though shrunken, had adhered on one edge. This tedious and difficult process of placing grafts was gone through with many times, and it seemed as if the drying mucus formed under the edges of the grafts, and, acting as a wedge, forced them away from the denuded surface. I succeeded at last in covering part of the surface with healthy though assorted mucous membrane, taken from whatever healthy patients had just at that moment been operated on. The mucous membrane certainly can be transferred, and might frequently be used to prevent the spreading of ulceration.

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* Read before the American Laryngological Association at its twentieth annual congress.

But the other side to my story was that this denuded sæptum had sloughed through on account of want of nourishment from the lost membrane. This brought me to think that the usual operation for removal of spurs and ridges—*i. e.*, by sawing directly through mucous membrane and cartilage or bone together—was faulty, particularly when large surfaces were exposed.

Obtaining some old-fashioned dental instruments with long handles (principally those used for removing tartar from the teeth), I had them bent and refashioned and ground, thus making a set of knives and gouges of such various shapes that I have always found some one of them applicable to the particular spur which I wished to strip.

The saw which I have used is necessarily very thin and provided with a probe point. I commence at the base of the spur, make a short vertical incision, and then with one of the flat instruments separate as well as I can the membrane from the bone or cartilage, working from below upward; sometimes I cut out, but this merely gives me more room for the play of the saw. Frequently the spur is of such a shape that I am obliged to make my primary incision at the bottom, and then peeling upward it leaves a flap hanging. After the membrane is well stripped away, I saw the spur off from below upward, being careful not to cut my flap through. Very often I am obliged to finish cutting with forceps; this will also remove the piece of cartilage or bone. After cleansing well, I plaster the flap down with collodion. Healing, of course, is much quicker than where the surface is left to granulate.

One of the disadvantages of this form of operation is that it is extremely difficult to leave the upper part of the cut, or where the saw comes out, smooth. There is almost always a little "knob" of sæptum left sticking up; if you try too hard to obviate this, one is very apt to cut through the flap, and all your trouble is for naught.

I can speak of half a dozen cases which resulted well, and of which I am proud. I also know of others, where I either cut off the flaps, or they sloughed, or something unfortunate happened—and these I would rather not speak of.

My first case was that of a medical student, where the spur was on the right side, well down on the floor. After attempting to strip back from in front, which I found impossible, I had to cut through from below and strip upward. Three times, on account of hæmorrhage, I had to desist and plug with cocaine for ten or fifteen minutes. After separating well, I removed the spur with the electric engine and side-cutting burr. The result was excellent.

The second case was that of a woman with a longitudinal ridge well back on the bony sæptum. I sawed off and got a good result, although the hæmorrhage was sufficiently troublesome to make the operation tedious. In the case of another woman, I lost half of the flap by not seeing where I was going on account of the blood. When there is too much blood I always have to stop and plug with cocaine until I can see.

In my fourth case, I cut entirely through the cartilage, but as my flap was good it healed down and I avoided a perforation.

Upon the whole, I think that submucous cutting is worth the trouble: first, as it almost obviates the danger of making a perforation; second, it heals much quicker; and, third, you do not have the scar on the membrane where crusts of dried mucus are so apt to lodge.

BOSTON, *May 13, 1898.*

EARLY DIAGNOSIS IN WHOOPING-COUGH.*

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AN early diagnosis in whooping-cough is important, as we can in many cases shorten the duration and prevent its spreading by using early proper prophylactic measures. This is not only of interest for the general practitioner, but especially for the rhinologist, who may be consulted first for the obstinate rhinitis acutissima serosa, or later for the incessant cough; and for the ophthalmologist, for the concomitant conjunctivitis hyperæsthetica.

The diagnosis can be made at once by a *bacteriological examination of the nasal secretions* ("primary place of infection"). The secretions of the *normal* mucous membranes of the nose contain very few bacteria, while in *whooping-cough* we find a large mass of bacteria of one kind—a natural pure culture of "polbacteria" (Czaplewski and Hensel). This bacterium, when full grown, is two to three times as long as broad, is rounded and somewhat thickened at its ends, and is divided in the middle. Nearly all of them are surrounded by a more pneumococcus. This capsule originates in the animal body by imbibition of the external layers of the cell membrane (by plasmolysis), and is lost by artificial cultivation (perhaps by peptonization). The morphological properties of this pertussis bacterium have been studied by several authors with varying results, as they have had to encounter the difficulties of not only isolating this one bacterium from a large number of others, which are found in the secretion of the pharynx and lower respiratory organs, but also in observing somewhat different forms of this (whooping-cough) bacterium when using different methods of staining.

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* Read before the American Laryngological Association at its twentieth annual congress.

This may be due to chemical reactions of the protoplasm of the capsule which surrounds this bacterium.

The Czaplewski method of staining this bacterium consists (*a*) in the action of one-per-cent. acetic acid solution, (*b*) by staining with a heated ten-per-cent. carbolic-acid-glycerin-fuchsine solution.

This latter solution consists of one part of fuchsine, five parts of liquefied carbolic acid, fifty parts of glycerin, and a hundred parts of water.

Formerly other investigators and I used the plain aniline colors, which failed to give such a true picture.

Of late I am using, with excellent results, the Knaak's contrast stain, which I have somewhat modified, enabling me to examine quickly the entire field. The bacteria are stained blue and the cells and their nuclei red.

This method consists in staining with methylene blue in a weak alkaline solution. This stain is then decolorized by two-per-cent. freshly prepared argonin solution, which reduces the methylene blue in the cells and their nuclei quicker than in the bacteria. To prevent a reoxidation of the leukomethylene blue by atmospheric oxygen, we wash off the specimen with a concentrated solution of cream of tartar. As contrast stain we can use a very diluted fuchsine solution (one part concentrated alcoholic solution to forty parts of water).

In the case of Czaplewski, who was taken ill with whooping-cough during the study of the disease, the examination of his nasal and pharyngeal secretions showed the same bacterium as he was studying, verifying this bacterium as the cause of the disease.

The treatment should certainly be principally a local one, which Michael long ago advocated, and which has lately been revived by Moizart.

THE CAUSES OF CELLULAR DIVISION.

A REVIEW.

By ALBERT P. MATHEWS, M. D.

Notwithstanding the careful scrutiny to which the dividing cell has been subjected, little has been done toward ascertaining either the determining causes or limiting circumstances of cellular division. The failure seriously to attack the problem of mitosis from this direction is somewhat remarkable, since an experimental inquiry of such a kind would seem, in the present absence of knowledge of micro-chemical staining reactions, the most promising means of obtaining knowledge of the physiology of this important process. To get some indication of a favorable method of attacking the causes of karyokinesis experimentally, the following collection of observations on the cell-stimulating actions of bacterial proteins was made at the suggestion of Professor T. Mitchell Prudden. To these observations, which were widely scattered and not very abundant, have been added others which bear more or less closely on the problem.

Of the chemical processes occurring during mitosis little is known. It has often been observed that the bulk of chromatin present in the chromosomes of the spindle is much less than the bulk of the chromatic reticulum of the resting nucleus, and that the chromosomes possess a much greater affinity for basic dyes, such as methyl green, than the chromatin. It appears as if the chromatin lost substance during the changes preparatory to mitosis. Lilienfeld has suggested that during this process the chromatin is split into two components: a chromatic portion, consisting largely of nucleinic acid having a strong affinity for basic dyes, and albumin. This conclusion was based on the varying affinity chromatin shows at different times for acid and basic stains.

Lilienfeld and Monti also believed that by means of a method discovered by them for the microscopical recognition of phosphoric acid in tissues, they had shown that during mitosis the percentage of phosphoric acid, and hence of nucleinic acid, in the chromatin was increased. There is reason to believe that this conclusion is correct, at least in certain cases, but, as Heine has recently shown, Lilienfeld and Monti's method for the detection of phosphoric acid is unreliable. Many substances entirely free from phosphorus gave the same reaction. Lilienfeld and Monti's conclusion loses, hence, the support of direct evidence.

So far as I am aware, nothing is certainly known of the chemical nature of the centrosome, that all-important substance in mitosis. It is pretty certain, however, from its lack of affinity for basic stains, its affinity for acid stains, and the difficulty of its preservation, that it is not chromatin, or a nuclein, or an organic acid, but that it is probably related to the albumins. The very minute quantity of the substance in comparison with the results of its action, and its persistence apparently little changed in amount during its action, suggest that it is of a ferment character. There is a certain superficial resemblance between the formation of fibrin fibrils by the fibrin ferment and the formation of spindle fibrils by the centrosome. There is reason to believe, also, that just as chromatin is split during mitosis into two components, chromatin and albumin, so fibrinogen is split into fibrin and another albuminous body during clotting. Whether, however, this resemblance is more than superficial can not be said.

Among the limiting conditions of mitosis, oxygen is probably one of the most important. Attention has been called by Loeb, De Moor, and others to the fact that oxygen is necessary for the completion of mitosis in the fish egg and the stamen hairs of tradescantia.

These few observations give little information concerning the inciting cause of mitosis. For such information we must look elsewhere, and chiefly to bacteriology and pathology.

Many bacteria seem to possess the property of causing rapid cellular division. Chief among such bacteria is the germ of tuberculosis. This bacillus stimulates the cells of the body in its immediate vicinity to proliferation, so that the bacillus shortly becomes surrounded by a little, more or less, autonomous mass of tissue—a tubercle. The cheesy degeneration which this afterward undergoes appears to have a secondary cause. The literature of the cell-stimulating peculiarities of this bacillus begins with the work of Baumgarten, who was among the earliest to study the first lesions of the tissues following the injection of tubercle bacilli. He remarks, in his summary, that the first histological change taking place on the injection of live tubercle bacilli is the rapid karyokinesis of the fixed cells of the tissue, this being often accompanied by the swelling of the cellular elements. Baumgarten found that injection of the bacteria into the cornea produced karyokinetic figures in the fixed cells of that tissue and led to the formation of new cells of an epithelioid character. Tuberculosis of the kidney was accompanied by the division of the cells of the kidney epithelium, of the endothelium of the blood-vessels, and the epithelium of the glomeruli; in the liver there was an abundance of karyokinetic figures in the connective tissue and gall duct; in the lymphatic gland the karyokinesis was largely predominant in the fixed elements; the same was true of the spleen, bone, skin, and epithelium of the intestine. Baumgarten recognized that there was an infiltration of round cells; but the primary factor in the formation of the tubercle, and in his estimation the one of the greatest importance, was the proliferation of the fixed cells of the different elements following upon the stimulus from the disease. Arnold, confirming Baumgarten, describes mitotic figures in the epithelial elements of the kidney and lung. Baumgarten is also generally confirmed by Kostenitch and Volkow.

Baumgarten's work has given rise to considerable controversy as to whether the fixed elements of the tissues do, as a matter of fact, enter into the formation of the tubercles, or whether these are simply the expression of the collection of masses of lymphoid cells accumulating about the point of attack of the bacteria. But we may well leave this point for others, and pass on to a more interesting series of experiments upon the analysis of tuberculosis.

One readily sees that in tuberculosis there are several different processes: emaciation, formation of tubercles, and cheesy degeneration. Following the lead of Buchner, who had succeeded in isolating from the bodies of certain bacteria chemical substances which induced a pronounced leucocytosis and the proliferation of the fixed connective-tissue cells, Koch, in 1891, showed that dead tubercle bacilli, freed so far as possible from the products of their life on the nutrient media, would induce suppuration at the point of their inoculation. He thus reemphasized the rôle of the body of the bacterium itself. At the same time Prudden and Hodenpyl independently studied the changes in the body cells upon the injection of the dead bodies of tubercle bacilli. They find that if masses of bacilli from agar cultures, which had been washed in water and glycerin and steamed until all life was extinct, be injected into the trachea of rabbits, or into a vein of the ear, tubercles developed in the lungs within twenty-four hours. On section, it was seen that the lung epithelium and the endothelium of the capillaries were in a condition of proliferation, and that the tubercles were composed of these cells, of giant cells, and of an abundant collection of little round cells, which had appeared as part of the inflammatory process. These tubercles, in every way characteristic miliary tubercles in early stages, did not undergo cheesy degeneration, but were slowly converted into connective tissue and gradually absorbed. There was no spread of tuberculosis over the body, and the rabbits, with a few exceptions, bore the inoculation with impunity. The conclusion from these experiments, as given by the authors and by Dr. Prudden in a later paper, are these:

1. The cell growth characteristic of miliary and diffuse tubercle tissue is due to the action of the protein of the bodies of the germs set free as these degenerate in contact with the living cells.

2. The cheesy degeneration is due to the products of the growth of the tubercle bacilli, wholly distinct from the cell stimulating bacterial protein.

3. There may be, beyond the factor which causes cells to grow and beyond the factor inducing necrosis, a third agent of toxic nature to which many of the graver symptoms are due.

Similar experiments were at once tried by others, the results of which, on the whole, have been to confirm the work of Prudden and Hodenpyl.

It is now pretty certain that the substance that attracts the leucocytes and stimulates the body cells to division is some constituent of the bodies of the bacteria. Wysookowitch confirms Koch that the emulsion of dead tubercle bacilli causes suppuration when injected into the abdominal cavity of the rat, and that the filtered bouillon in which the bacteria grew had no such action.

Strauss and Gamaleia found that the culture fluid, when free from the bacilli, produced no tubercles or tuberculosis. The dead bacilli, on the other hand, exerted the influence attributed to them by Prudden and Hodenpyl. In their experiments, however, the rabbits generally succumbed with the symptoms of tuberculosis. The authors concluded that the bouillon of the culture fluid did not contain a poison capable of producing the symptoms, or true lesions of tuberculosis. The injection of the dead bacilli was followed by the development of tubercles which underwent cheesy degeneration, and by the death of the animals in three or four weeks. Vissmann described hyperplasia of the follicles of the spleen after the injection of tuberculin. The dead bacilli induced division of the epithelial cells of the lungs and blood-vessels, but slight effect on the connective tissue of the liver and kidney. There was no cheesy degeneration, and the nodules were reabsorbed. The stimulation to cell division, the author concluded, is a chemical one, and the substance is inherent in the bodies of the bacteria.

Abel stated that the epithelium of the lungs underwent division, but there were no giant cells. This author found, further, that dead hay bacilli produced no such reaction. Kostenitch confirmed Strauss and Gamaleia. Metchnikoff, although denying that the fixed cells of the tissues actually enter into the formation of the tubercles, recognized, nevertheless, the fact of the proliferation of the cells of the fixed tissues, and he is upheld, among others, by Borrel, who was unable to find numerous karyokinetic figures in the fixed cells.

From the evidence just quoted, it appears clear that among the first results of the invasion of tubercle bacilli is the karyokinetic division of the fixed elements of the tissues, whether these be connective, epithelial, or epithelioid. To quote from Professor Prudden: "It seems pretty clear now that the primary lesions in tuberculosis, the formation of tubercles and tubercular tissue, and certain inflammatory small-cell gatherings which accompany them—that is, the lesions which are the direct result of cell activity—are induced, largely at least, by a peculiar proteid ingredient of the bodies of the tubercle bacilli." This is probably not set free, at least in active form, as a metabolic product while the tubercle bacillus is alive, but only after its death and during its disintegration.

Concerning the nature of this substance little is positively known beyond the observations on other bacteria quoted from Kossel. But these observations suggest the possibility, as those of Büchner quoted farther on, that the active substance is either a nucleo-proteid or a decomposition product of such a body.

Among other bacteria causing mitosis is the Klebs-Loeffler bacillus of diphtheria. Robert and Phillippe described karyokinetic figures in the degenerating heart muscle during diphtheria. The same appearance, they say, has been described by Zenker, Waldeyer, Hoffmann, and others in typhoid fever. They also recorded a hyperplasia of the connective-tissue elements of the heart. Babès states that in experimental diphtheria, caused by the inoculation of the living bacilli themselves, he found the endothelium of the capillaries of the liver, the glandular epithelium of the liver, the endothelial cells of the capillaries, the tissues of the glomeruli, and the leucocytes of the kidney undergoing karyokinesis, a list of tissues nearly as extensive as that of the tissues similarly affected by tuberculosis. If the inoculations were made with the filtrate of the cultures, paralysis and death ensued, but no karyokinesis. The nuclei showed only degeneration changes. Babes states that this is the most striking difference between the disease as induced by the ptomaines of the bacilli and that caused by the growth of the bacilli themselves. This bacillus appears, in this regard, closely similar to the bacillus of tuberculosis.

The list of other diseases in which karyokinesis has been observed as a result of bacterial action is a short one. Cornil and Ranvier describe a proliferation of the epithelium of the lung in chronic syphilitic pneumonia. This has been observed also by Wagner and Schultz. If rabies be a bacterial disease it may be of interest to recall the observation of Golgi, that the first indication of this disease is the presence of karyokinetic figures in the cells of the dura mater, arachnoid, and endothelial cells of the brain capillaries.

In syphilis there is often a thickening of the intima and adventitia, and an hypertrophy of the spleen, according to Hirschfeld. There may also be a thickening of the dura and pia mater and of the skull. Friedländer found that when he induced chronic pneumonia by the cutting of the two vagi, or the nerves recurrentes, a proliferation of the lung epithelium often followed. This was due not to the direct result of cutting the nerves, but to the stimulating effect of numerous foreign bodies in the alveoli. One recalls, also, the hyperplasia in the gall duct of rabbits in a coccidian disease; the hyperplasia of the glandular epithelium of the skin under the influence of molluscum contagiosum; and finally hyperplasia of the connective tissue, skin, and gland tissue in actinomycosis.

In the vegetable world there are two or three striking cases of hyperplasias following upon bacterial disease. One of the best-known of these, although the causative agent is still somewhat in dispute, is the hyperplasia of the tissue of the root of leguminous plants following upon an attack of the *Rhizobium leguminosarum*. We have here formed a parenchymatous tissue rich in protoplasm, and, according to Schneider, the cell division is very active.

Savastano states that the bacilli of the tubercles of the olive tree produce an hypertrophy of the cambial and extracambial tissue. This is localized to the point of attack, and there seems to be a varying degree of susceptibility to the attack of the germ in different varieties of the same species. This germ, if inoculated into the lemon, orange, pear, apple, or quince tree, produces no effect whatever. It would appear, therefore, that the nature of the action of this bacillus is different from that of the action of the bacillus tuberculosis in animal tissues.

Prillieux, speaking of the tumors of the branches of the olive and Aleppo pine, both bacterial in origin, says that the cell division is of the most rapid kind.

Farlow says that when black knot attacks a branch of a plum tree the parenchymatous cells increase and form a knot. This is also the case in the red cedar attacked by *Gymnosporangeium macropus.*

Many bacteria, when injected into the body, cause a pronounced increase in the number of white blood-cells or leucocytes. It is, in many cases, uncertain whether this increase is due to an actual reproduction of these cells or to the migration into the blood of leucocytes formerly in the lymph or other tissues. The following observations must, hence, be taken with the possibility in mind that the leucocytosis described may not be due to cell proliferation.

It has long been known that many diseases either of bacterial or other origin are accompanied by leucocytosis. This has been described for leucæmia, where there are a great number of karyokinetic figures in the spleen, lymph glands, and bone marrow; in croupous pneumonia, pleuritis, pyæmia, peritonitis, and osteomyelitis, in which the leucocytes may increase to the ratio of 1 : 20 of the red corpuscles. Von Limbeck states that leucocytosis is constant in erysipelas, and, in fact, in all infectious diseases, such as croupous pneumonia and pleurisy, where there is an exudation. There is no leucocytosis in typhus abdominalis, sepsis, and intermittent fever.

That the injection of certain bacteria, alive or dead, may also cause leucocytosis has been long known. Von Limbeck observed leucocytosis after the injection of septic streptococci, of Friedländer's pneumo-bacillus, of *Bacillus prodigiosus,* and various staphylococci. Wyssokowitch described a more or less pronounced leucocytosis on the injection of the bacilli of swine erysipelas, on injection of the bacterial mass of anthrax cultures, but not on the injection of the filtrate of such cultures, in the case of dead tubercle bacilli, when injected into the abdominal cavity of the rat. On the other hand, with the Klebs-Loeffler bacillus, *Bacillus coli communis,* and *Staphylococcus pyogenes aureus,* he generally secured no reaction, or at least nothing comparable with the lesion of tuberculosis.

Just as in chemotaxis we have passed from the living cells, which exert an attractive influence, to the isolation of the substances in those cells which are attractive, so in leucocytosis we are gradually accumulating evidence as to the nature of the material which leads to cell proliferation.

The road in this direction was pointed out by the discovery of Wyssokowitch that dead masses of anthrax bacteria produced leucocytosis, while the filtered fluid of the culture was not pyogenic. Büchner, in a series of experiments, has succeeded in isolating from many different sources a substance, or substances, which produce a great leucocytosis. Büchner started with the observations of Grawitz, De Bary, Wyssokowitch, and others that the injections of sterilized cultures of *Streptococcus pyogenes aureus, Bacillus prodigiosus,* and *Bacillus pyocyaneus* were as efficacious in producing suppuration as the living cultures. He found that boiled cultures of *Staphylococcus pyogenes aureus, Staphylococcus cereus flavus, Sarcina aurantiaca, Bacillus prodigiosus, fitzianus, cyanogenus, megatherium, ramosus, subtilis, coli communis, acidi lactici, anthracis,* and *mallei,* the Kiel water bacillus, *Proteus vulgaris,* the pneumo-bacillus of Friedländer, and the Finkler-Prior *Vibrio proteus* all produced a pus formation, some more and some less; while the filtered culture fluids of *Bacillus megatherium, anthracis,* and *cyanogenus* were not pyogenic. He next attempted to isolate from the bodies of the bacteria the substances which induced the pus formation. First proving by the subcutaneous injection of starch, charcoal, infusorial earth, and potato emulsion that the stimulus was a chemical and not a mechanical one, he extracted the pneumo-bacillus of Friedländer with 0.5-per-cent. KOH solution. After digestion at the body temperature for some days the mass was filtered, reprecipitated by dilute acid and saturated ammonium sulphate solution, and redissolved with the dilute alkali. This process was repeated several times in order to secure as pure a precipitate as possible.

By this means he obtained a substance very soluble in dilute alkalies; soluble in concentrated acids; not precipitated from a neutral solution by heat or strong sodium chloride solution, but precipitated by platinum and gold chloride, magnesium sulphate, calcium sulphate, picric acid, and alcohol. It gave the xanthoproteic and other reactions of proteids. By this it is plain that he had a mass of a proteid nature. This substance when placed under the skin in capillary tubes was markedly chemotactic and produced a pronounced leucocytosis. He then proceeded to test other substances for the purpose of comparison. He found that glycocol and leucine were in some cases strongly chemotactic; tyrosin, urea, ammonia, trimethylamine, skatol, and ammonium urate were either indifferent or negative. On the other hand, gluten casein from wheat, and legumen from peas, separated by acid precipitation from alkaline extractions, produced a marked leucocytosis, and were pre-eminently chemotactic. By introducing wheat and pea meal under the skin, he found those also exerted a powerful attraction upon the leucocytes, while starch was without effect. Alkaline extract of muscle, liver, lungs, and kidney of rabbits, all of these treated as the similar extracts of bacteria and of the peas and wheat, proved, when introduced beneath the skin, to be strongly positively chemotactic. Blood and yolk of egg showed only a moderate positive chemotaxis, while white of egg and fibrin were entirely exempt. After the injection of these various extracts, Büchner and Roemer found a pronounced leucocytosis lasting for several hours or days. The bacterial proteid of *Bacillus pyocyaneus,* for instance, raised the percentage of white blood-corpuscles to red from 1 : 318 to 1 : 38 on the fourth day, a sevenfold increase in the number of leucocytes. Gluten casein and alkali albuminate from muscle gave similar but less pronounced results. Further, Büchner discovered that if methyl violet, a substance which combines readily with the bacterial protein, be added to the sterilized emulsion of the pneumo-bacillus of Friedländer, the latter lost its pyogenic properties. In this case the chemical bond seemed to be satisfied between the protein and the stain, so that it no longer exerted an influence on the material of the leucocytes. Büchner has also extracted quite a number of other bacteria, among which were the *Bacillus pyocyaneus, Bacillus subtilis, Bacillus acidi lactici,* all of which were pronouncedly chemotactic. Interesting here is the observation of Büchner that the fixed connective-tissue cells also are stirred to division.

Jacob has confirmed Büchner by the injection of glycerin extract of spleen, thymus gland, pancreas, liver, the thyreoid gland, and bone marrow. He finds that the extract of the spleen, thymus gland, and the bone marrow produces a most abundant leucocytosis; the extract of kidney, pancreas, thyreoid, and liver, on the other hand, is without effect. It is interesting to notice here, though whether it have any causal relation or not is doubtful, that those tissues having cells prone to and probably in process of division acted as a stimulus upon the leucocytes, or the organs producing them, while the highly differentiated glands, the liver, and pancreas, exceedingly difficult to provoke to division, appear to be without effect. Of some interest is the observation of Kossel, that from one kilo of thymus gland twenty-five grammes of nucleinic acid may be obtained; and from the same amount of the spleen, 5.4 grammes; while from the pancreas there can be extracted no free nucleinic acid whatever. Kossel has found that if one extracts the Kiel, cholera, typhus, staphylococcus, or streptococcus bacteria in the way done by Büchner—*i.e.,* with 0.5 per cent. KOH—nucleinic acid is obtained. Horbaczewski asserts that the nuclein extracted from spleen pulp produces leucocytosis; and Hoffmeister has shown that the number of leucocytes coming away from the intestine after nucleins have been eaten is more than double the number going to that locality. A little different from this line of evidence is that offered by Hardy and Lim Bom Keng that a leucocytosis may be induced in frogs by the injection of urari. Here there is not only an increase in number, but one in the size of the leucocytes. Later this increase is followed by a still more marked decrease.

Finally, we have several observations showing that the leucocytes are chemotactic toward disintegrating cell tissue, and there is some reason to believe that under such conditions there is also a local leucocytosis. This is the case in the absorption of the tadpole's tail, as observed by Metchnikoff. The phagocytes cluster about the disintegrating cells and make way with them. Ebstein and Nicolai assert that nematode spores frequently form tubercles in the lungs of cats and the kidneys of dogs, and there is an accumulation of cells about the living larvæ, much as the follicular cells accumulate about the developing ovum in certain tunicates. Although it is not so stated, we may believe that in this case, too, certain substances liberated by the tissue cells during disintegration are the chemotactic agents. A very similar case occurs in plants, as we shall see, and in certain lower animals, where the disintegration of one cell is followed by the proliferation of the surrounding cells. Brault says that the phagocytes eliminate the cells of the organisms attacked by poisons. Every one is familiar with the leucocytosis about the degenerating peripheral axis cylinder, and of the proliferation of the nuclei of injured muscle; among others Klippel relates the proliferation of round cells in the cerebral tissue concomitant with the degeneration of the nerve cells. The pyramid cells are surrounded by little round cells (from his description possibly leucocytes), and he also observed a great increase in vascularization, as if the endothelial cells of the capillaries had also felt an invigorating touch of an unknown kind.

A survey of this evidence indicates that on the disintegration of many cells of the body chemotactic substances are set free which attract the leucocytes. The leucocytes so attracted, and neighboring cells, are observed frequently in the process of mitotic division. The ingestion of nucleins into the alimentary tract, the injection of nucleins from the spleen pulp, from muscle, and various other tissues of the body, and of those extracted from bacteria, is followed by leucocytosis. Furthermore, it is probable that the substances set free on cell disintegration are the substances generally not diffusible, or but slightly so. They are not the peptones, since we know these are without such effect; they are, therefore, probably the more viscid parts of the cell or nucleus, presumably the nucleins. In other words, the evidence seems to indicate that the cell nucleins, or some derivative of them, are the chemotactic substances, and are one essential cause of leucocytic proliferation. On the other hand, Büchner states that hemialbumose is also strongly chemotactic.

There are many other interesting cases of cell division in the animal and plant kingdom. In many phanerogams the embryo sac feels the stimulus to develop on fertilization as well as the ovum. Indeed, the embryo sac may temporarily overshadow the true embryo. A similar case occurs in Salpa, as observed by Brooks and others. After fertilization of the ovum the follicle cells began such a vigorous proliferation that it was maintained for a time that they formed the whole embryo. In both these cases it seems probable that some chemical substance is set free in the egg by the action of the male cell, which causes neighboring cells to divide. Metchnikoff describes a cell attacked by a parasite, where the surrounding cells were stirred to proliferation. Probably the formation of galls in trees about the developing embryo has a similar explanation. In many galls the cells remain passive until the embryo reaches a certain size and begins to destroy neighboring cells.

In concluding this survey of the various agents inducing proliferation, we may cite, in passing, the different carcinomas and other hyperplasias. These indicate the facts that all that is needed to cause cell proliferation is the suitable stimulus, and that nearly all cells of the adult body are capable of cellular division. Nerve cells and ova, however, seem difficult to arouse.

In speaking of the bacteria, emphasis was laid upon the nucleins of their bodies as possibly the source of the stimulus to karyokinesis. There is reason for believing that other special foods play a similar rôle. Johnson found, in studying the stentors, that he sometimes obtained in his cultures very large, slowly dividing individuals, and at others very small, rapidly dividing ones. He succeeded in changing the large into the small by varying the character of their food. A rich food produced rapid division. Klebs and Loew discovered that the *Alga spirogyra* would live long in water free from phosphates, but would not reproduce. An abundance of phosphates, however, induced rapid reproduction. Danilewsky observed that puppies, tadpoles, or embryo fish fed on lecithin, or having lecithin injected subcutaneously, grew with very much greater rapidity than normal animals. Significant is the fact that lecithin is one of the chief constituents of nutritive yolk.

From the foregoing discussion it would appear that cells are caused to multiply by a diet of phosphates, of lecithin, or nucleins. Both lecithin and nuclein contain phosphoric acid, a substance in which chromatin is particularly rich. It might be expected that such foods would be utilized chiefly by the nucleus for the building up of more chromatin, and such appears to be the case.

A preliminary for cell division in adult body cells appears to be, indeed, the formation of chromatin. Since, as is generally noted in cells either prone to division normally, such as leucocytes or testicle cells, or such as are abnormally stimulated to division, the nuclei are rich in chromatin. Cells, on the other hand, which seldom divide, as ova or nerve cells, or adult differentiated body cells, appear to contain but a small amount of the chromatic radicle. This phenomenon of increase of chromatin, preceding cell division, I believe to be of such a general nature that we can formulate it as a law—*i. e.*, that the formation of chromatic radicle is a general antecedent of cellular division. There are, of course, exceptions to this rule—*i. e.*, the rapidly successive divisions of the blastomeres of the egg and the maturation of the nonfertilized egg. The manner in which an accumulation of chromatic radicle (nucleinic acid) in the nucleus should lead to cellular division is by no means clear, but the possibility suggests itself that thereby a change in the conditions of metabolism is brought about resulting in the production of the substance forming the centrosome, and that the latter is the direct stimulus, under unknown favorable conditions, to karyokinesis. This hypothesis would bring into relation the following facts:

1. That the centrosome, in the vast majority of cases in which its origin has been accurately traced, originates either within or in the immediate vicinity of the nucleus.

2. That cells normally prone to division contain, in distinction from cells seldom dividing, a very large amount of nucleinic acid.

3. That it has been repeatedly observed in adult body cells that the content of the nucleus in basic staining chromatin is increased previous to cell division.

4. That a diet of nucleins, phosphates, or lecithin appears to be a stimulus to cell division. These bodies all contain phosphoric acid, in which the chromatin is particularly rich. They are essentially chromatic foods.

5. That lecithin forms a very large percentage of the food of developing eggs and of certain germinating plants in which cell division is particularly rapid.

It is, of course, possible that other foods will be found to have a similar action, and that the nucleus may be made to form centrosomal substance, if it forms it at all, without a previous accumulation of chromatin. This short survey suggests at least one method of attacking this interesting problem from what appears to be a promising direction. The facts which we possess certainly emphasize the importance of the *character* of the food of cells as a limiting cause of cellular division.

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THE STATE OF THE VASOMOTORS IN ACUTE LOBAR PNEUMONIA, AND ITS BEARING ON TREATMENT.*

By R. VAN SANTVOORD, M. D.

In the *Berliner klinische Wochenschrift* of 1895, Nos. 51 and 52, Romberg published a series of investigations undertaken to determine what parts respectively the state of the heart and that of the vasomotors take in the condition commonly regarded as weak heart in acute infectious diseases. He experimented upon rabbits with the *Bacillus pyocyaneus* and with the pneumococcus of Fränkel. In a second paper read before the Fourteenth German Congress for Internal Medicine, Päsler and Romberg presented a further communication on the same subject, the Loeffler bacillus being on this occasion the organism experimented with.

It was found that the effect of infection by any one of these agents was to increase markedly the amplitude of the pulse tracing and to lower arterial tension. The effect of abdominal massage, which mechanically empties the abdominal vessels, was always to at once cause a marked increase of vascular tension up to a short time before the death of the animal, it being thus demonstrated that the circulatory failure was due to dilatation of the vessels, not to failing heart power. Irritation of peripheral nerves (pinching of the nose of the animal experimented with) failed to cause the increased vascular tension which it does in a normal subject. As this reflex irritation has been demonstrated to act through the medullary vasomotor centres, this failure was regarded as proving that these centres were paralyzed. Asphyxia, which acts upon both the spinal and medullary centres, caused a slight elevation of pressure, the relative intactness of the former being thus shown. Chloride of barium, which has been proved to act on the peripheral vasomotors, caused a marked elevation of pressure. The final conclusion arrived at from these experiments was that in cases of infection from the pneumococcus, *Bacillus pyocyaneus*, and the Loeffler bacillus the circulatory embarrassment heretofore attributed to cardiac weakness produced by toxæmia and malnutrition is due mainly to vasomotor paralysis. This conclusion did not apply to the late circulatory disturbances in diphtheria, which have been demonstrated to be due to cardiac lesions, the circulation in the acute stage of the disease only being considered.

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During the past winter I have been studying cases of pneumonia as they presented themselves in hospital and private practice with these conclusions in mind, in order to determine if possible what applicability they have to pneumococcus infection in the human being. Sphygmographic tracings were taken in eighteen cases of the disease. As these records confirm the results of observations made by many other observers in like cases, they may safely be accepted as the basis for the following remarks.

The tracings were almost invariably of great amplitude, the primary wave being generally sharply pointed, without any indication or only a faint indication of the tidal wave. The dicrotic wave was often very pronounced, sometimes not very strongly indicated. These characteristics were strongly developed in all cases in which constitutional symptoms were very marked until a few hours before death in fatal cases, when the pulse would become too feeble to give a good tracing, or convalescence. They were also pronounced in some cases in which the disease ran an only moderately severe course, judged by the general condition of the patient. In a few mild cases the deviation from normal was not very great. The pulse, as a rule, was large, often bounding, but usually of less than average tension, as judged by the finger, in the severe cases very much below the average. These latter observations were confirmed in several instances by the use of the sphygmomanometer of von Basch. This instrument measures the amount of pressure necessary to compress the pulse so that it can not be felt beyond the point of pressure. It is a measure, therefore, of the tension that exists at the period corresponding to the apex of the pulse tracing. The tracings demonstrate the fact that the arterial pressure falls with great rapidity after this primary wave, so that we have proof that the mean arterial tension is often low. It is the commonly accepted explanation of this form of tracing that it is due to dilatation of the peripheral vessels. We have the fact demonstrated, therefore, that in pneumonia, as it exists in the human subject, we have the same condition of low arterial tension due to relaxed peripheral vessels as was found to exist experimentally in animals infected by the same coccus.

The one constant factor in the circulation of the blood is gravity. When the general arterial tension is lessened, either as a result of cardiac weakness or of excessive dilatation of the peripheral vessels, this factor increases in its relative importance and the blood tends to accumulate in dependent portions of the body at the expense of the more elevated. Owing to the greater ease experienced by dyspnoic individuals in a position with the head and shoulders raised, this is the attitude which a patient gravely ill with pneumonia assumes, and this position is obviously directly provocative of cerebral anæmia. Here we have a mechanical factor which is probably of considerable importance in causing the nervous manifestations of the disease and in determining its final outcome.

The condition of the peripheral vessels which makes the least demand upon the heart in order to secure an adequate capillary pressure throughout the body is one of medium contraction. When the peripheral arteries are strongly contracted, as in cases of renal cirrhosis, the ventricle is forced to hypertrophy in order to overcome the obstruction, and toward the last we have the striking combination of ringing heart sounds and tense arteries with the dyspnœa and swollen feet indicative of inadequate capillary circulation. On the other hand, when the peripheral vessels are greatly relaxed, the capacity of the arterial system is largely increased. If the heart continues to inject into the aorta only the amount of blood in a unit of time that was adequate to maintain the tension at a safe level, under normal conditions, the result must be slowing of the current, lessened friction, hence lessened tension, which decrease may be sufficient to dangerously impair the circulation in the organs at a higher level than the heart. This danger may be avoided by the injection by the heart into the aorta of a larger quantity of blood in a unit of time—*i. e.*, by increased rapidity of contraction, or by the discharge of a larger amount of blood with each systole. When, finally, extreme dilatation takes place, this compensation becomes impossible. The heart is imperfectly supplied with blood, it falters and stops.

This sequence of events Romberg declares takes place as a matter of observation in his infected rabbits. At first, although the increased oscillation of the tracing showed a general relaxation of peripheral vessels (his measurements were taken in the carotid), the average tension did not fall. Later, when this did fall, the heart still responded when abdominal massage was employed, showing that the decline was due, not to failing heart power, but to increased relaxation of the vessels. Finaly this response ceased and the animal died.

It is often stated in the books (Wagner's *Pathology,* for instance) that the characteristic pulse of pneumonia is one of high tension. In the limited number of cases that I examined with this particular question in view this was certainly not the case, though the variation was very considerable in different cases, those of very low tension corresponding to great rapidity of heart action and grave constitutional conditions. The bounding character of the pulse due to the wide variations in tension during each cardiac cycle and its fullness give it a deceptive feeling of vigor which may readily be mistaken for high tension. The number of cases examined by me for the purpose was not sufficient to establish the rule, if there is a rule. There is, unfortunately, no exact method of determining clinically the exact tension of the arteries. From the foregoing, however, it is obvious that if in a given case of pneumonia the tension approaches or exceeds the normal, it can be only by reason of increased exertion on the part of the heart. In extreme vascular relaxation, therefore, we have a mechanical factor which renders necessary increased exertion on the part of the heart, in order to adequately supply all the organs with blood, and the ability of the heart to respond to this demand may determine the outcome of the given case. I present here two sphygmograms which are almost identical—one taken about twenty-four hours before death from a case of pneumonia with tremor and delirium and very low arterial tension in a middle-aged alcoholic, the other from a boy of sixteen, who not only recovered but never appeared to be gravely ill. The difference in the outcome of the two cases was probably largely influenced by the difference in the ability of the hearts to respond to the increased demands upon them.

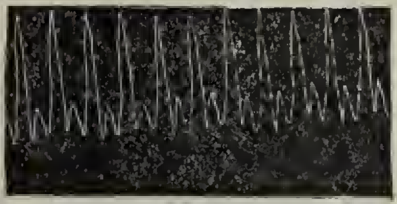
FIG. 1.—Alcoholic, aged fifty-one. Pulse 153. Two hours before death.

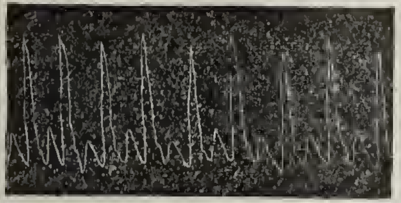
FIG. 2.—Boy, aged sixteen. Never very ill.

The weak point in the transfer of the results of experiments upon rabbits with the pneumococcus to the human being is that in the former the infection produces only a septicæmia, without the pulmonary lesions which form the prominent feature in the latter. Nevertheless, the animal experiments shed light, I think, not only on those cases in which the toxæmia is the prominent symptom, but also on the frequent cases in which the pulmonary infiltration plays a prominent part, of which the following is a type: A previously healthy and vigorous man was admitted into the Harlem Hospital with an infiltration, which finally involved the whole right lung. Dyspnœa was marked, and became gradually worse, until in three days he developed œdema of the left lung and died. Nervous symptoms were not marked. The sclera were yellow. The second sound over the pulmonary valves was louder than over the aortic. The tracing of his pulse, taken the day before his death, is here shown.

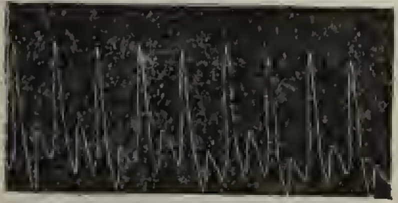
FIG. 3.—Extensive pulmonary infiltration. Marked dyspnœa.

The autopsy disclosed the following conditions so often seen in death from pneumonia: The cavities of the right heart contained much yellow clot and fluid blood and were dilated. The left ventricle was relaxed, but contained little clot or fluid blood. The right lung was in a condition of red hepatization throughout; the left congested, œdematous, and coated externally with fibrinous exudate. The liver was congested. What causes this obvious blocking of the right heart? Direct observation shows that when a living tissue is irritated the effect is to cause, first, a dilatation of the vessels, with sometimes a temporary acceleration of the blood stream. Then occurs a slowing of the latter amounting, when the irritation is intense, to complete stasis. To translate the words of Cohnheim, in speaking of this phenomenon: "As the driving force and the blood itself have undergone no change, the local retardation of the blood current can result only from local resistance; the lumen of the vessels, however, does not offer this in any locality; on the contrary, arteries, veins, and capillaries are universally relaxed—they are even dilated above the normal. Therefore there remains, so far as I can see, no other possibility than that the increased resistance is to be sought in the changed relations of friction and adhesion between the blood and the walls of the vessels." This sort of resistance, therefore, doubtless is offered to the circulation of the blood in the hepatized lung, as is generally recognized; the pulmonary exudate, by interfering with the normal dilatability of the vessels, being an additional factor. How are we to explain the œdema of the unhepatized lung? The mere narrowing of the blood current by the more or less complete shutting out of the vessels of the solidified lung does not explain it, because we frequently see patients with one lung solidified who nevertheless exhibit no marked signs of respiratory or circulatory distress. Welch long ago demonstrated that the only way in which œdema of the lungs could be produced mechanically in the laboratory was by causing relative insufficiency of the left heart, so that the sufficient right heart keeps on pumping blood into the lungs which the deficient left is not able wholly to receive and forward, a mechanism which is exquisitely exemplified in many cases of chronic interstitial nephritis. Extensive ligation of pulmonary arteries never produced œdema in the portion of lung supplied by the unobstructed branches.

The conditions here are exactly the reverse. We have the left ventricle forcing blood through the abnormally relaxed greater circulation and the right ventricle forcing the blood through an abnormally contracted lesser circulation, so that in this instance the strain is upon the right ventricle, which, if it proves insufficient, is not able to dispose of the blood brought to it by way of the greater circulation, with the result that congestive phenomena in the abdominal organs, most markedly in the liver, as in the above case, are to be noted. In the lungs we would look for nothing except possibly some hypostatic congestion in the portions not inflamed, as the narrow point past which the right heart must exert itself to force the blood is the pulmonary arterial system, not the wider capillaries and veins. Yet this increased strain upon the right heart is in part due to the greater amount of work thrown upon the organ as a whole by the necessity of maintaining the equilibrium of the circulation which is threatened by the paralysis of the vasomotors. Congestion, other than hypostatic, and œdema of the lungs occurring under these circumstances can not be due to any mechanical cause. It can only be inflammatory, and the inflammatory œdema of previously not involved portions of lung with distention of the right heart, which so often accompanies the end of the disease, is to be regarded as an extension of the pulmonary inflammation, and the final giving out of the right heart is owing to this added obstacle. That this is the explanation of the particular case cited above by way of illustration is rendered still more probable by the existence of considerable fibrinous exudation on the surface of the congested and œdematous left lung.

We turn now to the bearing of the above-enumerated considerations on the treatment of the disease. It is hardly necessary to state that so conspicuous a phenomenon as the relaxed condition of the peripheral vessels has not escaped observation and consideration from a practical point of view on the part of other authors. Romberg's especial point is that this factor is the dominant one in certain acute infectious diseases in causing embarrassment of the circulation, and I have endeavored to present the reasons for accepting his conclusions from a clinical standpoint, so far as the grave symptoms of the disease under discussion depend upon general toxæmia and not upon local lesions.

The most obvious method of combating extreme dilatation of the peripheral vessels is to administer drugs which cause their contraction. With this object in view, I have employed the chloride of barium in doses of four grains every four hours. In one case, after two days, the previously very much relaxed arteries contracted materially, the pulse slowed, and the marked delirium and prostration of the patient disappeared, although the temperature and pulmonary lesion remained unchanged. In others, no apparent result followed the same treatment. Fluid extract of ergot in doses of half a drachm every three hours had apparently some good effect in a few cases. The number of cases on which these drugs were used was, however, entirely too small to warrant any conclusion as to their utility, and I mention them only by way of suggestion.

It is, I think, significant that the sulphate of strychnine, which is now so widely used, and upon which I have mainly relied of late years, not only has a tonic effect upon the heart but also causes contraction of the peripheral vessels, through its action upon the spinal vasomotor centres, which, according to Romberg, are not affected by the pneumococcus.

Although in Romberg's experiments the terminal cardiac failure was apparently secondary to the extreme dilatation of the peripheral vessels, yet it has been demonstrated that before the final failure occurred increased work was demanded of the heart. The outcome of any given case may depend upon the ability of the heart to respond to this demand. I have previously shown the almost identical tracing presented by a boy of sixteen, who recovered, and a middle-aged alcoholic, who died, the difference in result depending probably on the different ability of the two hearts to meet the extra demands upon them.

Owing to the number of cases in which antecedent cardiac lesions exist and to the difficulties imposed upon the right heart by the pulmonary lesion, the necessity of directly stimulating the heart is more often present in the disease as it occurs in man than as it is artificially produced in rabbits.

The remedy which theoretically and in the opinion of many practitioners practically best meets the requirements of the situation is digitalis, because it contracts the peripheral vessels as well as stimulates the heart. The use of digitalis in pneumonia is an old and much-discussed question. Its most energetic supporter to-day is Professor Petresco, of Bucharest.* He stated, in 1891, that he and his pupils had treated 1,641 cases of pneumonia with a mortality of only 2.06 per cent. He gives the drug in an infusion of four grammes of the leaves to two hundred cubic centimetres of water, to which are added forty cubic centimetres of syrup of orange peel, in doses of a tablespoonful every half hour to begin with, and in quantities representing four, six, eight, or twelve grammes of the leaves daily, according to the indications of the individual case, and continues these doses for from three to four days. He claims to have found it well borne by the digestive organs, and never to have seen a case of poisoning, although the pulse will sometimes drop to 24 to the minute. So far as I am acquainted with the literature of the subject, there are few who have the courage to imitate his example; yet it may well be that in the vasomotor paralysis which we have been discussing we have both the explanation of the tolerance of such enormous doses and the indication for their employment. In delirium tremens it is acknowledged that the tolerance for digitalis is enormously increased. It is quite possible that in pneumonia a similar tolerance exists and that most of us have been too conservative in the use of this drug because we have based our expectations of the effect to be looked for on results obtained in non-febrile maladies, and that the condemnation of the use of the drug in large doses in pneumonia in particular by high authority has been influenced by experience derived under conditions of the circulation which are vastly different from those obtaining in this disease. It is not to be forgotten that the preparation used by Petresco—viz., the infusion—does not represent the full potency of the leaves, as one of the most powerful alkaloids, digitoxine, is not soluble in water. The U. S. P. infusion contains alcohol, and is therefore a more powerful preparation than Petresco's.

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* *Therapeutische Monatshefte*, February, 1891.

With regard to the treatment of those cases in which right-heart embarrassment occurs, I desire to call attention especially to nitroglycerin, the use of which is advocated by Dr. A. H. Smith. I here show the tracing taken from a patient during an attack of pneumonia of considerable severity, one taken during convalescence, and one a few moments after the latter, when the circulation was under the influence of a very large dose of nitroglycerin. The similarity of the first and the last is apparent.

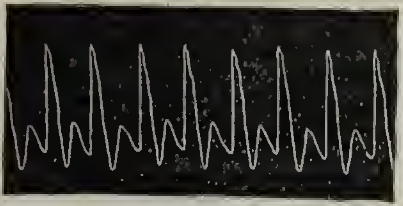
FIG. 4.—Pneumonia.

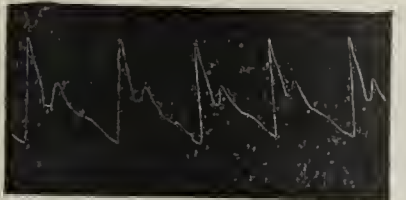
FIG. 5.—Convalescence.

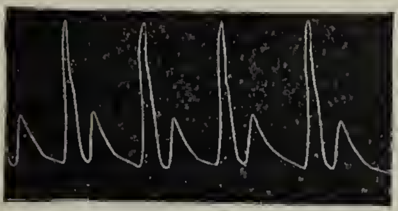
FIG. 6.—Nitroglycerin.

It seems a little like carrying coals to Newcastle to administer nitroglycerin in such a state of the peripheral vessels; yet, nevertheless, a still greater relaxation of the vascular system than that already existing may be a source of relief to the embarrassed right heart by lessening temporarily the amount of blood which it is called upon to force through the obstructed lungs. Its action is exactly analogous to bleeding. Its use should, however, be reserved for this specific indication. In the cases in which the vasomotor paralysis is a source of danger, this danger would be obviously increased by its employment.

As we all are only too painfully conscious, the treatment of acute lobar pneumonia is not as satisfactory as we could wish. I offer these suggestions in the belief that the conditions of the vasomotors is a factor in the pathology of the disease which has not received the consideration which its importance demands, and that intelligent effort on the lines above indicated would save lives which would otherwise be sacrificed by trying to stimulate the heart under the idea that the circulatory failure present is due solely to insufficiency, from whatever cause, of the heart muscle, and neglecting to lessen its labors by toning up the peripheral circulation.

106 WEST ONE HUNDRED AND TWENTY-SECOND STREET.

IS THE CONTINUAL USE OF STRYCHNINE UNWISE?

BY THOMAS J. MAYS, A. M., M. D.,
PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC, AND VISITING PHYSICIAN TO THE RUSH HOSPITAL FOR CONSUMPTION, PHILADELPHIA.

AMONG the remarkable assertions that are made in an editorial of the *Therapeutic Gazette* for May 16, 1898 (p. 307), concerning The Abuse of Strychnine as a Stimulant, occur the following: "There is nothing which indicates that its (strychnine) continual use as a nervous or circulatory stimulant is wise, and there is much which indicates that such use of it is unwise." Another is: "As its use is continued, however, the improvement in the symptoms, which first took place fails to be maintained, and finally, notwithstanding any dose that can be given, no relief is obtained from its use. In addition to the primary symptoms there is added a condition of excessive nervous irritability, which in some patients is not only disagreeable, but actually alarming. . . . Particularly is this true where very large doses of strychnine are administered to patients suffering from severe asthenic maladies, as, for example, in typhoid fever, tuberculosis, or epidemic influenza. . . . If the strychnine is persisted in, and ascending doses are given for a considerable period of time, in addition to the nervous symptoms which we have mentioned, there is frequently developed an irritant fever."

The criticisms which I have to offer on this paper are (1) as to the wisdom of using continual and ascending doses of strychnine; (2) to its tendency to produce irritability and fever when so used; and (3) to its employment in tuberculosis and other chronic diseases of the chest.

In the first place, no one who has employed strychnine for a long time will venture to deny that its action is not sometimes accompanied by some untoward effect (and what drug is free from such occasional behavior?), but after having given it in many thousands of cases during the last ten years I can confidently assert that I have never witnessed any serious danger from it; and what is more, my experience teaches me that it is the most easily controlled of all the active agents in the materia medica, and that if carefully administered its unfavorable influence can be entirely thwarted. Now the plan which I have pursued in giving this drug is that which is condemned by the author of this paper, and is as follows: As a rule, I divide one grain into thirty or thirty-two doses, and administer one dose four times a day. This lasts one week, and the following week a grain and a quarter is divided and given in the same manner. After this, instead of increasing the drug a quarter of a grain, as in the first week, I augment it only an eighth of a grain every week until the line of toleration of the drug is approached. This is most often shown by slight twitching in a leg, by a tendency to stiffness of the lower jaw, or by a fullness in or drawing of the neck. After this a somewhat smaller dose is given for two weeks or a month, and then an effort is made to push it to near the point of physiological toleration; or a retreat is made to a point near the initial dose, and this is gradually increased until the line of toleration is again in sight. The dose is diminished and the previous steps are repeated again and again. It will be found, however, that the dose which develops the line of toleration at one time will not, for a while at least, do this subsequently, and hence in the course of six months or a year I have frequently been able to give an eighth, sixth, or fifth of a grain four times a day, and, according to my opinion, with the best possible results. I have long been convinced that when strychnine is indicated in chronic diseases it must be given for effect, and in order to get its best possible effect it must be administered in large and continual doses—small doses being worse than useless for this purpose.

In regard to the assertion that strychnine is capable of producing an irritant fever, I would reply that I believe this to be one of the possibilities of its action; but to say that this is a "frequent" occurrence, and lead the reader to infer that it is one of its common properties, is as unjust to this agent as the dogmatism is hollow that declares it. Whenever this occurs it is a by-product, happens but rarely, according to my experience, and is the result either of careless administration or of giving it in unsuitable cases. On the other hand, I firmly believe that the most indubitable clinical evidence can be adduced to show that instead of producing, it allays fever. In any event, I have given it extensively in the fever of phthisis in ascending doses, and often continued in the same patient for periods varying from six months to two years and longer, and never, except on the rarest occasion, have I seen any reason for suspecting that it aggravated the pyrexia. Nor have I seen the alarming nervous irritability the production of which this editorial locates at the door of strychnine, barring the cases in which it was pushed to excess; but, on the other hand, I have frequently observed that irritability, nervousness, and general restlessness disappear under its influence. This I believe to be the rule and not the exception.

That which is true of the action of strychnine in phthisis I have also found to be true in asthma, chronic bronchitis, angina pectoris, chronic diseases of the heart, etc.; in fact, in most diseases that invade the domain of the pulmonary and circulatory organs; and I feel convinced that the editorial in question, by striving to limit its therapeutic value to emergencies which require a sudden calling forth of the nervous energy of the body, tends to minimize and to misrepresent its greater sphere of action. Serviceable as this agent is in meeting the acute crises of many diseases, I believe that its greatest value lies not so much in its power of acting as a temporary expedient, as it does in being a permanent stimulant to the flesh- and vigor-making functions of the body.

Therapeutical Notes.

The Treatment of Painful Ulcers of the Cervix Uteri.—Lutaud (*Münchener medicinische Wochenschrift*, 1898, No. 21; *Medizinische Neuigkeiten*, August 16th) recommends the following application:

℞ Tannin	4 parts;
Lycopodium	10 "
Europhene	20 "
Compound powder of opium	1 part.

M. It is applied with the aid of a speculum, and kept in place with a cotton tampon.

Mixture for Intestinal Antisepsis.—De Maximovitch (*Indépendance médicale*, August 31st) recommends:

℞ Naphthol	45 grains;
Chloroform	15 drops;
Castor oil	1,500 "
Essence of peppermint	5 "

M.

To be taken in tablespoonful doses in port wine, beer, or hot, black coffee with sugar. To children this preparation should be given in teaspoonful doses.

Saliva as an Anthidrotic.—The *Klinisch-therapeutische Wochenschrift* for August 14th refers to experiments by Krahn, Deguy, and Meurisse showing the excellent effects of tincture of saliva in the sweating of consumptives, rheumatics, and convalescents. From thirty to forty drops are given about two hours before the time for the sweating to come on. The trouble soon ceases, sometimes after the first dose.

The Treatment of Pruritus Ani.—Dr. W. F. Ball, of Mantua Station, Ohio (*Journal of Practical Medicine*, August), writes that there is no such thing as "itching piles." He would class all such cases as either pruritus ani (which he ascribes to uncleanliness) or itching due to ascarides. He declares that an ointment made according to the following formula will cure every case of pruritus ani:

℞ Corrosive sublimate, Ammoniated mercury,	each .. 15 grains;
Oil of sassafras	20 minims;
Vaseline	2 ounces.

M. Apply lightly and sparingly to the part every evening, and on the third night apply plenty of Castile soap and water. The injunction to apply "sparingly," we should say, should be observed strictly.

Treatment of Sweating Hands.—The *Revue médicale* for September 28th cites the following as being quoted by *Nouveaux remèdes* from a German source. It is said to have given excellent results:

℞ Borax, Salicylic acid,	of each ...... 225 grains;
Boric acid	75 "
Glycerin, Dilute alcohol,	of each ...... 900 minims.

M.

Rub in three times daily.

THE
NEW YORK MEDICAL JOURNAL,
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 8, 1898.

SHOULD THE GENERAL PRACTITIONER RECEIVE A FEE FOR REFERRING A PATIENT TO A SPECIALIST?

Dr. Melville Black propounds this question in the July number of the *Colorado Medical Journal*, and proceeds to discuss it as it may come up under one or the other of two different conditions. The first condition he describes substantially as follows: The practitioner is at first more or less in doubt as to whether the patient should be sent to a specialist or not, and consequently temporizes. Then he concludes that the patient should be so sent, and honestly says so. The patient in too many instances is prone to look upon this tentative preliminary attendance as being practically of no benefit to him, and to refuse to pay for it, or at least to resent being charged for it. "Now," asks Dr. Black, "who is to compensate this physician?" "If," he adds, "the specialist does not pay him for the time he has expended, no one else does. The specialist can easily learn from the patient the extent of the services rendered by his physician. The latter should then be compensated accordingly."

We fear it can not be denied that the picture of unrequited and unappreciated services drawn by the writer is one that has its original in the experience of many a struggling and thoroughly deserving physician, but we question if the remedy proposed is just or would prove satisfactory to anybody concerned, except perhaps the untutored patient. The general practitioner's selection of the specialist does, of course, work to the latter's benefit, but, if it is made conscientiously, it is not governed in any degree by a desire to do the specialist a good turn; it is made solely in the interest of the patient, and nobody else should be expected to pay for the attendance that led up to it. While this is the case, however, the specialist certainly has a duty to perform, provided the man first consulted has so managed matters as to enable him to perform it. As things go, there is too much turning of patients over to specialists. If the case admits of doubt at the outset as to whether or not a specialist's services are required, a consultation may be asked for, and in the course of the visit the specialist, except perhaps in rare instances calling for continued manipulative treatment, should give the patient to understand that he will not take exclusive charge of the case, but will meet the family physician in consultation as often as may be necessary. There is no good reason why the great majority of cases should not be as efficiently managed, so far as the routine treatment is concerned, by the general practitioner as by the specialist, and the latter should forego taking them away from a competent colleague simply because they come under one or another of the headings in the literature of his specialty.

The second condition pictured by Dr. Black is that in which the patient consults his physician, not with the view of getting his advice concerning his ailment, but simply and avowedly to avail himself of the physician's knowledge of specialists. When that is the state of things, Dr. Black thinks, the specialist is under no obligation to pay the practitioner. The selection of a specialist is, however, in itself a valuable service to the patient, and under certain circumstances, we think, it ought not to be rendered without recompense.

A TRULY PHILANTHROPIC SOCIETY.

There is, as we learn from the *Journal des praticiens* for August 6th, a society existent in France which deserves to be widely imitated. It is called the Association of Ladies of Maule, and has its headquarters at Maule, in the department of Seine-et-Oise. It was founded by Dr. Pecker, of Maule, and its object is the provision of help and assistance to women in childbirth.

While it is essentially a charitable institution, intended for the assistance of indigent women, its services are open also to women of higher degree on payment of a certain subscription. These services are of two kinds: First, material aid; and, secondly, personal labor; and they are, moreover, rendered without regard to political or religious tendencies, the state of pregnancy being sufficient to call for the care of one who by her accouchement will add to the might of France.

The society is supported in the usual fashion by ordinary members, active members, and honorary members; the first class paying a regular subscription, the members of the second being exempt from any obligatory subscription, but giving their personal services, while the third consists of persons who have made a donation of a certain sum of money to the funds.

The *modus operandi* of the society is as follows: As soon as the physician is informed by one of his poor patients of her pregnancy, he details, according to the roster, one of the active members of the association to undertake the surveillance of the pregnancy, the accouchement, and the after-treatment. The local philanthropic bureau comes forward with gifts of bread, meat, fuel, etc., to minister to the needs of the necessitous patient; but, as such aid is intermittent, the physician furnishes the active member charged with the surveillance of the case with a grant of a certain sum, presumably from the treasury funds, adequate to meet any urgent necessities that can not await the movement of the local machinery. Fifteen to twenty days before the expected accouchement the physician gives an order from a duplicate book addressed to the directress of supplies, who sends by return a bag containing a supply of linen and baby linen, a syringe with glass cannula, enameled-ware basin, thermometer, etc.

Each bag, as well as the individual items of its contents, is stamped with a number, so that it can be identified for disinfection or other purposes.

The layette becomes the property of the child. The active member in charge notes the use of the linen, and, as it becomes soiled, oversees its dispatch to the association's laundry.

In a similar manner, antiseptic dressings, medicines, etc., are supplied.

While we are aware that a few local societies with similar aims exist in America, it seems to us that such a one might advantageously be started in every more or less populous district throughout the United States. The care of the newborn infant is a public duty and a public interest. It is of moment not only to the parents and to the infant itself, but to the nation at large.

There should be no sectarianism in such an institution. Every pregnant woman, lawfully or unlawfully conceiving, bears a new life by Divine Providence, and if that new life is handicapped by the manner of its inception, it is all the more reason that every chance possible should be accorded it of "starting fair" on the journey of life.

The idea might be still further extended by the formation of State foundling homes, whereby the children of unwilling parents might be rescued from infanticide and legally assigned to the State, which should train and educate them into useful citizens.

This is a suggestion for philanthropic physicians to ponder over and to impress upon the philanthropic women of America.

MINOR PARAGRAPHS.

THE REPAIR OF TREPHINING OPENINGS.

SWORYKIN (*Vratch*, 1898, No. 25; *Centralblatt für Chirurgie*, August 27th) has experimented with various plugs inserted into the openings made by trephining rabbits, using plates made of phosphate, carbonate, and sulphate of calcium, with a little gelatin, also pieces of cartilage, dead or living. After varying periods the bones were decalcified and examined. It was found that granulation tissue had proceeded from the periphery toward the centre and had been converted into connective tissue and finally ossified, the materials inserted having been absorbed. The entire process of restoration lasted about a year and a half with the artificial plugs, but when cartilage was used it was much more rapid.

ULCERATIVE ORCHITIS FOLLOWING TYPHOID FEVER.

DR. A. BRETON, of Dijon (*Journal des praticiens*, September 3d), relates the case of a lad, seventeen years old, who was attacked with typhoid fever late in July, 1897, and became convalescent toward the close of August. At that time, however, he was seized with severe fever and testicular pain, and suppuration took place rapidly. On the 26th of October he came under Dr. Breton's observation. There was an ulcer on the right side of the scrotum about as large as a franc piece, and by the side of it there was a very small opening of a sinus. The surrounding skin was violaceous, and the general aspect of the lesion was that of a tuberculous ulcer. However, he did not react to an injection of tuberculin. The parenchyma of the testicle was involved, but the epididymis and the spermatic cord were healthy, and there was no effusion into the tunica vaginalis. The lymphatic glands of the right groin were enlarged. Four days of antiseptic treatment proved of no avail, and then the diseased portion of the testicle was excised. The remainder of the gland was perfectly healthy. The wound healed in a week, and the cure was complete. There were no Koch bacilli in the excised tissue, but there were a few bacilli which the author is inclined to look upon as those of Eberth, although the examination did not determine positively that they were not specimens of the *Bacillus coli communis*.

BALSAM OF PERU IN TUBERCULOUS AFFECTIONS.

SCHMEY, of Beuthen, having published accounts of his favorable experience in the internal administration of Peruvian balsam in pulmonary affections, Schreiber, of Cologne, raises the question of priority, stating that in 1879 he published an account of his three years' employment of the remedy. Schmey (*Deutsche Medizinal-Zeitung*, August 22d) replies that he never alleged priority for himself. He does think, however, that he is entitled to credit for insisting on the therapeutic value of Peruvian balsam given internally, and for devising a preparation, "Perucognak," which he says is agreeable, well borne, and destitute of after-effects. We presume it is a solution in brandy.

A DIMPLE-MAKING DEVICE.

WE have heard of elaborate cutting operations for the production of dimples, but every woman may now make her own dimples if we may credit the *Journal de médecine de Paris*, which says that an instrument has been invented for the purpose. Before going to bed "la patiente" puts on a mask armed on its inner surface with two little points, one at the lower part of each cheek—not sharp, but simply designed to impress the desired little pit upon the face. In the morning she finds herself adorned with the dimples. How long they last is not stated.

ARTIFICIAL LIMBS GALORE.

The French press is probably quite as well informed concerning British as about American affairs. We must therefore credit a statement that we find in a recent number of the *Journal de médecine de Paris* to the effect that the London and Northwestern Railway Company has set up in Crewe a vast establishment for turning out artificial hands, arms, and legs, not only for its maimed employees, but also for injured passengers, without cost to the recipients. This innovation has been made necessary, says the *Journal*, by the increase in the number of accidents resulting in personal injury on English railways since the summer began.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 1, 1898:

DISEASES.	Week ending Sept. 24.		Week ending Oct. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	167	29	147	30
Scarlet fever	59	3	96	4
Cerebro-spinal meningitis	0	5	0	7
Measles	41	3	39	4
Diphtheria	109	17	113	15
Croup	6	3	8	7
Tuberculosis	133	146	172	135

St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 1st inst., Dr. Ludwig Bremer was to read a paper on The Differential Diagnosis between Hysteria and Neurasthenia, and their Treatment, and Dr. L. H. Laidley was to exhibit pathological specimens.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 4th inst., the following papers were to be read: On the Use of Chloroform in Adenoid Operations, by Dr. Frank W. Hinkel; and Tertiary Syphilis of the Nose and Pharynx, by Dr. W. Scott Renner.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague have been received in the office of the supervising surgeon general of the Marine-Hospital Service during the week ending October 1, 1898:

Small-pox—United States.

Detroit, Mich.	Sept. 24	Reported present.
Dayton, Ohio	Sept. 23	1 case.

Small-pox—Foreign.

Antwerp, Belgium	Aug. 27–Sept. 3	4 cases,	1 death.
Ghent, Belgium	Sept. 4–10		1 "
Rio de Janeiro, Brazil	Aug. 6–12	2 "	1 "
London, England	Sept. 3–27	3 "	
Bombay, India	Aug. 16–23		2 deaths.
Bombay, India	Aug. 23–30		2 "
Moscow, Russia	Aug. 20–27	1 case,	1 death.
Moscow, Russia	Aug. 27–Sept. 3	2 cases.	
Odessa, Russia	Aug. 27–Sept. 3	1 case.	
Odessa, Russia	Sept. 3–10	2 cases.	
St. Petersburg, Russia	Aug. 27–Sept. 3	2 "	6 deaths.
Montevideo, Uruguay	Aug. 3–10	5 "	

Yellow Fever—United States.

Baton Rouge, La.	Sept. 25	1 case.	
New Orleans, La.	Total to Sept. 27	12 cases,	1 death.
Jackson, Miss.	Total to Sept. 27	9 "	2 deaths.
New Edwards, Miss.	Total to Sept. 27	1 case.	
Orwood, Miss.	Total to Sept. 27	67 cases,	3 "
Oxford, Miss.	Total to Sept. 27	13 "	4 "
Taylor, Miss.	Total to Sept. 27	82 "	8 "
Water Valley, Miss.	Sept. 28	1 case.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Aug. 6–12	10 cases,	8 deaths
Rio de Janeiro, Brazil	Aug. 12–19	19 "	11 "
Tampico, Mexico	Aug. 27–Sept. 4		27 "
Tampico, Mexico	Sept. 4–11		26 "
Tampico, Mexico	Sept. 11–18		12 "
Vera Cruz, Mexico	Sept. 16–22		4 "

Cholera—Foreign.

Bombay, India	Aug. 16–23	2 deaths.
Bombay, India	Aug. 23–30	1 death.
Calcutta, India	Aug. 16–20	1 "

Plague.

St. Petersburg, Russia	Aug. 6–13	1 death.
Bombay, India	Aug. 23–30	157 deaths.
Calcutta, India	Aug. 13–20	2 "

Dr. W. W. Keen and the Army Inquiry Commission.—We learn from the *Philadelphia Polyclinic* for October 1st that Dr. Keen has declined to serve on the commission of inquiry appointed by the President to investigate the causes and fix the responsibility for the recent "scandals" in regard to the army.

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, the 6th inst., Dr. William Duffield Bell was to read a paper on Surgery in the Recent War.

At the next meeting of the Section in Genito-urinary Diseases, on Tuesday evening, the 11th inst., Dr. F. C. Valentine will read a paper entitled A Contribution to the Study of the Complications of Acute Gonorrhœa. Dr. W. B. Coley will exhibit Harris's new instrument for catheterization of the ureters, and Dr. L. Weiss will exhibit instruments for electrolysis of infected urethral follicles.

Changes of Address.—Dr. E. N. Carpenter, to No. 110 West Fifty-seventh Street, New York; Dr. Wilbur B. Marple, to No. 35 West Fifty-third Street, New York; Dr. C. G. Coakley, to No. 11 West Forty-fifth Street, New York; Dr. Augustine C. McGuire, to No. 175 West Eighty-eighth Street, New York.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending September 29, 1898:*

Murray, R. D., Surgeon. To proceed to New Orleans, La., and await orders. September 17, 1898. To proceed to Orwood, Miss., for special temporary duty. September 29, 1898.

Glennan, A. H., Surgeon. To proceed to Tampa, Fla., and thence to Jacksonville, Fla., for special temporary duty. September 21, 1898.

Wasdin, Eugene, Surgeon. To proceed to Georgetown, S. C., as inspector, there to await orders. September 16, 1898. To proceed to New Orleans, La., and report to Surgeon Carter for special temporary duty. September 26, 1898.

McIntosh, W. P., Passed Assistant Surgeon. To proceed to Jackson, Tenn., for special temporary duty. September 19, 1898. To proceed to Memphis, Tenn., and assume temporary command of service. September 26, 1898.

MAGRUDER, G. M., Passed Assistant Surgeon. To proceed to New Orleans, La., for special temporary duty. September 26, 1898.

KINYOUN, J. J., Passed Assistant Surgeon. To proceed to Philadelphia, Pa., for special temporary duty. September 22, 1898. To proceed to Philadelphia, Pa., for special temporary duty. September 28, 1898.

VAUGHAN, G. T., Passed Assistant Surgeon. Leave of absence granted by department letter of August 18, 1898, revoked, to take effect September 16, 1898. September 28, 1898. Reassigned to duty at the port of Washington, D. C. September 17, 1898.

COBB, J. O., Passed Assistant Surgeon. To proceed to Oxford, Miss., for special temporary duty. September 26, 1898.

STONER, J. B., Passed Assistant Surgeon. To proceed to Mobile, Ala., and await orders. September 17, 1898. To proceed to New Orleans, La., and report to Surgeon CARTER for special temporary duty. September 23, 1898.

GEDDINGS, H. D., Passed Assistant Surgeon. Granted leave of absence for thirty days on account of sickness. September 26, 1898.

STIMPSON, W. G., Passed Assistant Surgeon. To proceed to Meridian, Miss., for special temporary duty. September 24, 1898.

EAGER, J. M., Passed Assistant Surgeon. To inspect Sabine Pass, Texas, Quarantine Station. September 21, 1898.

GARDNER, C. H., Passed Assistant Surgeon. To proceed to Delaware Breakwater Quarantine Station, and report by letter to commanding officer for temporary duty. September 23, 1898.

OAKLEY, J. H., Passed Assistant Surgeon. To proceed to Chattanooga, Tenn., for special temporary duty. September 28, 1898.

CUMMING, H. S., Assistant Surgeon. To proceed to Montgomery, Ala., and await orders. September 17, 1898. To proceed to Chattanooga, Tenn., for special temporary duty. September 21, 1898. To proceed to Jackson, Miss., for special temporary duty. September 29, 1898.

TABB, S. R., Assistant Surgeon. To proceed to Delaware Breakwater Quarantine Station for special temporary duty. September 28, 1898.

JORDAN, W. M., Assistant Surgeon. Granted leave of absence for one month from October 1, 1898. September 23, 1898.

CLARK, TALIAFERO, Assistant Surgeon. To proceed to New Orleans, La., and report to Surgeon CARTER for special temporary duty. September 23, 1898.

LAVINDER, C. H., Assistant Surgeon. To proceed to New Orleans, La., and report to Surgeon CARTER for special temporary duty. September 23, 1898.

RUSSELL, H. C., Assistant Surgeon. To proceed to Evansville, Ind., and assume temporary command of service. September 28, 1898.

VON EZDORF, R. H., Assistant Surgeon. To proceed to Taylor, Miss., for special temporary duty. September 17, 1898.

FOSTER, M. H., Assistant Surgeon. Granted leave of absence for thirty days on account of sickness. September 26, 1898.

LUMSDEN, L. L., Assistant Surgeon. To proceed to New Orleans, La., and report to Surgeon CARTER for special temporary duty. September 23, 1898.

HOBDY, W. C., Assistant Surgeon. To proceed to Reedy Island Quarantine, Del., and report to commanding officer for duty and assigment to quarters. September 29, 1898.

Resignation.

JORDAN, WILLIAM M., Assistant Surgeon, resigned, to take effect October 31, 1898.

Society Meetings for the Coming Week:

MONDAY, *October 10th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *October 11th:* Mississippi Valley Medical Association (first day—Nashville); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Albany (semiannual), Chenango (triannual), Greene (semiannual—Cairo), Jefferson (quarterly—Watertown), Oneida (semiannual—Rome), Ontario (quarterly), Rensselaer, Schoharie (semiannual), and Tioga (Owego), N. Y.; Medical Association of Northern New York (annual —Malone); Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Bergen, N. J., County Medical Society; Cumberland, N. J., County Medical Society (semiannual); Litchfield, Connecticut, County Medical Society (annual); Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *October 12th:* Mississippi Valley Medical Association (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Society of the County of Albany, N. Y.; Tri-States Medical Association, N. Y. (Port Jervis); Pittsfield, Massachusetts, Medical Association (private); Franklin (quarterly—Greenfield), Hampshire (quarterly—Northampton), Plymouth (special), Massachusetts, District Medical Societies; Middlesex, Massachusetts, South District Medical Society (Cambridge); Philadelphia County Medical Society; Kansas City Ophthalmological and Otological Society, Missouri.

THURSDAY, *October 13th:* Vermont State Medical Society (first day—Brattleboro); Mississippi Valley Medical Association (third day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; New York Laryngological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *October 14th:* Vermont State Medical Society (second day); Mississippi Valley Medical Association (fourth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y. (anniversary).

Births, Marriages, and Deaths.

Married.

ANDREWS — HUTCHINSON. — In Burlington, Vermont, on Thursday, September 29th, Dr. C. G. Andrews, of Waterbury, Vermont, and Miss Mabel Hutchinson.

BARTLETT—SCHMIDT.—In White Plains, on Tuesday, October 4th, Mr. Frederic Clay Bartlett and Miss Dora T. Schmidt, daughter of Dr. H. Ernest Schmidt.

FOX—DOWNING.—In Palmyra, N. Y., on Wednesday, September 28th, Dr. James W. Fox, of Fairport, N. Y., and Miss Georgiana Downing.

Died.

MASTIN.—In Mobile, on Monday, October 3d, Dr. Claudius H. Mastin, aged seventy-two years.

TODD.—In Toledo, Ohio, on Wednesday, September 28th, Dr. Frederick A. Todd.

VAN WERT.—In New York, on Sunday, October 2d, Mabel, infant daughter of Dr. Charles Van Wert.

Letters to the Editor.

MATERNAL IMPRESSION.

313 EAST SEVENTY-SECOND STREET,
NEW YORK, *September 26, 1898.*

To the Editor of the New York Medical Journal:

SIR: Desiring to make more complete the reports of cases of maternal impression, two of which are mentioned in last week's issue of your paper, I report a third case, which until now I have not considered interesting enough to mention publicly.

On December 16, 1895, while engaged in practice in Cleveland, Ohio, I was called to attend a newborn child suffering from a "contusion" on its back. Examination revealed the case to be one of spina bifida, which formed a big tumor over the sacral region.

The inguinal ring on the left side was very large and patent, so that the abdominal contents passed freely into and out of the scrotum. The mother, a little German woman, highly nervous and extremely superstitious, told me of an accident with which she had met in the early part of her pregnancy. While hanging a curtain over the bedroom door she fell down and struck her back on the edge of the stove. Rebounding from the stove, she fell against a chair, contusing her left groin. She believed firmly the accident to be the cause of the malformations, as her injuries corresponded exactly in situation with the diseased parts of her child.

The midwife who attended her during her pregnancy and labor informed me that the woman fretted from the moment of the accident, and anxiously awaited the coming of her child into the world, believing firmly in the mysterious powers of maternal impression.

The accident occurred between the tenth and fifteenth weeks of pregnancy, long before ossification of the arches of the vertebræ.

The child died on the tenth day, showing symptoms of meningeal irritation and congenital motor and sensory paralysis of the lower limbs.

FRANCIS L. STRÁNSKÝ, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. THOMAS R. FRENCH, of Brooklyn, in the Chair.

(*Continued from page 496.*)

Early Diagnosis in Whooping-cough.—Dr. WAGNER read a paper on this subject. (See page 514.)

Dr. SWAIN: I should like to inquire of Dr. Wagner if he is successful in finding the pol-bacteria in every case of whooping-cough.

Dr. WAGNER: Yes, in every case. I have been making these examinations for the last eight years, but it is only since Czaplewski introduced his new method of staining that I have been able to arrive at more positive conclusions. The use of this new stain shows that former observations were incorrect, because we misinterpreted the morphological structure of the bacterium, which we thought was a diplococcus. Now, we know that it is not a diplococcus, but a pol-bacterium. In many cases it is possible to make the diagnosis of whooping-cough in the early state before the cough has set in and while there is only a rhinitis acutissima serosa. In all cases of prolonged illness also, its presence in the nose and throat will enable us to make a correct diagnosis where we otherwise should be in doubt.

Dr. SWAIN: How early in the disease before the occurrence of the whooping-cough would you be able to make the diagnosis?

Dr. WAGNER: I consider the appearance of these bacteria in the discharge from the nose as a primary manifestation. Their occurrence in the nose will produce the first symptoms. These bacteria can be found even several days before the reflex symptoms of the eyes occur, which generally are considered the earliest manifestations of the disease.

Dr. FARLOW: In 1890 I read a paper before the Boston Society for Medical Improvement (see *Boston Medical and Surgical Journal*, February 27, 1890) on the Use of Resorcin in Whooping-cough. This was based on my successful treatment of a number of cases by means of sprays and inhalations. Dr. Moncorvo, of Rio de Janeiro, had previously reported similar results in a paper entitled De la Coqueluche et de son traitement par la résorcine.

Dr. Affanassieff (in Baumgarten's *Lehrbuch der pathologischen Mykologie*, 1888, p. 734) professed to have found a bacillus of pertussis which could be cultivated, and Dr. Smetchenko had also found this microbe, which was killed in cultivation when the medium (jelly) contained corrosive sublimate 1 to 60,000, or resorcin or phenol 1 to 1,200. Dr. Moncorvo located the microbes at the entrance to the larynx and made direct applications with a laryngeal swab. I sprayed the nose as well as the throat and larynx. In view of these observations, I should like to ask Dr. Wagner what treatment was employed in his cases.

Dr. WAGNER: In reply to Dr. Farlow's question, I desire to say that as to treatment I have changed my views somewhat. Some clinicians have used resorcin in the form of a powder combined with some inert substance; but I have found that it is not borne well by children. If you use fluid petroleum with menthol or eucalyptol or aqueous solutions of resorcin (three to five per cent.), the result is certainly more satisfactory than that from any dry powder. I must repeat, that I have been making these bacteriological observations for the last eight years and have reached similar conclusions as Czaplewski and Hensel, only with different interpretation of the structure of these bacteria. They do not say that these bacteria that I have just described are to be met with only in the nose, but they have found them especially in the throat and pharynx; though I have argued that as they were found in the pharynx, they might be first detected in the nose, if this is the primary seat of this disease, and I have succeeded in finding them in this location a few days before their appearance in the pharynx, and therefore consider the nose as the "primary place of infection."

Dr. WRIGHT: I notice that on the programme the title is The Early Diagnosis of Whooping-cough, but I do not understand from Dr. Wagner's remarks whether or not the bacterium that he found is to be considered the cause of the disease or merely a concomitant. If it is the cause, it would be perfectly easy to isolate it and inject it into other patients, and cause the development of the disease in these other persons. Until this has been done in the case of the bacterium described in the paper, we could hardly accept it as a prime ætiological factor of the disease in question. I have not followed the literature of the subject very closely, and can not tell whether or not this test has been made in the case of whooping-cough, but I will say that the mere occurrence of bacteria in the nasal discharge is not necessarily positive proof that they are the cause of the disease.

Another point that I would make is this: Dr. Wagner and several others, in alluding to results detailed in the nasal-bacteria paper read by Dr. Park and myself before this association last year, seemed to be of the opinion that we did not find any bacteria in the healthy nose, whereas the whole purpose of our paper was to refute the assertion of Hewlett and Thomson that they did not find any bacteria in the normal nasal chambers. I will repeat what was stated in our paper, that in thirty cases we found bacteria present, while in six cases we did *not* find them. The cause of error with Hewlett and Thomson in their experiments was, presumably, their faulty technique. They used the ordinary platinum-wire loop, which at best only takes with it from the nose a very small amount of mucus, and that from the surface of the fluid bathing the mucous membrane. Now the mucus flows continually from the upper regions of the nasal chambers, and consequently bacteria deposited and growing in the respiratory region would be washed away from the surface over which the comparatively aseptic fluid flows. Now, by following the method of rubbing the mucous membranes with a pledget of cotton on a probe, as is done in the throat in making a culture for diagnosis of diphtheria, we may have succeeded in obtaining the bacteria which were not present in the superficial parts of the mucus. If it is true that in the nasal chambers there is a bactericidal agent sufficiently powerful to immediately destroy all the bacteria of the inspired air as soon as it is brought in contact with them, I can only say that we should extract it for use in surgery.

Dr. WAGNER: There are two points that I should like to make clear. Let me repeat to Dr. Wright distinctly what I have stated in my paper: First, I did not say that normal mucous membranes were free of bacteria, but I stated that always a few bacteria were found in the secretions of the normal mucous membrane, as Dr. Wright and Dr. Parker have demonstrated, and that also the resistance of the normal mucous membrane was sufficient to prevent the development of bacteria, otherwise the mucous membrane would be covered with bacteria taken in with every breath of air.

Secondly, the last speaker is right in calling attention to the postulate of Koch in establishing the proof that this micro-organism is the cause of this specific disease—that is, to inoculate and to reproduce the characteristic symptoms of the disease. Well, I have not undertaken this in children, and shall not attempt it. But I have inoculated animals, rabbits, for example, where a reflex action was observed, as others have also found, such as sneezing, but no spasmodic cough. I have mentioned, though, the fact that Czaplewski, working in his laboratory with these germs, was taken ill with typical symptoms of this disease, and these bacteria were then found also in his nasal and pharyngeal secretions.

(*To be continued.*)

Book Notices.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. PENZOLDT, Professor in Erlangen, und Dr. R. STINTZING, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Zwölfte Lieferung. Mit 30 Abbildungen im Text. Elfte Lieferung. Mit 4 Abbildungen im Text. Jena: Gustav Fischer, 1898.

THE portion of this important work under consideration, namely, that on the treatment of the diseases of the skin and a part of the section devoted to diseases of digestion, is in the main of great value, although of somewhat uneven merit. Seifert and Rosenbach write of the mouth and its neighborhood; Graser devotes forty pages to the teeth; Merkel and Heineke give forty pages to the œsophagus, and Heubner in the same space deals with the treatment of disorders of digestion in infancy. This section leaves something to be desired, or, to put it differently, it shows that the progress in infant feeding was not made in Germany, and has not been wholly appreciated by the Germans. The absence of all reference to pasteurization is surprising, the nearest approach being the statement that, since sterilization may have some disadvantages, such as the destruction of certain protective substances (Ehrlich) and the separation of the organic compounds of phosphorus, it is gratifying that we may now attain the desired end by a quarter of an hour's boiling. The most interesting chapter in that part of the work at hand is the one relating to the treatment of diseases of the stomach, by Penzoldt. This deals most practically with the physiology of digestion from various standpoints; the composition and preparation of food, its adaptability for various conditions, the quantity required, the relations of climate, activity, and other factors. This introductory, or general, part furnishes in a comparatively short space an extraordinary amount of valuable information. The special part is marked by the same admirable qualities, and when it is completed will merit a more extended notice.

The Study of the Child. A Brief Treatise on the Psychology of the Child, with Suggestions for Teachers, Students, and Parents. By A. R. TAYLOR, Ph. D., President of the State Normal School, Emporia, Kansas. New York: D. Appleton and Company, 1898. Pp. xliii–215. [Price, $1.50.]

THIS latest contribution to the most difficult of all psychological problems is published as one of the International Education Series. While written in a much more scientific vein than the book on *The Development of the Child* noticed in this issue, it has the same high aim, to help those who have the development of the child's character in charge to understand their task. The subject is treated from a purely psychological standpoint, yet in such a way that it can be readily understood by the lay mind. It contains much that is both valuable and interesting and should be widely read.

The Development of the Child. By NATHAN OPPENHEIM, Attending Physician to the Children's Department of Mount Sinai Hospital Dispensary. New York and London: The Macmillan Company, 1898. Pp. viii–296. [Price, $1.25.]

THIS is one of the most delightfully readable books on the development of character in the child that have yet come to hand. The author at the outset lays down the proposition that "the qualities of goodness and virtue are purely functional, the result of friction, social interaction, environment," in distinction from those purely physical characteristics of bone and muscle in which heredity has so large a part. Before the time-honored belief in inherited virtue or vice he casts the gauntlet, and proceeds most delightfully, and it seems to us with complete success, to put the ancient theories to rout. The book is full of common sense from cover to cover, and the style of the author makes it as readable as a novel.

A Laboratory Guide in Physiology. By WINFIELD S. HALL, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School, Chicago. With Appendices on Organization and Equipment. Two Colored Plates and Sixty Illustrations. Chicago Medical Book Company, 1898. Pp. 359. [Price, $2.50.]

THE object of this book is to present and describe a series of experiments in physiology such as are practicable for the student of medicine. The text is entirely lacking in what are known as general considerations, but tersely and pointedly describes the technics proper for the performance of the various experiments. To each description is appended a series of "observations," or questions, which the student is expected to note and to answer as his experiment progresses. Further than this, however, no instruction is given and the student notes what he notes, not what he is told to note. That this inductive teaching is the best method of imparting instruction admits of no discussion, and, applied to the experiments happily chosen by the author, it results in a manual which can scarcely fail to make vivid and personal, and therefore of great value, the study of experimental physiology. But one adverse criticism can be made of this little work: it is fragmentary to an unfortunate degree. Many of the most important physiological phenomena receive no illustration whatever, and the insertion of a few pharmacological demonstrations has no rhyme or reason or excuse. It is indeed to be hoped that the author will carry out his plan of a later edition, in which the physiological field shall be more completely covered, else a well-planned work is likely to suffer.

BOOKS, ETC., RECEIVED.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. Simon, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, etc. Sixth Edition, thoroughly revised. With Forty-six Illustrations and Eight Colored Plates, representing Sixty-four Chemical Reactions. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xiii–17 to 536.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M. D., LL. D., Professor of Clinical Medicine at the Chicago Post-graduate Medical School, etc. Fourth Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xvi–365.

The Treatment of Chronic Nasopharyngitis. By Lewis S. Somers, M. D., of Philadelphia. [Reprinted from the *Memphis Lancet.*]

Rheumatic Pharyngitis. By Lewis S. Somers, M. D. [Reprinted from the *Medical News.*]

The Effect of Hypertrophy of the Inferior Turbinal on the Nasal Sæptum. By Lewis S. Somers, M. D. [Reprinted from the *University Medical Magazine.*]

The Value of Surgery in Nervous Diseases. By Henry Waldo Coe, M. D., of Portland, Oregon. [Reprinted from the *Western Medical Review.*]

Acute Chloral Dementia Simulating Paretic Dementia. By Henry Waldo Coe, M. D. [Reprinted from *Medicine.*]

The Value of Electrolysis in the Treatment of Urethritis Chronica Glandularis. By George Theodore Mundorff, M. D. [Reprinted from the *Medical Record.*]

The Treatment of Typhoid Fever. By Robert C. Kenner, M. D., of Louisville. [Reprinted from the *New Albany Medical Herald.*]

Insomnia. By I. J. Higgins, M. D. [Reprinted from the *Journal of Medicine and Science.*]

Advances in the Domain of Preventive Medicine. By J. M. G. Carter, M. D., of Waukegan, Illinois. Read before the Illinois State Medical Society.

Miscellany.

Tracheotomy under Local Anæsthesia.—B. Franckel (*Berliner klinische Wochenschrift*, June; *Canadian Practitioner*, September) has performed twenty-three tracheotomies under cocaine during the past three years. Many of these have been performed under circumstances in which it would have been dangerous to have given a general anæsthetic.

His plan has been to inject hypodermically a twenty-per-cent. solution in two places near the site of operation; or a ten-per-cent. solution in four places. In children the ten-per-cent. solution was always used. In adults the amount injected was three fifths of cocaine.

Patients dreaded the cocaine less than the chloroform. One of the advantages of operation under local anæsthesia is the removal of all necessity for undue haste.

The Late Dr. Pepper and Mexico.—The *Revista de Anatomía Patológica y Clínicas* for August 1st and 15th contains a very kindly obituary notice and a good picture of the late Dr. William Pepper, whose position as president of the Pan-American Medical Congress had caused him to be highly appreciated in Mexico.

Conservative Surgery of the Ovaries.—Dr. Henry C. Coe (*Medical News*, September 24th) thus concludes a paper on the foregoing subject:

"1. Conservative operations on the annexa are to be commended in properly selected cases. The surgeon should avoid, on the one hand, tampering with ovaries that are the seat of slight cystic degeneration or cirrhosis, and, on the other, trying to preserve supposed normal tissue in organs which show such extensive disease that it is doubtful whether the best interests of the patient (both immediate and remote) would not be served by complete removal. In many cases it is advisable to simply separate adhesions. As there is no way of preventing their reformation, it is better to suture prolapsed tubes and ovaries at their normal level in the pelvis.

"2. *Anatomical Results.*—In a certain proportion of cases resected ovaries undergo complete atrophy; in others the stromal remains may form the starting-point of cysts, requiring a second operation for their removal. A tube which has been rendered patent or resected, may again become occluded, or may form a hydrosalpinx or tubo-ovarian cyst.

"3. *Symptomatic Results.*—These are often entirely satisfactory as regards the relief from pain and dysmenorrhœa, the preservation of the functions of ovulation, and the occurrence of conception. *Per contra*, constant pain and dysmenorrhœa may persist, menstruation may be absent, scanty, or excessive, and pregnancy is so far the exception that it is to be regarded as an unusually fortunate sequence. In any case, we are not in a position to affirm how far conception following resection of the annexa is directly due to this procedure, or how far to the accompanying treatment—curettement, separation of adhesions, restoration of the general health, improved sexual relations, etc. Our main object is the avoidance of the premature climacteric.

"4. As regards technic, experience has shown that more successful conservative work can be done by the abdominal route, for reasons that are obvious—*i. e.*, thorough separation of adhesions, suture of raw surfaces, checking of hæmorrhage, avoidance of drainage, etc. Catgut is preferable as a suture material.

"5. As a corollary to the above, emphasis should be laid on the fact that, since the surgeon can never know the exact condition of the annexa before opening the abdomen, he must not allow himself to be bound by any positive promise as to his course of procedure at the operating table. While he should endeavor to preserve healthy organs and tissues whenever this is possible, and must necessarily be guided to a considerable extent by the expressed wishes of the patient, he must not be persuaded against his better judgment to practise conservatism at the immediate risk of her life or to court ultimate failure in order to give her the more than doubtful chance of future pregnancy.

"The conscientious surgeon will not express himself too enthusiastically regarding the results of conservative operations for fear of arousing hopes which may be doomed to disappointment."

The Conservative Surgery of the Ovaries. — Dr. Christopher Martin (*British Medical Journal*, September 17th), in a paper read before the British Medical Association, says that the physiological value of the ovaries may be best realized by noting the results of complete extirpation of both glands. (*a*) The woman becomes absolutely sterile. (*b*) Menstruation ceases in about ninety-five per cent. of the cases. (*c*) The uterus and, to a less extent, the vagina and vulva undergo a process of atrophy. (*d*) The nervous symptoms of the menopause appear abruptly and violently—namely, heats and flushes, perspirations, palpitations, giddiness, depression of spirits, and a generally unstable condition of the nervous system. (*e*) In a considerable majority of cases there is a diminution or total abolition of the sexual instincts. (*f*) The patient has a tendency to obesity.

Now, if one ovary, or even only a portion of one ovary, be left behind, none of these symptoms appear. There is physiologically no difference between a woman with half an ovary and a woman with two ovaries, while there is a great difference between a woman with half an ovary and a woman with none. It is remarkable how small a fragment of ovarian tissue is necessary to preserve the full influence of the gland on the body.

Dr. Martin therefore pleads for a more conservative surgery, unless the ovaries on both sides be diseased. Even in cases of double pyosalpinx, he says, it is now his custom to perform vaginal hysterectomy and at the same time to remove the diseased tubes. In such cases he always endeavors to leave behind one or both ovaries, unless they are obviously diseased.

The Truth in a Nutshell.—The *St. Louis Medical Gazette* for October thus indicates the principal cause of the "war scandals":

"One hundred and eighty thousand men ignorant of all hygienic and sanitary laws can not be brought together and taught in a few months to care for themselves in a proper manner to prevent disease. Volunteers accustomed to diet and living as our masses live can not be massed together, fed on the diet of a soldier, sleep in tents, live a soldier's life, without actual sickness or lowering of the natural resisting powers to such an extent that infection becomes easy."

The Diagnosis of Glaucoma.—Dr. J. H. Morrison (*Maritime Medical News*, September), in a paper read before the Maritime Medical Association of Halifax, Nova Scotia, on The Importance of the Early Recognition of Glaucoma by the General Practitioner, sums up as follows:

"If your patient, over forty years of age, desires to change his glasses frequently, if he sees colored rings around artificial lights, if he experiences short blind spells, if he complains that his sight is failing, is slow to recognize colors, has a dilated or irregular pupil, you should search for all the symptoms of glaucoma. If an eye becomes quickly inflamed, lids swollen, conjunctiva greatly injected, with vision reduced to mere perception of light, be sure you eliminate glaucoma before making a diagnosis of anything else. If you are tempted to put atropine into such an eye while doubtful of your diagnosis, *don't do it.*"

Maternal Impressions Again.—Dr. Thomas Wyld Pairman (*Australasian Medical Gazette*, August 20th) is responsible for the following:

"During her seventh pregnancy, Mrs. M. had residing in her house a gentleman boarder who was devoid of the left thumb. Her husband, again, had necrosis of the right thumb, which ultimately necessitated partial amputation. The deformities of the two men were often discussed in the family circle. The child was born minus the left thumb, and the right was atrophied, incapable of movement, and lying almost parallel with the fingers. The rest of the family were normal."

The Use of Thyreoid.—Dr. W. E. Moseley (*Medical News,* September 17th) records five cases of bleeding fibroid of the uterus treated by thyreoid extract. From these cases he draws the following conclusions:

"1. That, whereas some patients can take comparatively large doses of thyreoid with impunity, others are injuriously affected by small amounts, and that, in using it, one should begin with a minimum dose of say three grains daily, increasing the amount very slowly and watching its effect upon the heart and kidneys carefully. 2. That in cases of bleeding fibroids, thyreoid has a very marked influence in checking the excessive loss of blood, and that in certain cases at least its use is followed by a diminution in the size of the growth. 3. That its use, in doses appropriate to the individual, is followed by improvement in the general health, this being probably due to the cessation of excessive loss of blood." As regards the effects of thyreoid upon metabolism, Dr. Moseley says that all the cases which he has studied during the past two years, some superficially, others carefully, show a considerable decrease in the amount of nitrogen and salts eliminated in the urine. This fact, taken in connection with the undoubted decrease in weight in persons suffering from obesity, renders it positive that the decrease in weight must be due to the increase in the metabolism of fats in the body. Carbohydrates are stored up in the body in only moderate amounts at any time, the increase in weight being due to an increase in the amount of fats (hydrocarbons) in the body. This narrows the increase in metabolism to an increase in the metabolism of fats. Now, by oxidation of fats the products formed are CO_2 and H_2O, both of them eliminated principally by the lungs, and both difficult to estimate except by very elaborate apparatus. Whatever histologic connection there may be between myofibromata of the uterus and connective-tissue cells of areolar and adipose tissue he must leave to the histologist and gynæcologist to discover. He thinks the relation must be nearer than is commonly supposed.

Dr. Moseley further quotes as follows from a communication of Dr. Whitney, who writes from Berlin, where he is working with Professor Thierfelder:

"In accordance with my promise, I have been trying to look up the thyreoid treatment and its effects more thoroughly, but so far have been unable to find any satisfactory report of its results. The effects upon metabolism may be briefly stated as follows: (1) Upon the nitrogenous metabolism and elimination its influence is stated by some to remain normal; by others, including Chittenden, the elimination is stated to be slightly but uniformly increased, the diet remaining the same. Those observers who have found the daily elimination of nitrogen the same or decreased have possibly failed to take into account the injurious effect of large doses of thyreoid upon the appetite and digestion, with consequent decrease in the amount of food (and nitrogen) ingested. The increase in the amount of nitrogen eliminated remains, however, always slight. 2. The effect upon general metabolism is shown by the decrease in weight which follows the prolonged administration of thyreoid, especially if in excessive doses. As there is not a corresponding increase in the amount of nitrogen eliminated, this loss must come chiefly from the non-nitrogenous elements of the body—that is, fats or the carbohydrates. This is apparently proved in the following ways: (*a*) There is a marked increase in the amount of CO_2 eliminated by the body, showing increased oxidation of the carbonaceous materials of the body. (*b*) The loss of weight is most pronounced in those suffering from obesity, leading to its use as an 'antifat' remedy. (*c*) In mild cases of diabetes mellitus the sugar may be made to diminish or disappear entirely under the use of thyreoid. These effects may be explained by one or both of the following hypotheses: 1. It may exert a specific stimulating effect upon the areolar tissues of which adipose tissue forms only a modification, due to the deposition of fats. 2. It may increase oxidation by increasing the oxidizing power of the blood. Its demonstrable effects upon the blood are limited, usually showing a slight increase in the number of mononuclear leucocytes, other changes in the blood, found at times, being explicable by changes in the organism, the alteration in blood constitution being secondary, as, for example, the increase in hæmoglobin and red corpuscles after administration of thyreoid in bleeding fibroids.

"The explanation of its action upon fibroids must be hypothetical only. Analyses of dried fibroids show them to contain about fifteen per cent. of nitrogen (average) and only 1.5 per cent. of fats (matter soluble in boiling ether). Its action may be that stated above—that is, stimulation of the tissue composing the fibroid with resultant absorption, or by an increase in the oxidizing power of the blood, with absorption of the fibroid as a secondary effect."

The Rising of the Moon.—The *Western Medical Review* for September 15th informs us that on board ship a wife was trying to comfort her seasick husband and change the current of his thoughts. "Darling, has the moon come up yet?" she asked. "It has, if I swallowed it," was the weak-voiced reply.

Heart Lesion from Immoderate Laughter.—One occasionally hears a man speak of nearly killing himself with laughing, says the *Western Medical Review* for September 15th; but one is not apt to think that there is really serious danger of injury from undue hilarity. That such danger really exists is shown by the following case of Feilchenfeld's (*Deutsche medizinische Wochenschrift,* 30, 1898): A strong, healthy girl of thirteen spent the greater part of an hour after going to bed in telling stories to her comrade and laughing boisterously over them. Suddenly, during a violent spasm of laughter, the girl felt a sharp pain in the chest, followed by dyspnœa and pain on breathing which lasted for some hours. Similar attacks occurred at frequent intervals during the next few days and with decreasing frequency during the next few months, after which they ceased and perfect health was restored. During the attacks Feilchenfeld found the pulse very rapid and small; the left ventricle decidedly enlarged, with increase of the second pulmonary sound and a loud systolic murmur. Feilchenfeld explains the case on the theory of an injury to the vagus by the violent contractions of the diaphragm.

A Pin in the Rectum for Thirty Years.—Mr. Dutton Akers (*Lancet,* September 10th) records the following remarkable case:

A man, aged fifty-eight years, a linen draper, had pain in the rectal region of a pricking character on sitting down, constant desire to defæcate, great pain on doing so, and the motions were small, pipelike, and streaked with blood. These symptoms had been present with more or less intensity for a period of thirty years; he had frequently sought medical aid, and the treatment generally took the form of morphine suppositories or other local applications. Examination revealed the presence of external hæmorrhoids, while on digital examination considerable induration and inflammation of the mucous membrane covering the internal sphincter were detected. Above and at the right side of the internal sphincter the head and about half an inch of the body of a pin were to be felt, the head projecting upward and somewhat across the lumen of the intestine. With the aid of long dressing forceps introduced by the side of the examining finger the pin was pushed up into the rectum, rotated, and then extracted head foremost. The removal of the *fons et origo mali* was followed by a rapid subsidence of the symptoms which had prevailed for so many years. This case illustrates the great importance of making a careful examination of the rectum in such cases. Mr. Akers suspected carcinoma and found an easily removable pin. The patient was unable to account for the pin, but his occupation is, the author thinks, a sufficient explanation.

Tuberculosis of the Parotid Gland.—M. Parent (*Gazette hebdomadaire de médecine et de chirurgie,* September 8th), in a thesis before the faculty of Paris, says that tuberculous tumors of the parotid present two forms, confluent and disseminated; but that whatever be the macroscopical appearance, histological and bacteriological examination invariably discloses the specific lesions of tubercle—namely, Koch's bacillus, giant cells, epithelioid cells, and embryonal infiltration. The introduction of the bacillus may occur in two ways: (*a*) By the ascending route of Stenon's duct; and (*b*) by the descending route of the blood and lymph vessels, the points of entrance being carious teeth, the mucous membrane of the gums, and the tonsils. The clinical course of this affection is very obscure. The ætiology shows nothing special. This tuberculosis appears at adult age, and equally in both sexes. The symptoms are vague—an insidious onset, and a slow and indolent progress—whence diagnosis is difficult if not sometimes impossible. Histological and bacteriological examination can alone solve the question. The treatment is before everything surgical: the extirpation of the tumor or entire ablation of the gland have given excellent results.

The Effects of Resection of the Sympathetic on Exophthalmic Goître.—The *Presse médicale* for September 7th cites from the *Bulletins de la Société centrale de médecine du département du Nord* for June a case of exophthalmic goître in a woman, thirty-two years of age, in whom the superior cervical ganglion was resected with a portion of the sympathetic nerve seven centimetres in length from both sides. Before the operation the patient presented a voluminous goître with pronounced exophthalmus and extreme tachycardia reaching 200 beats a minute. The pulse shared in this disturbance, varying between 160 and 210 pulsations. There were laryngeal paralysis, bitonal voice, and transitory aphonia; and finally painful sensations in the præcordial region with angina and palpitation.

In the course of the operation, immediately on the section of the sympathetic, the pupil contracted and the exophthalmus began to diminish. Half an hour after the section of the right sympathetic the protrusion of the right eye had disappeared. On the left side the disappearance of the protrusion was less appreciable. The consequences of operation were excellent. The third day thereafter the pulse fell to 120; the fifth day, to 90. The arterial tension, which had previously been 18 millimetres, fell to 17.5 millimetres. There was no further attack of palpitation. Sixteen days afterward, the patient went out, having no pain and being no longer conscious of the heart's action. She was able to go and come, and to climb stairs, and the pulse oscillated only between 90 and 100. The right eye was retracted, the left yet slightly protruding; the goître had not changed its volume. A month later, the phenomena were the same, save that the laryngeal paralysis had disappeared. The patient had returned to her previous occupation. The authors (whose names are not given) conclude from this observation that in goître with marked tachycardia, resection of the sympathetic is the operation of choice.

Aïodine; a New Preparation of Thyreoid.—This is a new preparation obtained by Schoerges (*Nouveaux remèdes,* August 24th) by precipitating with tannin the iodo-albuminates, the bases, and the mucous substance of the thyreoid gland. On account of its richness in iodine, fifteen grains of aïodine correspond to one hundred and fifty grains of fresh, or three hundred grains of desiccated, thyreoid gland. Lanz (*Berliner klinische Wochenschrift,* April 25th) satisfied himself of the efficaciousness of this preparation by administering it to dogs whose thyreoid had been extirpated, and to goîtrous human subjects. In one case of enormous hyperplasic goître, the volume of the tumor began to sensibly diminish from the fourth day of treatment, and within six days from the commencement the tumor had diminished by half. Aïodine has not been observed to decompose, while thyreoidin easily undergoes putrefaction.

Speedy Relief of Chorea by Monobromide of Camphor.—Dr. Bourneville and Dr. Katz (*Progrès médical,* third series, viii, No. 29; *International Medical Magazine,* September) report the case of a girl, thirteen years of age, who, previous to illness, had always enjoyed good health, but was very nervous, having been under some strain from her studies, for which she had always shown great aptness. She became irritable, clumsy, and disagreeable, until finally one day she was taken with a spell in which she became blue, and in two days developed marked choreic movements, gradually increasing in severity until she had to be put to bed; her rest was disturbed, talking and swallowing were difficult. A cardiac systolic murmur was audible. All the other organs were normal. Camphor monobromide was given in three-grain doses in capsules, starting with two a day and increasing one capsule every other day until nine were given. Such marked improvement was attained that in one week after the medicine had been given the patient was able to sit up. As the movements became less, medicine was reduced, and in about one month the patient was perfectly well. Cod-liver oil and syrup of the iodide of iron were also given in conjunction with exercise and proper hygiene.

The Value of Civilian Aid in Military Operations.—The *Lancet* for September 17th has some excellent remarks on the recent army manœuvres in England. In reference to the idea that big contracting firms could do all such technical work as commissariat and transport duties better than a distinct military train, the *Lancet* says:

"One well-known firm undertook to supply the canteens, which is a very different thing to supplying an army in the field, a large number of things being provided in the one case which could not be furnished, or expected to be furnished, in the other. Another well-known firm supplied the hired transport. Transport is always a great practical difficulty in war, and it is unfortunately the pivot on which so much depends in a campaign. The employment of civilian horses, drivers, and carts was by all accounts far from a success. It is a very general and popular belief that big contracting firms could do everything better for a force than the regular transport and supply branches of the army, but the experiment on this occasion should convince people that it is an uncommonly difficult thing to deal satisfactorily with the conditions presented by an army in the field—conditions which are quite novel to contractors. Organization and discipline are absolutely essential in all undertakings of this kind, and the army service corps did their work in a more efficient and better way than their auxiliary civil aids, only that corps was too weak, owing to the Egyptian and other campaigns, to undertake the task unaided. It is well, however, that the civil experiment has been made, because its shortcomings can be guarded against by better arrangements in the future."

The Royal Army Medical Corps is said to have worked satisfactorily.

The British Association for the Advancement of Science.—We learn from the *Lancet* for September 17th that Dover has been selected as the next place of meeting, and that Dr. Michael Foster, F. R. S., professor of physiology in the University of Cambridge, was unanimously elected president.

Ipecacuanha in Epilepsy.—Mr. C. Knox Bond (*Lancet,* September 17th) records the case of an unmarried woman, aged twenty-seven, who had been subject to epileptic fits from the age of eight years. When the fits first commenced they were described as "faints," but from the onset of the catamenia they assumed a more serious form, when she was taken to a special hospital for nerve diseases for a period of six months and was said to have received no benefit from treatment. She was then treated at a general hospital continuously for two years, and since then has been more or less under treatment at the hands of several physicians. On July 14, 1897, she came under the care of Dr. Alfred Eddowes, who reduced the bromide, which she had been taking, to a third of the former dose and added vinum ipecacuanhæ. A commencing dose of ten minims was increased from time to time as the fits recurred until forty minims three times a day were given. With each increase of ipecacuanha there was a marked improvement in the patient's condition. The severity and frequency of the fits had diminished under this treatment until May 3, 1898, since when no fits have occurred.

Dr. Eddowes based this treatment, first, on his observations as to the value of ipecacuanha in convulsive attacks of children apparently due to gastro-intestinal irritation; and secondly, on the idea that it seemed a likely remedy to check the voracious appetite and neglect of mastication so frequently observed in epileptics.

Saturnine Amblyopia.—Dr. C. Bell Taylor (*Lancet,* September 17th) records the case of a woman in whom he found white atrophy of the left optic disc, and marked central scotoma in both eyes, notwithstanding that the right papilla was apparently normal. He diagnosticated drug amaurosis, and found on investigation that the patient had taken ten-grain doses of emplastrum plumbi nightly for upward of three weeks in the hope of procuring abortion.

He recommends the following treatment: Iodide of potassium should be given in large doses, the patient should use baths of sulphide of potassium, take sulphate of magnesium, mercury, and pilocarpine, while the affected nerve should be galvanized with the continuous current, about two milliampères to each temple, daily.

Dr. Ohlmacher's Article on Epilepsy with Persistent Thymus.—In the footnote on page 444 of our issue for September 24th the reference of Dr. Ewing's article should have been to the *New York Medical Journal.*

Extraordinary Case of Maternal Impression.—We have recently published several cases of reputed maternal impressions. A correspondent sends the following as an addition to our list. We are not responsible for its accuracy. A Chinese cook, trying to catch a barn-door fowl for the pot, pursued her to the henhouse, where, having escaped from her pursuer, she was prematurely delivered of an egg. When the egg was hatched the chicken proved to be a "Cochin China."

The Mississippi Valley Medical Association.—The twenty-fourth annual meeting will be held at the Hall of the House of Representatives in the State Capitol, in Nashville, on Tuesday, Wednesday, Thursday, and Friday, October 11th, 12th, 13th, and 14th, under the presidency of Dr. John Young Brown, of St. Louis. The headquarters will be at the Maxwell House. Besides the president's address, the programme contains the following titles: The Relations of the Gynæcologist and the Neurologist, by Dr. W. H. Humiston, of Cleveland; The Diagnostic and Therapeutic Uses of Tuberculin, by Dr. Charles W. Aitken, of Flemingsburg, Kentucky; Immunity, by Dr. Charles T. McClintock, of Detroit; Hygiene *versus* Drugs in Pulmonary Tuberculosis, by Dr. Charles L. Minor, of Asheville, North Carolina; Some of the Factors that Predispose to Tuberculosis, by Dr. L. P. Barbour, of Tullahoma, Tennessee; The Bicycle from the Medical Standpoint, by Dr. I. N. Love, of St. Louis; The Therapeutic Value of Marmorek's Serum, by Dr. W. L. Baum, of Chicago; Tumors of the Parietal Lobe of the Cerebrum, by Dr. T. A. Davis, of Chicago; Unguentum Hydrargyri, or Blue Ointment, Administered by the Mouth, by Dr. Albert Bernheim, of Paducah, Kentucky; Wounds of the Lacrymal Apparatus: A Report of an Operation for the Restoration of Canaliculi obliterated by Traumatism, by Dr. George F.

Keiper, of Lafayette, Indiana; Mastoiditis: When to Operate and How, by Dr. Andrew Timberman, of Columbus, Ohio; Prophylaxis in Diseases of the Nose and Throat, by Dr. J. Homer Coulter, of Chicago; Three Anomalous Cases of Mastoid Disease, by Dr. J. L. Minor, of Memphis; A Report of Holocaine as a Local Anæsthetic in Ophthalmic Surgery, by Dr. E. C. Ellett, of Memphis; Incarceration of the Iris relieved by Eserine: A Report of a Case, by Dr. Frank Trester Smith, of Chattanooga; A Case of Bilateral Glioma of the Retina: Operation; Non-recurrence in Seventeen Years, by Dr. A. G. Sinclair, of Memphis; Tonsillitis, or Quinsy: Cause and Treatment, by Dr. J. A. Stucky, of Lexington, Kentucky; Remarks on Hydrophthalmus, with a Report of Two Cases, by Dr. James Moore Ball, of St. Louis; Conservatism in Oral Surgery, by Dr. Truman W. Brophy, of Chicago; Neuralgias due to Nasal Origin, by Dr. Edward T. Dickerman, of Chicago; Headache as a Symptom in Eye Disease, by Dr. W. H. Wilder, of Chicago; Complete Inspection of the Rectum by Means of Newer Mechanical Appliances, by Dr. Thomas C. Martin, of Cleveland; The Relationship between the Genito-urinary Tract and the Rectum: In Operations upon Women, which should Receive Priority? by Dr. John L. Jelks, of Memphis; Rectal Fistula, by Dr. J. R. Pennington, of Chicago; The Surgical Management of Complex Progressive Ischiorectal Fistulæ, by Dr. Leon Straus, of St. Louis; Hydrotherapy in Stomach Diseases, by Dr. George D. Kahlo, of Indianapolis; Phases of Toxæmia from Disturbed Metabolism, by Dr. Thomas Hunt Stucky, of Louisville; The Vascular Dermatoneuroses, by Dr. A. E. Brayton, of Indianapolis; A Clinical Report of a Case of Abscess of the Liver, by Dr. Edwin Frazer Wilson, of Columbus, Ohio; The Importance of Early Diagnosis in Surgical Cases, by Dr. J. C. Morfit, of St. Louis; Gonangeiectomy and Orchidectomy for Hypertrophied Prostate in Old Men, by Dr. George W. Johnson, of Dunning, Illinois; Why I have Abandoned the General Practice of Vaginal Hysterectomy, by Dr. B. Sherwood Dunn, of Boston; Why I do Vaginal Ablation in Pus Cases, by Dr. William R. Pryor, of New York; A Consideration of the Limit to Operative Gynæcology, by Dr. Shelby C. Carson, of Greensboro, Alabama; The Limits of Operations for Cancer of the Uterus, by Dr. L. S. McMurtry, of Louisville; Cancer of the Uterus, by Dr. Louis Frank, of Louisville; The Surgical Treatment of Pus in the Pelvis, by Dr. Joseph Price, of Philadelphia; Some Pathological Conditions of the Ovaries causing Pain, by Dr. G. W. Halley, of Kansas City; A Case of Abdominal Hysterectomy with Stercoraceous Vomiting; Recovery, by Dr. H. Hatch, of Quincy, Illinois; A Plea for Pelvic Cellulitis and Peritonitis, by Dr. F. F. Bryan, of Georgetown, Kentucky; The Diagnosis of Gonorrhœa in Women, by Dr. J. Rilus Eastman, of Indianapolis; The Care and Repair of the Female Perinæum, by Dr. E. L. Larkins, of Terre Haute, Indiana; A Clinical Contribution to Ectopic Gestation, by Dr. W. W. Taylor, of Memphis; Retrodisplacements of the Uterus and their Treatment, by Dr. A. Morgan Cartledge, of Louisville; Address in Surgery, by Dr. George Ben Johnson, of Richmond; Observations on the Surgery of the Kidney, by Dr. Charles A. L. Reed, of Cincinnati; The Direct Diagnosis of Diphtheria, by Dr. William K. Jaques, of Chicago; Diphtheria and its Logical Treatment, by Dr. A. M. Osness, of Dayton, Ohio; Suprapubic Cystotomy *versus* Perineal Section, by Dr. James M. Parrott, of Kingston, North Carolina; When shall we Operate for Appendicitis, by Dr. Edwin Walker, of Evansville, Indiana; Some Clinical Phases of Intestinal Obstruction, by Dr. A. H. Cordier, of Kansas City; The Practical Side of the Treatment of Gunshot Wounds of the Abdomen, by Dr. H. Horace Grant, of Louisville; The Surgical Treatment of Ophthalmic Goître, by Dr. Bayard Holmes, of Chicago; Some Forms of Gangrene and their Treatment, by Dr. J. S. Nowlin, of Shelbyville, Tennessee; Subperiosteal Removal of Caries from the Pelvic Basin, with the Report of a Case, by Dr. S. E. Milliken, of Dallas, Texas; The Surgical Treatment of Infantile Paralysis, by Dr. Alexander C. Wiener, of Chicago; Interesting Surgical Cases, by Dr. M. Goltman, of Memphis; Neurasthenia and its Treatment, by Dr. H. C. Sharp, of Jeffersonville, Indiana; A Unique Case of Hernia: Operation, by Dr. Spencer Graves, of St. Louis; Some More about Drainage, by Dr. Arch Dixon, of Henderson, Kentucky; The Triple Operation for Pyloric Stenosis, by Dr. N. Stone Scott, of Cleveland; A Report of a Case of Obstetrics with Complications, by Dr. R. C. Pratt, of McKenzie, Tennessse; Pichi, by Dr. H. W. Whitaker, of Columbus, Ohio; A Few Practical Points in the Treatment of Posterior Urethritis, by Dr. A. Ravogli, of Cincinnati; Varicocele, bv Dr. F. E. Kelly, of La Moille, Illinois; Syphilis, by Dr. John M. Batten, of Pittsburgh; The Prevention of Venereal Disease, by Dr. David Lieberthal, of Chicago; The Neuro-hypothesis of Rheumatoid Arthritis, by Dr. Frank Parsons Norbury, of Jacksonville, Illinois; The Intermingling and Change of Type in Diseases, by Dr. W. Gaston McFadden, of Shelbyville, Indiana; Mercury: Its Action, by Dr. William F. Barclay, of Pittsburgh; How should we Treat Typhoid Fever? by Dr. T. Virgil Hubbard, of Atlanta; The Arthritic Diathesis, by Dr. R. A. Bate, of Louisville; A Trilogy of Diseases: Acute Articular Rheumatism, Endocarditis, and Chorea, by Dr. Albert E. Sterne, of Indianapolis; Cardiac Murmurs, by Dr. S. W. Fain, of Chattanooga; The Artificial Production of the Plasmodium Malariæ and the Rational Treatment for the Removal of the same in Malaria, by Dr. L. H. Warner, of Brooklyn; and Opium in the Treatment of Epilepsy, by Dr. Frank C. Hoyt, of Chicago.

The Associated Physicians of Long Island.—The second regular meeting is to be held to-day (Saturday, October 8th) in Patchogue, under the presidency of Dr. William Browning, of Brooklyn. Papers are to be presented as follows: Laryngeal Diphtheria, by Dr. Pedro F. Francke, of Far Rockaway; The Use of Digitalis in Chronic Organic Cardiac Disease, by Dr. William B. Gibson, of Huntington; and The Treatment of Fractures of the Spinal Column, by Dr. Algernon T. Bristow, of Brooklyn. Dr. Valentine will show a hospital car designed by him for the Long Island Railroad. There will be a dinner at Roe's Hotel. All members of the county societies of the island are eligible to membership, and are invited to attend the meeting.

The Onondaga Medical Society.—The programme of the last quarterly meeting, held in Syracuse on Tuesday, October 4th, under the presidency of Dr. A. F. Vadeboncœur, included the following titles: Another Twenty-five Years' Experience in Obstetrics, by Dr. W. W. Munson, of Otisco; Progress in the Science and Art of Obstetrics, by Dr. F. O. Donohue, of Syracuse; The Medico-legal Status of Pregnancy, by Benjamin J. Shove, Esq.; The Use of Mechanical Appliances during Labor, by Dr. E. W. Belknap, of Syracuse; The Medical Treatment of Labor and Post-partum Conditions, by

Dr. F. B. Chase, of East Syracuse; and A Brief History of the Onondaga Medical Society and Eulogy of Dr. Jonathan Kneeland, by Dr. George W. Cook, of Syracuse.

Cellular Therapy.—Dr. Mark W. Peyser (*Virginia Medical Semi-monthly,* September 9th), in a paper read before the Medical Society of Virginia, says that the definition given by Aulde to cellular therapy is "the method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell function. It aims to supply scientifically those remedies that experience has shown to possess special curative properties in the restoration of disordered functions."

The prototype of the animal is the cell. For example, the amœba is born, develops, moves, has a circulation and a respiration; it digests, absorbs, and excretes; and it reproduces and dies. Stimulation, whether mechanical, electrical, or thermic, causes it to manifest its peculiarities, while irritation, if prolonged, causes its death. Thus, we ought to perceive how far in the application of remedies we shall go.

We often wonder why the administration of astringents, for instance, does not check diarrhœa. Kunkler (*Texas Medical Journal,* July, 1895) observes that "if a solution of tannic acid is injected into the circulation, the first effect observed is always a narrowing of the lumen of the vessels. This contraction has escaped the observation of several of the more recent authors, because they selected solutions which were not sufficiently weak. Permanent contraction of the vessels can be produced only by solutions of the strength of a twentieth to a quarter per cent.; stronger ones produce a transient, momentary contraction, followed by the opposite condition—that is, vascular dilatation. This can not be ascribed to paralysis, because tannic acid does not act as a nerve irritant. In the stage of contraction, diapedesis of white blood-corpuscles and, consequently, inflammation and suppuration can not occur."

The fault lies in the administration of the remedy in such a dose as to produce irritation instead of stimulation.

Jacobsohn (*American Therapist,* April, 1895) says with reference to the production of heat by cells: "As long as the activity of the cell is maintained, the cell will respond; but when it has been overstimulated, it can no longer react; it is, as it were, paralyzed. Exhausted, its energy is gone, its motility leaves it, and heat being less generated, we get what is called a subnormal temperature. This is illustrated in the exhaustive stages of various diseases."

Rational treatment would point, then, not to the use of febrifuges for the mere reduction of fever, but to the removal of the cause. In all local infections there is an increase of leucocytes, which Metschnikoff has shown to possess phagocytic action. The indication, then, is to strengthen this by stimulating the white blood-cells, which may be done by the administration of either nuclein, the product of the nuclei of the cells, or by the various antitoxines. Buckner has demonstrated that the action of the latter is not upon the bacteria or their toxines, but upon the cells themselves.

Overholser (*New York Medical Journal,* December 19, 1896) says: "We find in the ultimate analysis of the organic structures of our bodies, from the units of the most highly specialized tissues to the units of simple undifferentiated protoplasm, that the most important organic elements of the organism are the unmodified protoplasmic white blood-cells. They are the seat of its physiological powers and the most powerful antagonizers of its pathological conditions; the source of all its nutrition and of all its repair; its agents of supply in times of peace and its brave warriors of defense in times of battle."

The direct bearing of cellular therapy is shown in its application to nervous affections. C. F. Hodge, in a number of beautiful experiments, has demonstrated that electrical stimulation of nerve cells results in a decrease of the size of the nuclei and of the cells, owing to loss of protoplasm, and that five hours' stimulation required about twenty-four hours' rest in order that the process of recovery might be completed. Dr. Preston, of Baltimore (*New York Medical Journal,* June 8, 1895), in discussing tetany, said that the causes were just the ones that *a priori* we would expect to affect the nerve cells, perhaps using up their protoplasm. A pertinent question is, in this disease, and in most nervous affections, Are the bromides truly indicated? Would not their administration mask the condition rather than cure it? Is not strychnine the more rational agent?

Dr. M. Allen Starr (*Maryland Medical Journal,* May 4, 1895), in a paper on the Causation of Nervous Diseases, gives experiments on a dog from which pieces of brain had been removed at various times during starving and feeding, until it had returned to the normal condition. At the end of ten days' starvation, there was disappearance of part of the cell protoplasm, the nuclei were changed, and the cells were, in some instances, surrounded by leucocytes, some of which had penetrated. After refeeding for four weeks, some cells had disappeared; of others, only the nuclei remained; in some, there was but a narrow border of protoplasm around the leucocytes which had increased and were entering the cells. After six weeks, regeneration was found to have begun around the nucleus, and protoplasm had begun to accumulate, in some instances bulging out of the wall as though for new process. After eight weeks of feeding, regeneration, with the exception of the protoplasmic process, was complete.

The condition of impaired nutrition produced experimentally by starvation is quite comparable to the impaired nutrition that must follow the arrest in the blood supply. Hemiplegia, aphasia, hemianopsia, hemianæsthesia, chronic nephritis, syphilitic affections, diseases of old age, etc., are all due to defective nutrition from imperfect blood supply. Knowing the action of the bromides in producing anæmia of the brain and depression of all vital functions, we may ask, Are they indicated?

Dr. Edward Cowles (*Boston Medical and Surgical Journal,* September 16, 1897), in a paper on the Relation of Mental Diseases to General Medicines, says it is a safe rule that mental symptoms always mean weakness; excitement is an extreme degree of irritable weakness in which there is great exhaustion in the mechanism of mental control.

This thought should beget care in the use of sedatives and hypnotics. Beware of the coal-tar compounds and the like; they are good and sometimes necessary for proper use, but not for many days in succession. Change them and omit for a while; they go against nutrition, and drug intoxication often aggravates the disease and is mistaken for it.

Professor Liebreich, of Berlin, ascribed his success in the treatment of lupus to the use of cantharidate of sodium. His theory was that the small amount absorbed was just enough to stimulate the cells of the organism to increased activity, thus enabling them to throw off any morbific substance, if it were not too overwhelmingly great.

The author has been twitted for advocating the use of arsenite of copper in diarrhœa and dysentery, not because of the agent itself, but on account of the infinitesimal dose. His principle is based on physiological action, and he has gone on with it, achieving cures more often than failures. Dr. Aulde's explanation (*American Therapist*, October, 1895) is that it acts as an intestinal antiseptic through its influence upon the nervous system and through its influence upon the protoplasm at the points of elimination—namely, the epithelial cells of the intestinal mucous membrane. Through its irritant effect upon protoplasmic cells throughout the body, being administered in extremely small doses, it acts continuously as a stimulant, augmenting cellular activity in every part.

It must be confessed that the action of those alteratives used in practice is not well understood. We administer them, have good results, and that is the end of it. Possibly cellular therapy will give us the best explanation. Arsenic is used in fatty degenerations, because, as Dr. Aulde (*American Therapist,* October, 1894) says, of its stimulating effect around and within the diseased area during elimination chiefly by the liver; carried to these points in which cellular activity is suspended or arrested, the irritation produced by its presence is, in truth, the stimulant which promotes cure. In other words, it restores function, rehabilitates cellular activity, and incidentally illustrates cellular therapeutics.

Bruce, in his work on *Materia Medica,* says: " Alteratives act by *exercising* the tissues in two ways: First, taking mercury and iodine, they increase metabolic change in order to remove excessive growth. They hasten the life processes of the young cells so much that the cells disappear in the form of products, or, as is commonly expressed, are absorbed. It is essential to the success of this plan of treatment that the alterative substance should be thoroughly under control, and that abundant food be ingested to prevent failure of nutrition.

Secondly, there is an effect of exercise beyond an increase of work accomplished—work that is increased in *amount* can be changed in *kind;* exercise is beneficial not only to the indolent individual, but to the vicious. So with these tissues. Exercise may bring them into a new, a normal state of function, when they have been deranged or even diseased. In order to get the tissues to work normally, we must get them to work somehow, knowing that such work means chemical change, or even active nutritive renovation of the elements. The natural disposition which all tissues inherently possess to return to the normal is thus afforded an opportunity for coming into play, and the result is not a mere increase of activity, but also an *alteration in kind* of the activity. Henceforth, the protoplasm, if supplied with an abundance of food and oxygen, returns to the normal state.

The author concludes with a summary of the whole question by Dr. Knapp.

The cell, he says, is the seat of all the functions of the human body—nutritive, secretory, excretory, and correlative; and in health and disease we are concerned with the cell and not with the organization as a whole; the vital processes take place in the cell, and equilibrium between anabolism and catabolism, repair and waste, may be taken as a definition of health; and certain physiological functions of the cells—chemotaxis, phagocytosis, cell proliferation, and defensive proteids—are the functions concerned with immunity, vital resistance, and the arrest and cure of disease. It is already a known fact that certain cells or certain groups of cells have certain powers of reaction and irritability, and it is reasonable to suppose this power belongs to all cells. Stimulus and changes in the vicinity and environment of the cells produce changes and alterations in the cell; therefore, it is concluded that the cell may be modified by medicaments. We may assume this to be the basis of the physiological action of drugs, seeking not their mechanical effects, nor their effects upon the pulse, respiration, and temperature alone, but their action upon the cell, whether the action is demonstrable in the laboratory or inferred from the clinical result.

Lactophenine in Acute Articular Rheumatism.—G. von Roth (*Wiener klinische Wochenschrift,* vii, 37; *Atlantic Medical Weekly,* September 17th) gives the formula of this lactic-acid derivative of phenetidine as $OC_2H_5C_6H_4$—NH, CO, CH(OH)—CH_3. It is a white crystalline powder, moderately bitter, soluble in three hundred and thirty parts of water. Landowski, von Jaksch, Jaquet, Scheben, Gissler, and Sternberg have found it antipyretic in doses of ten grains and hypnotic in doses of fifteen grains. It sometimes causes transitory cyanosis, but the subsidence of this condition is not prevented by the continued administration of the drug. It does not affect the secretions. The single dose is from eight to fifteen grains, and not more than ninety grains should be given in the course of twenty-four hours. Thus far it has been employed satisfactorily in typhoid fever, pneumonia, influenza, erysipelas, acute febrile tuberculous affections, scarlet fever, sepsis, and chronic and acute articular rheumatism. The author gives brief histories of eight cases of acute articular rheumatism treated with lactophenine. He considers it quite as efficacious as sodium salicylate.

The New York State Medical Association.—The committee of arrangements has secured a reduction in the railroad fare from the Trunk Line Association to one fare and a third for the round trip, to members of the association and their families visiting New York at the time of the meeting—October 18th, 19th, and 20th—provided that a hundred persons who pay full first-class fare of seventy-five cents or upward, coming to the meeting, avail themselves of this privilege. To make this reduction effective, certificates must be obtained from the ticket agent at the starting point or the nearest station issuing through tickets to the place of meeting. This certificate, to be valid for the reduction on the return fare, must be indorsed by the chairman of the committee of arrangements and *viséd* by a special agent of the Trunk Line Association, who will be present at the place of meeting for that purpose on October 19th and 20th.

The committee has also completed arrangements for a banquet at the Manhattan Hotel, Madison Avenue and Forty-second Street, which will take place on the evening of October 19th. Already over a hundred have signified their intention of being present.

F. H. Wiggin, M. D.,
Chairman, Committee of Arrangements.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on September 27th, a discussion on the James River water was to be held.

Original Communications.

A STUDY OF
TWO CASES OF CEREBRAL TUMOR,
WITH A REPORT OF THE RESULTS OF AN OPERATION IN THE ONE AND AN AUTOPSY IN THE OTHER.*

By ALFRED WIENER, M. D.,
ADJUNCT PROFESSOR OF NERVOUS DISEASES AT THE NEW YORK POLYCLINIC; VISITING NEUROLOGIST TO THE MOUNT SINAI HOSPITAL DISPENSARY.

The ætiology and localization of cerebral tumors present so many points of interest that each case still deserves detailed study. Moreover, further light is needed as to the advisability of surgical interference for curative or palliative effect. It is just such observations which greatly enhance the value of patho-anatomical investigations, and which help to clear up some of the doubtful questions in relation to the anatomy and physiology of the central nervous system. Every case is valuable, and I do not hesitate, therefore, to place on record two cases of cerebral tumor which it has been my good fortune to observe over a considerable period of time. In both cases the diagnosis has been confirmed. In the one patient, whom I am able to show this evening, the tumor was revealed at the operation; in the second, I am able to demonstrate the specimen obtained by the autopsy.

Case I.—F. S. is twenty years of age, and was brought to my clinic at the Mount Sinai Hospital Dispensary in June, 1897. The history taken at that time was as follows: He was born of apparently healthy parents; both still living and enjoying good health. The father is employed in a brewery and more or less addicted to alcoholism. Patient is the second child of three, who are still living and healthy. The oldest is married and has two children living and perfectly sound in health. Mother of patient has had no miscarriage, either before or after the birth of this boy. Patient was a seven-months' child, but born apparently in a normal manner. During her pregnancy, mother enjoyed good health. This boy was three years of age before he could either walk or talk. From that time on he developed in a normal manner, and suffered from no illness until he was seventeen years old. He then suffered from an acute otitis media of the right ear, with rupture of the tympanic membrane, and a profuse purulent discharge for several months, after which time the ear healed and left the patient slightly deaf on that side. In March, 1897, he was sitting at a table with some friends playing cards, when suddenly the cards dropped from his hands, the patient lost his speech, and felt, as he expressed it, his right upper extremity and face grow stiff. This lasted only a moment, but made him feel very uncomfortable, so that he retired shortly afterward, fell asleep, and awoke the next morning apparently well. This attack, he asserted positively, was not attended by any loss of consciousness. Previous to this attack, he admitted, he had been suffering from headaches, which at times were very severe and often accompanied with vomiting. These he attributed to indigestion, and treated them as such. The pain was usually frontal in location, but at times the whole head seemed to ache. One month after the first attack he had a second one. This was much more severe, and seemed to affect the entire right side, but especially the face and arm. In this attack he lost consciousness and remained in a dazed condition for two hours. Thereafter a difficulty in expressing himself was noticed. Patient spoke more slowly, and it appeared to those about him that at times only with the greatest effort could he give utterance to his thoughts. His headaches began to grow more severe and frequent. His eyes appeared peculiar and seemed to alter the natural expression of his face. The right hand was growing weaker, and he gradually began to use his left in preference. His sight was rapidly failing.

Examination made June 26, 1897, revealed the following status:

Examination of eyes made by Dr. A. Strouse: Right eye, no perception to light; pupil inactive; edges of disc indistinct; discs white and hazy; arteries contracted; veins engorged and tortuous. Retina not clear. Left eye: Can see fingers at four feet; pupil reacts to light; disc swollen and hazy; veins engorged; retina not clear.

Right facial paresis. Tongue is protruded straight, but looks shriveled on the right side. The right hand and arm are very much weaker than the left. Grasp of hand (dynamometer test): right, 15; left, 60. Patellar reflexes are absent on both sides. No Romberg. Power in both legs is good. Hearing is affected on both sides. His speech disturbance is distinctly characteristic of a motor aphasia.

Sensation is entirely normal in every respect. Heart, kidneys, liver, lungs, and spleen are normal. No bladder or rectal trouble. Blood examination showed a leucocytosis. An electrical examination was made of both facial nerves. Although no qualitative change was noticed, still there was present an increased excitability to the current on the right side.

The family history, as well as that of the patient, is negative so far as syphilis or tuberculosis is concerned. The boy denies any alcoholic excesses. He appears fairly well nourished, but has a distinct apathetic expression in his face. Skull tender at times to percussion over left frontal area. A special examination was made of the muscular sense (weights, passive movements, and objects of various shapes), but patient responded normally to all. Smell and taste were also normal. No trophic disturbances of any kind were present.

Such a history naturally pointed to the presence of a neoplasm in the brain. An abscess was excluded, for the simple reason that it does not occur spontaneously. There must be present somewhere in the body a cause for such a secondary infection. In regard to tuberculous and syphilitic affections, the history was negative. The patient was nevertheless put upon antisyphilitic treatment, the result of which I will mention later.

In regard to the location of this neoplasm, I was unwilling at first to express any positive opinion. The absence of the deep reflexes, the suspicious reaction of the facial nerve, the marked affection of the optic nerves, and the motor aphasia, which might just as well have been taken for a dysarthria, together with the peculiar condition of the right half of the tongue, all these pointed to a lesion at the base of the brain, in the neighborhood of the pons and cerebellum. On the other hand, the partial paralysis of the face and arm, together with the Jacksonian form of epilepsy, frontal headache, and painful percussion over this area of the skull, argued in favor of a lesion in the neighborhood of the face and arm centre in the central convolutions. It was manifestly impossible to ascribe all these symptoms to the presence of a single lesion. The possibilities of multiple tumors, however, was borne in mind.

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* Read before the New York Neurological Society, April 5, 1898.

The patient was carefully observed, and after four weeks a positive conclusion was arrived at. The reflexes in the lower extremities began to return. The right limb was becoming paretic. The electrical reaction in the facial nerve varied itself so frequently that finally no reliance was placed upon it. As the headaches were growing more severe, and the disturbance in speech showed itself to be positively a motor aphasia, and since no other basilar symptoms were added, as we would naturally expect with a growing neoplasm, I came to the conclusion that the tumor was cortical, involving the face and arm centre, together with the posterior extremity of the third left frontal convolution—viz., the speech centre. During all this time antisyphilitic treatment had been severely carried out, but with negative results.

The next point which naturally suggested itself was that of surgical interference. Would an operation be of any benefit to this patient? Before this question could be decided, it was necessary to determine three things. One had already been determined and was favorable—viz., the location of the tumor. The other two were, first, the nature of the tumor, and, second, its size, if possible. In regard to the nature of the neoplasm, the slow growth and its irritative nature, shown by the diminished reflexes and the epilepsy, led me to believe that we were dealing with a glioma. In regard to the size, no definite opinion could be arrived at. An operation was nevertheless advised, and for the following reasons: In the first place, I was reasonably sure that the tumor had been properly located and might, therefore, if not too large, be removed; secondly, if it could not be removed, we were at least justified, as experiences have shown, in doing a trephine operation for the relief of the severe headaches and epilepsy.

The patient was sent to Mount Sinai Hospital and submitted for operation. He was operated upon by Dr. Gerster, July 31, 1897. The site of the operation was over the area representing the speech, face, and arm centre, located on the left side of the skull. The operation through the scalp and skull was attended with so much loss of blood that it was thought advisable to continue it at a later date. A few days later, after the patient had sufficiently recovered from the shock, the wound was again opened, this time by Dr. Lilienthal. The dura was incised, and at once revealed a dark tumorous mass, which occupied the entire opening, and in the exact location as the diagnosis had suggested. The slightest manipulation of this mass was again accompanied by so much hæmorrhage that its removal was out of the question. A piece was removed for microscopical examination, and proved it to be a teleangiectatic glioma.

The patient remained in the hospital until the wound had practically healed. Up to September 29, 1897, the patient, who was now at home and totally blind, was entirely free from headaches. No epileptic seizure had occurred since the operation. On that day (September 29th) he began to complain of pain over the left facial region, and within a few hours there developed a lymphangeitis and cellulitis along both sides of his face and neck, together with chills and a pyæmic temperature. As the tumor, which of late had slowly been growing out through the opening made in the skull, had suffered an abrasion upon its surface, it was suspected that an infection at this point might have taken place. With an aspirating needle, I finally succeeded in finding a small abscess located about three fourths of an inch from the surface. This was opened and about an ounce and a half of pus evacuated. The patient now rapidly returned to his former condition.

October 1, 1897.—Patient complained of hallucinations of sight. He saw strange people sitting at a table in front of him and also standing about the room. This illusive picture was constantly before his eyes, and it was difficult for him to rid himself of it.

12th.—Patient had become somewhat irritable and at times very much excited. Saw various colored lights and the illusive picture above mentioned.

The right side was growing weaker, and patient showed some ataxia in his movements. His speech was distinctly hesitating. When asked to protrude his tongue, patient made several attempts before he accomplished it. Patellar reflexes in lower extremities were present, but very much diminished.

Patient understood all spoken language, both English and German. His answers at times were, however, distinctly paraphasic. His muscular sense was still perfect.

November 1st.—Another localized abscess had formed, which healed kindly after evacuation of pus.

During December no very marked apparent advance was made in his symptoms; the tumorous mass, however, was slowly growing in size. It was not hard to the touch, but distinctly soft and pulsating.

January 18, 1898.—Patient still performed any action which was desired of him. Understood spoken language, but could no longer repeat, after dictation, more than one or two words at a time.

A key was given into the patient's hand and he was asked to name the object. Instead of naming it, he went through the motion of locking a door in pantomime, showing perfectly well that he recognized the object, but could not repeat the name. He was then asked whether it was a key, and, apparently, looked nonplussed. I then repeated the German word for key, and he immediately nodded his head and answered me in English: "Yes, that's it." He recognized various familiar airs when they were whistled; also recognized salt and sugar when placed upon his tongue.

28th.—Of late the tumorous mass had been growing much larger. In length it measured four inches and three quarters; in breadth, at its widest portion above, two inches and three quarters; below, three inches and a quarter.

February 7th.—Patient had just recovered from an attack of influenza, which had left him with a bronchitis. He complained considerably of pain over the tumor. Had a constant tendency, when sitting alone, to fall backward toward the right side. He could no longer walk alone. He was much slower of comprehension than formerly; often began to laugh for no reason whatsoever.

13th.—Abducens palsy on both sides, more marked on the left. Nystagmus present in right eye, when patient was told to look toward the left. Pupils responded to accommodation, but not to light.

23d.—Measurements of tumor: In length, five inches—increase of a quarter of an inch; breadth at upper portion, three inches—increase of a quarter of an inch; breadth at lower portion, three inches and a quarter—no increase.

During the month of March patient had grown more apathetic and rarely gave utterance to any thought spontaneously. Could not repeat his name when asked to do so.

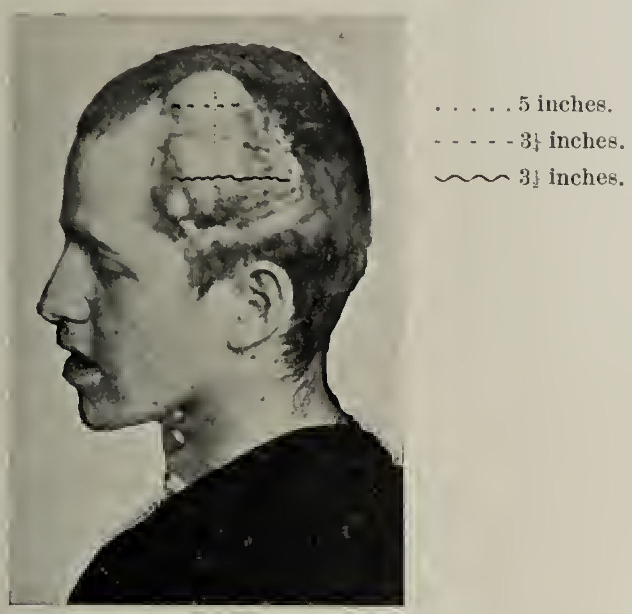


Fig. 1.—Picture taken March 31, 1898. Side view of tumor.

An examination made on March 31, 1898, revealed the present status: A paresis affecting the right facial, right upper and lower extremities; also some loss of power in the left leg and arm. Patellar reflexes present on both sides. Patient performs any movement which is asked of him, but somewhat slower than a normal individual. The movements on the right side are atactic. There is a double abducens palsy, more marked in left eye; nystagmus is present in the right eye, when looking toward the left. Tongue is protruded straight, but looks shriveled on the right side. Slight analgesia over left side of face. There is still this constant tendency to fall toward the right side and backward. Constant drooling at the mouth is present. His speech is more a matter of pantomime than the actual pronunciation of any word or words. Muscular sense on right side is very much affected. Although equally familiar with the German and English languages, he appears to understand the German better.

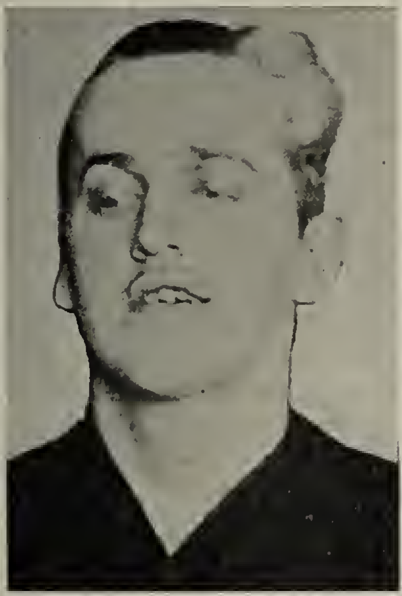


Fig. 2.—Picture taken March 31, 1898. Front view of tumor.

Measurement of tumor: Length, five inches—no increase; breadth of upper portion, three inches and a quarter—increase, a quarter of an inch; breadth of lower portion, three inches and a half—increase, a quarter of an inch.

The patient up to the present time has suffered from no severe headaches or epileptic seizures.

There can be no doubt in our mind, from the present status of this patient, that the neoplasm has been growing just as extensively within the left hemisphere as on the outside of the skull. The frontal ataxia (upon which symptom I shall dilate further on in this report), the forced laughing, the double abducens palsy, and the aphasia, all point to the extensive invasion by this growth. I shall purposely refrain from discussing the aphasia in this case; I feel that this can be more intelligently studied, at some future date, in the light of pathological findings. Suffice it to say that we have here a marked motor aphasia, with some involvement of the sensory speech tracts.

Case II.—G. W., aged seven years, was brought to my clinic October 19, 1897. The history obtained at the time was as follows: He was born of healthy parents. Father, who was a very heavy drinker, died of pneumonia; mother is living, and was married a second time. From her first marriage there were four children, of whom only two are living. The oldest child died of diphtheria. The two younger are still living and healthy. After the birth of the second child, which is the patient, the mother had two miscarriages. In her second marriage she has had two children, who are living and enjoying good health.

The birth of this patient was perfectly normal. He was born at full term. He learned to walk and talk at the age of sixteen months, and was perfectly well up to the age of twenty months, when, I should judge from the mother's description, he suffered from an attack of rheumatism. He was sick for five weeks. From that period, up to a short time previous to when I first saw him, he was as well developed physically and mentally as children of that age usually are.

During the summer of 1897 the mother noticed that whenever the boy was descending a flight of stairs he did so in an awkward manner. When questioned about it, he answered that his right leg pained him. On September 20, 1897, the boy came home with a marked swelling over the left fronto-parietal region of the skull, and complained to his mother that a man had struck him with his fist. In a few days this swelling assumed a dark bluish discoloration, and the boy began to complain of headaches. These headaches were present almost daily, and sometimes so severe in character that the boy had to be sent home from school. At times he would be compelled to remain away one or two days. It was noticed that the boy was not as bright as formerly, and that his reports, sent home from school, were very poor. At home it was observed that he was using his left hand in preference to his right one, and that very often, when taking fluids into his mouth, they would flow out of the right side and soil his clothes. For this he was often scolded and punished, the mother at that time not having recognized that the boy was really ill. The headaches became more and more severe, until finally, on October 19, 1897, he was brought to my clinic.

The examination at that time revealed the following status:

A paresis of the two lower branches of the right facial nerve, without any electrical change. Tongue was protruded toward the right side. Pupils responded to light and convergence, but somewhat sluggishly. Analgesia and slight dullness to the sensation of touch on right side of face. Paresis of right upper and lower extremities, with some disturbance of sensation, as on the face, but not quite so marked. Patellar reflexes were wholly absent on both sides. In all actions which he performed he gave preference to the left arm and left leg. Chest and abdominal organs in perfect condition. No bladder or rectal trouble. There had been no epileptic seizures. There was only the slightest ataxia, or rather awkwardness of movement, noticeable in the right upper extremity. Although presenting a distinctly apathetic appearance, the boy was fairly intelligent and physically well developed. An examination of the optic discs showed a double optic neuritis.

The history both of the parents and the boy was negative, so far as syphilis or tuberculosis was concerned.

As in Case I, so in this one, the symptoms pointed to the presence of a neoplasm. For the reasons given in the first case, the diagnosis of abscess was also excluded. The knowledge of a preceding injury led to the suspicion of a cyst; but, as the occurrence of trauma is not infrequently observed in cases of cerebral neoplasm, the diagnosis of tumor was adhered to.

In regard to the location, it was believed, on account of the complete hemiparesis with the partial hemianæsthesia, and in the absence of any epileptic seizures or loss of muscular sense, that this neoplasm was subcortical and located either within or in close proximity to the internal capsule. The possibility of an involvement of the centrum ovale producing the same symptoms was not lost sight of. In regard to the nature, a glioma was suspected, on account of the location and general symptoms. The patient was put upon antisyphilitic treatment and carefully observed. The following notes were taken as the case progressed:

October 23d.—Patient has less headache.

26th.—No appreciable change in the symptoms.

30th.—Mother thinks that the boy appears more interested in his surroundings. The arm, which formerly could be raised above the head, can now be brought only to a position on a level with the shoulder. The patellar reflexes can now for the first time be obtained; they are still very much diminished. A strabismus, due to the boy's failure in his vision, is quite marked at times. The anæsthesia is more prominent than heretofore; this is especially so in the right upper extremity.

November 3d.—Sight is very much diminished. Headaches have again grown to be quite frequent and severe. Patient is more apathetic. The arm can no longer be raised to the horizontal position. Facial palsy is very marked.

6th.—Condition unchanged.

11th.—Optic discs of both eyes show a marked atrophy. Small hæmorrhages can be seen in the retina. This condition is a little more marked in right eye than left. Atrophic spots are scattered over the retina. Patient can abduct the right upper extremity only a few inches from the body, and walks with a distinct hemiplegic gait. He staggers like a patient suffering from cerebellar ataxia.

16th.—Anæsthesia quite marked in the hand and face. The lower extremity shows some loss of power. Right arm is totally paralyzed.

23d.—Vomiting and headaches quite severe, and the latter present almost continuously.

Up to December 2d the condition remained about the same. The patient was able to walk about, while, on the other hand, the upper extremity and face were completely paralyzed. The reflexes (patellar) were exaggerated on both sides. I was now inclined to believe, on account of the extensive paralysis in the arm and face, and the only slight involvement of the leg, together with the marked pressure symptoms, that after all we should find the greater part of the tumor occupying the centrum ovale. If it were occupying the internal capsule or its immediate neighborhood, as I was inclined to believe in the beginning, at this stage of the development we would naturally expect, in a growing neoplasm, just as much involvement of the leg as of the arm and face. The antisyphilitic treatment had been given a fair trial, and, as not the slightest improvement had been obtained, it was discontinued. It was now thought entirely justifiable to make a large trephine opening over the left side of the skull, hoping in this manner to relieve the patient of the pressure symptoms.

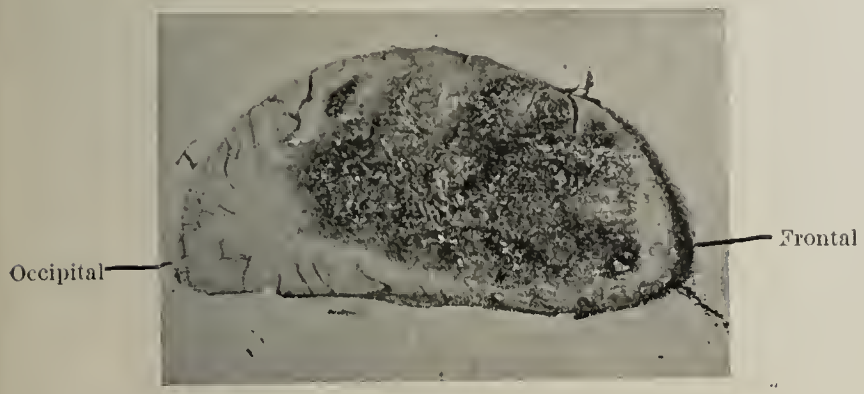
On December 3d the boy suffered from an attack of tonsillitis, and the operation had to be postponed. On December 13th the child was taken down with scarlet fever, and the operation had to be deferred once more. During this attack of scarlet fever the symptoms produced by the neoplasm were not very much aggravated. On January 20, 1898, he was pronounced well, so far as his scarlet fever was concerned; however, he was very weak and emaciated. His headaches were excruciating. Contractions appeared on the paralyzed side. This spasticity, however, could be easily overcome, and at times disappeared of itself. The boy was now totally blind and unable to walk. He continued in this pitiable condition until February 7th, when his suffering was relieved by death. He was intelligent to the last moment, and recognized me only a day previous to his death.

Autopsy was made by myself four hours after death. All abdominal and thoracic organs were found normal. Kidneys were very much congested. Brain weighed fifty-two ounces, and the convolutions over the left hemisphere were very much flattened. Otherwise nothing was visible on the surface. The left hemisphere felt decidedly softer to the touch than the right. The whole brain was placed in a four-per-cent. solution of formalin, which was renewed every two days for one week. At the end of the second week it was placed in a three-per-cent. solution of Müller's fluid, and allowed to remain there for ten days. This method of hardening brought out the contrast of colors in the gray matter, white matter, and tumor much better than I have ever seen them when other methods have been employed.

Horizontal sections were made through the hemispheres, and at once revealed a soft infiltrating tumor occupying the greater part of the left hemisphere. In the upper portion the entire hemisphere appeared to be involved, and in the frontal portion the cortex was encroached upon. In the lower part of the hemisphere the tumor was entirely frontal in location. The centrum ovale, corpus striatum, and internal capsule were almost completely destroyed. Here and there, in the tumorous mass, there were small hæmorrhagic areas. The corpus callosum also presented some slight infiltration. A microscopic examination proved the tumor to be a gliosarcoma. A more detailed report concerning the pathology of this tumor will be published later on.

I would like to call attention to three especial points of interest which existed in common in both cases.

Left hemisphere.



Right hemisphere.

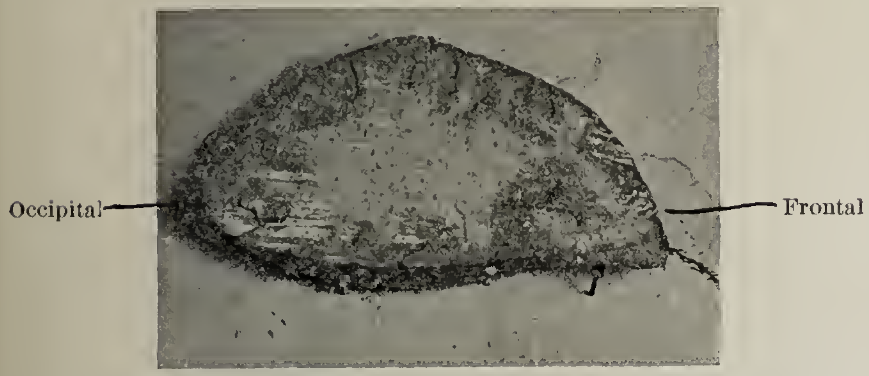


Fig. 3.—Horizontal section made through right and left hemispheres. Showing normal right hemisphere, and infiltrating tumor in left hemisphere.

These are (1) the absence of the patellar reflex in the beginning of the disease; (2) the frontal ataxia; (3) the ætiology.

1. The absence of the patellar reflex, due to lesions existing in this portion of the central nervous system, has been reported by others. Only lately, in a collection of nine cases reported by Koster in the *Neurolog. Centralblatt,* the patellar reflex was absent in two of the cases. No satisfactory explanation has been offered for this phenomenon up to the present time. It seems to me that if we are willing to accept the theory that the cortico-spinal tract exerts a reflex inhibitory influence upon the deep reflexes, the following explanation may be acceptable: We will suppose that these fibres are in some way irritated by a mass which is growing in the midst of them. The first effect would be an increase of the inhibitory function, and, as a result of this, we would obtain either a diminished or absent reflex. As the fibres are gradually destroyed, the inhibitory influence is more and more diminished, and finally the reflex, which at first was absent, gradually begins to return, and eventually would become very much exaggerated.

2. *The Frontal Ataxia.*—This was present in both cases, and is now acknowledged as proof that the lesion has encroached upon the frontal lobes. Bruns was the first to call especial attention to this symptom, which Moeli and Wernicke, in earlier publications, also make mention of. It is really due to involvement of the trunk muscles, which have their cortical representation, according to Munk, in this particular portion of the brain.

3. *The Ætiology.*—In both cases we have to deal with a father who was addicted to alcoholism. In Case I we have the history of premature birth and delayed development. In Case II we have, in addition to the history of the father, that of trauma. Although the boy's first suffering dates from the time of the blow, there was, nevertheless, according to the mother's history, one symptom present previous to this occurrence. I do not believe, therefore, that the lesion was caused by the trauma, but merely made manifest by it. Gowers and Oppenheim both believe that a trauma may, through the consequent nutritive changes produced in a certain area in the brain, be the starting point of a tumor, if congenital tendencies exist. I believe, also, as in the first case, that these tumors owe their existence to some congenital cause, just as do the idiopathic epilepsies, mental and other nervous disturbances that we so frequently observe in the children born of parents addicted to alcoholism.

In conclusion, I wish to add and emphasize what other writers have said in favor of trepanning, even where there is no other hope of success except the relief of the general symptoms. In my first case this was apparent. In my second, through the intervention of unfortunate conditions, we were not able to afford any relief by surgical procedures.

113 West Seventy-seventh Street.

NATURAL IMMUNITY OF THE MUCOUS MEMBRANES OF THE RESPIRATORY TRACT.*

By HENRY LEWIS WAGNER, M. D., Ph. D.,
PROFESSOR OF RHINO-LARYNGOLOGY, SAN FRANCISCO POLYCLINIC (UNIVERSITY OF CALIFORNIA).

(Preliminary Report.)

Without entering into the explanation of immunity and its various theories, with which you all are familiar, I desire to give you to-day a brief report of my research work regarding the natural resistance of the mucous membranes of the respiratory tract against the invasion of bacteria.

The experimental pathology recognizes at present two kinds of immunity: the natural and the acquired. The natural immunity not only exists within our body, but it also shows its activity on the mucous membranes; this is plainly demonstrated by the fact that bacteria are constantly carried to the surface of the upper respiratory organs by inhaling as well as by introducing our food without producing any local or general infection in our healthy body. On the other hand, should we take any of these bacteria from normal mucous membranes and place them in proper culture media, we will observe a rapid multiplication; and if replaced in sufficient quantity on the original mucous membranes, they will produce a certain diseased condition of these tissues.

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* Read before the American Laryngological Association at its twentieth annual congress.

Various authors have regarded the nasal mucous membranes free of bacteria, which statement, though, has been corrected by the careful investigations of Park and Wright, who also postulate that "for bacteria which have developed in the blood or secretions of other individuals the bactericidal power of the nasal mucus is little or nothing, and can not be depended upon to prevent an infection from virulent bacteria, if they are carried into the nose."

Hugenschmidt, in the annals of the Pasteur Institute, referring to the saliva of the mouth, claims that it also has no germicidal power, but that wounds in this part of the body are free from infection—due to active phagocytosis, which he claims is induced by the power of saliva to stimulate migration of leucocytes.

My own researches have shown that the comparative scantiness of bacteria in the nose is due only to mechanical (physiological) devices, and I have been convinced that the activity of bacteria, if not too many in number, is checked by a certain "biological" process—induced by chemotaxis.

Several scientists have been investigating the nature of this immunizing process, with the result that a chemical constituent of the mucus, such as mucin, is antagonistic to bacteria, although this theory has of late been contradicted. In my lectures on chemical physiology (as assistant to the chair of physiology at the University of Wurzburg) fourteen years ago, I demonstrated that this cellular product prevents only "mechanically" the invasion of bacteria, as I was able to cultivate bacteria on artificial media containing mucin, obtained from the submaxillary glands of animals. Claude Bernard had already partly advanced a similar statement that the epithelium of these membranes, as well as the secretions, offered a natural protection. To strengthen this argument, we find that the bronchial tubes in the living animal are sterile, while after death they become invaded by a very large number of bacteria; proving also that the immunizing process must depend upon a "protoplasmic activity" in the living body. This natural defense is attributed by Buchner and others to the paraplastic action of leucocytes, while H. Kossel maintains that the nuclein acid contained in the nuclear substance of the cell may have the germ-destroying power.

The results of my own researches are:

1. The *natural resistance* of the mucous membranes depends principally on the "activity of leucocytes."

2. The *action of these leucocytes on bacteria* does not consist in their "total" destruction—as observed in disinfection either by heat or by a chemical (coagulation)—but it consists in greatly "diminishing their activity" to form poisonous products (toxines, etc.).

This is explained, that leucocytes produce "*enzymes*," which are able to "impair the chemical structure of the bacterium body." These enzymes have apparently no effect on albumin or albuminoid substances, but they are able at blood temperature to convert cane sugar into glucose and to influence fluid starch and cellulose.

Therefore the cytoplasmatic defense of mucous membranes consists in disabling the foreign cell in its activity, either to form poisonous products or to enter their tissues. In other words, the bacteria are "slumbering" on the mucous membranes, just as we meet such "latent life" in the vegetable kingdom, and in this "inactive state" the bacteria are carried away from our mucous membranes by the secretions and excretions.

LEPROUS ULCER OF THE LIP.*

By HENRY LEWIS WAGNER, M. D., PH. D.,
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AT the International Leprosy Conference in Berlin the opinion was generally formed that the primary seat of this contagious disease was the mucous membrane of the upper respiratory organs.

Glück stated that he found on these mucous membranes lepra tuberosa as well as the mixed form, lepra tuberosa anæsthetica, and pointed out that it also made its appearance on the lip, which before that had been considered very rare. Sticker referred to the nose, especially the cartilaginous part of the sæptum, as the place of primary infection, saying it might be mistaken for fœtid atrophic rhinitis, and in an advanced state for necrosis of the sæptum. The nasal secretions under these conditions contain a large number of bacilli, and the disease can be communicated to the healthy by contact inoculation.

The case I report to you to-day is that of a middle-aged man, a smoker, who had lived for some years in China, and consulted me for a peculiar dark-brownish ulcer with some small nodules on his lower lip, which had existed for a few months with little pain, and which I suspected to be syphilitic. The patient's nose and throat showed nothing abnormal, and I scraped away some of the bad-smelling detritus mass for microscopical examination and asked the patient to return the next day. The microscopical examinations revealed, to my astonishment, quite a large number of lepra bacilli and innumerable suppuration cocci; the bacilli were located partly in the cells and partly outside of them. Unfortunately, the patient never returned, and I was therefore unable to make a more extensive study of his disease. This case undoubtedly showed the lepra tuberosa form, and demonstrates the channel through which this disease can be communicated to others.

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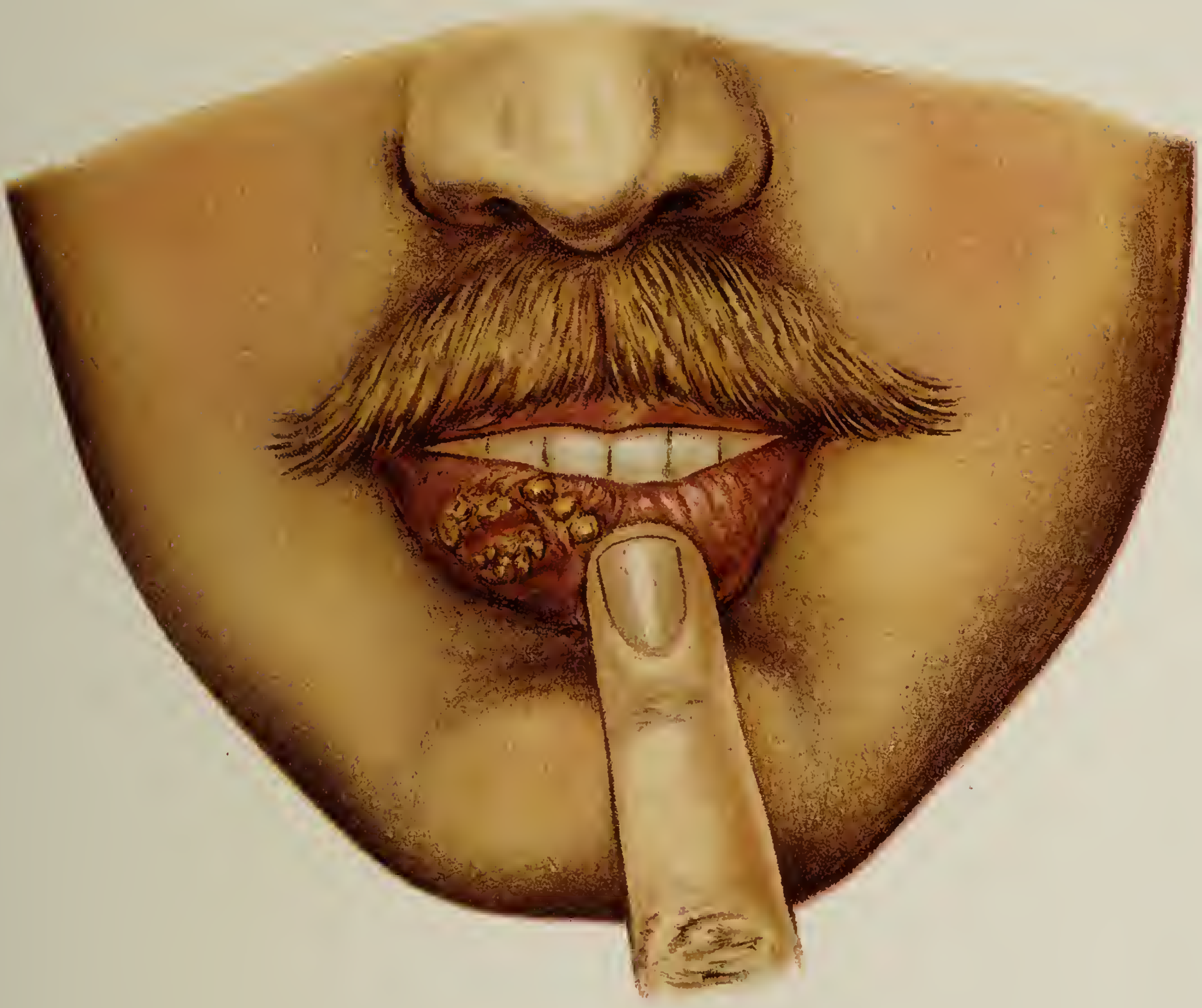
* Read before the American Laryngological Association at its twentieth annual congress.



DR. WAGNER'S ARTICLE ON LEPROUS ULCER OF THE LIP.

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ON THE USE OF SCHLEICH'S MIXTURES FOR ANÆSTHESIA IN OPERATIONS ON THE NOSE AND THROAT.*

By EMIL MAYER, M. D.

In 1895 Schleich, of Berlin, presented the results of his experiments with a new mixture for general anæsthesia. In the *Medical News* of November 27, 1897, M. L. Maduro, of New York, called attention to these mixtures, which he had seen used by Schleich, and which were numbered 1, 2, and 3. These mixtures are composed of ether, chloroform, and petrolic ether (benzine) of a boiling point of from 60° to 65° C. in the following proportions:

Mixture No. 1.—Boiling point, 100.4° F. Chloroform, 45 c. c.; petrolic ether, 15 c. c.; sulphuric ether, 180 c. c.

Mixture No. 2.—Boiling point, 104° F. Chloroform, 45 c. c.; petrolic ether, 15 c. c.; sulphuric ether, 150 c. c.

Mixture No. 3.—Boiling point, 107.6° F. Chloroform, 30 c. c.; petrolic ether, 15 c. c.; sulphuric ether, 80 c. c.

These measurements are by volume and not by weight. He continued by saying that Schleich's argument is that the boiling point of ether (15° C.) and that of chloroform (65° C.) must act in different ways upon an organism whose temperature was 38° C. He therefore promulgated the theory that the ideal anæsthetic should have a boiling point nearly or altogether equal to the temperature of the human body. The nearest approach to the body temperature as regards its boiling point is the bromide of ethyl, but the presence of bromine makes it too dangerous. After experimentation with various mixtures Schleich concludes that "it is possible to change the boiling point to the desired degree, and that the mixture will continue to boil without decomposition so long as its temperature is not considerably higher than its determined boiling point. Mixtures of ethers the boiling point of which closely approaches the temperature of the body, absorbed during respiration, will boil when expired with the air of the lungs. It is possible to mix ethers having different boiling points in various portions and then obtain a desired boiling point, and further regulate it according to the proportion of each used."

In accordance with Schleich's suggestion, mixture No. 1 being the most evanescent, the patient would more readily awaken, and hence it was to be used in minor operations, while mixtures No. 2 and No. 3 produced a more lasting anæsthesia and were to be used in prolonged operations. On December 27, 1897, Dr. Willy Meyer read a paper before the Medical Society of the County of New York upon the use of these mixtures in general surgery. He had made use of them with no untoward symptoms whatever in upward of one hundred cases in his hospital and private practice since October, 1897. He stated that he was delighted with the improvement in general anæsthesia by means of this method, administered in the following manner: An ordinary chloroform mask is covered with gauze, then with flannel, and finally with oiled muslin, in the centre of which latter a hole fifteen millimetres in diameter is cut. A small quantity of the anæsthetic required was poured upon the inner surface of this mask and placed directly over the nose and mouth. The mixture is rapidly dropped upon the opening in the oiled muslin. Maduro uses a paper and towel cone open at both ends, with some loose gauze placed midway and half across, upon which he places one drachm at first and then drops the mixture upon it from time to time.

In Meyer's paper, as also in the discussion which followed, there was a unanimity of opinion that anæsthesia by this method was remarkably rapid; there was a notable absence of the stage of excitement and of cyanosis; the disagreeable accumulations of mucus in the trachea were avoided; bronchitis and broncho-pneumonia did not occur; it was frequently given where valvular disease of the heart existed without untoward effect; it was rarely associated with vomiting, and, finally, the patients became thoroughly conscious, with faculties intact, in an incredibly short space of time.

These considerations seemed sufficient to me to warrant an investigation of the use of these mixtures for such operations on the nose and throat as require anæsthesia. The point that appeared to be of the greatest import was the rapid return to consciousness, for a great element of danger in our operations, as regards post-operative hæmorrhage, is that it may occur while the patient is slumbering from the effects of the anæsthetic; a patient fully awake would feel the blood trickling down the pharynx.

Anæsthesia in operations upon the upper air-passages is quite another thing than anæsthesia in operations upon other parts of the body. After our patients are fully narcotized, we must cease administering the anæsthetic and proceed as rapidly and as dexterously as we can. Our inability to operate slowly and tie or clamp each vessel as we go along, the copious hæmorrhage which usually follows, and the possibility of having the blood enter the larynx, do not detract from the dangers of the anæsthesia. If, then, a patient could be thoroughly anæsthetized and remain so long enough for our operations and would become quickly conscious, and if such anæsthetic were free from danger, a great stride toward absolute safety in our operative work would have been made.

I have used these mixtures in twenty-three cases. In accordance with the suggestions made that the anæsthesia of the No. 1 mixture would be too evanescent, it was not used in the first twenty-one cases. Maduro uses the No. 1 mixture exclusively for prolonged operations, and does not agree that it is too evanescent for our purposes. In the last two cases the No. 1 mixture was used, Dr. Maduro kindly administering it according to his method. Its action was not different from the other's, save that it took a little more time to anæsthetize the patient; hence its use is not contraindicated, as I had been led to believe, and all my cases will in future receive the No. 1 mixture, as it is the least concentrated of all the mixtures and therefore safer.

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* Read before the American Laryngological Association at its twentieth annual congress.

Report on the Use of Schleich Mixtures for Anæsthesia in Nose and Throat Cases.

No.	Date (1898).	Sex.	Age.	Operated on for.	Time required.	No of Solution.	Amount used.	Operator.	Emesis.	Remarks.
1	February 15th.	M.	13	Deflected sæptum.	4 minutes.	Three.	4 drachms.	Mayer.	None.	
2	February 16th.	M.	21	Deflected sæptum.	5 “	Three.	4½ “	Mayer.	None.	
3	February 19th.	F.	17	Deflected sæptum.	4½ “	Three.	5 “	Mayer.	None.	
4	February 26th.	M.	10	Adenoids.	3 “	Three.	4 “	Mayer.	None.	
5	March 4th.	F.	4½	Adenoids.	4 “	Two.	4 “	Mayer.	None.	
6	March 9th.	M.	29	Deflected sæptum.	4 “	Two.	6 “	Asch.	None.	
7	March 9th.	M.	32	Deflected sæptum.	4½ “	Three.	6 “	Simpson.	None.	
8	March 12th.	F.	5	Adenoids.	2 “	Two.	4 “	Asch.	Yes.	Vomited eight times during night.
9	March 19th.	M.	8	Deflected sæptum.	4 “	Two.	4 “	Mayer.	None.	
10	March 23d.	M.	13	Deflected sæptum.	4 “	Two.	4 “	Asch.	None.	
11	March 26th.	F.	10	Adenoids.	3 “	Two.	4 “	Mayer.	None.	
12	March 26th.	M.	6	Adenoids.	3½ “	Two.	6 “	Mayer.	Yes.	Vomited twice.
13	March 26th.	M.	47	Deflected sæptum.	9 “	Three.	12 “	Mayer.	Yes.	Vomited twice.
14	April 2d.	M.	2	Hypertrophied tonsils and adenoids.	1½ “	Two.	4 “	Asch.	None.	
15	April 2d.	F.	27	Deflected sæptum.	6½ “	Two.	12 “	Asch.	None.	
16	April 4th.	F.	27	Ethmoiditis.	7 “	Two.	16 “	Mayer.	Yes.	Ether substituted, owing to the long duration of operation.
17	April 6th.	F.	13	Adenoids.	4 “	Three.	4 “	Mayer.	None.	
18	April 7th.	M.	15	Deflected sæptum.	4½ “	Three.	5 “	Leonard.	Yes.	Vomited several times.
19	April 11th.	M.	6	Adenoids and hypertrophied tonsils.	2½ “	Three.	4 “	Simpson.	Yes.	Blood vomited immediately after operation.
20	April 27th.	M.	13	Adenoids.	4½ “	Two.	6 “	Mayer.	None.	
21	April 27th.	M.	15	Adenoids.	3¾ “	Three.	8 “	Mayer.	None.	
22	May 7th.	M.	12	Adenoids and deflected sæptum.	7 “	One.	6½ “	Mayer.	None.	
23	May 7th.	F.	11	Adenoids.	7½ “	One.	6¾ “	Mayer.	None.	

The tables here presented were compiled from the notes made in each instance by Dr. F. M. Stephens, assistant house surgeon to the Throat and Ear Departments of the New York Eye and Ear Infirmary. Each case was carefully watched, and in none was there a single untoward symptom. The anæsthesia was ideal. There was no stage of excitement, with its usual garrulity, excepting perhaps a slight flexion of the forearm, which a child could have resisted. The tension of the pulse was markedly increased, the breathing was quiet and natural, and unconsciousness was first indicated by the absence of conjunctival reflex. This generally occurred in four minutes, and in from three to five minutes thereafter the patient was fully restored to consciousness. The average amount used was six drachms, and the average time for complete anæsthesia was four and a half minutes.

The first case in which this mixture was used by me was that of a boy of thirteen, who had a deflected sæptum. It required half an ounce (16.0) to anæsthetize him in four minutes. The operation was completed in three minutes, when he became fully conscious. Ten minutes later an adult was *etherized* with the usual struggle and stertorous breathing. His deflected sæptum was operated upon. For a couple of hours afterward he was noisily abusive and belligerent, requiring constant watching on the part of two stalwart men to frustrate his eager desire to "clean out" the place. The first patient was meanwhile lying quietly on the bed next to this one and was an amused observer of his neighbor's actions, the latter being usually very mild-mannered and not an alcoholist.

Case VII was one of Dr. W. K. Simpson's, in which he operated in my presence for a deflected sæptum. There was barely any struggle; he was not strapped to the table nor held; six drachms of the No. 3 mixture were used, and in four minutes and a half he was ready for operation. He was conscious before he left the operating room, within five minutes after completion of the operation, and on going to his room ten minutes later Dr. Mandeville, who was present, remarked that he had never seen so rapid a restoration to consciousness after anæsthesia.

The youngest patient, who was operated upon for double amygdalotomy and the removal of adenoids, was two years old. Four drachms of the No. 2 mixture were used, and he was ready for operation in a minute and a half. The oldest patient was forty-seven years old. Of the twenty-three cases, vomiting occurred six times.

Case XVI began with No. 2 mixture. It required two ounces to narcotize her and took seven minutes' time. She had had an operation performed upon her antrum some months previously. This I curetted and syringed; the patient showing signs of returning consciousness, I changed to ether. As I wished to remove a diseased turbinate and curette the ethmoid cells, I feared that she might not remain unconscious long enough, and hence the change. This patient has had ether several times and always took it badly, the stage of excitement being prolonged and violent and the subsequent reaction from operations being very great. There was no excitement whatever this time, and, although she vomited freely afterward, as she always did from ether, there was no reaction at all after the operation. The other cases require no special note.

Dr. Stillman and Dr. Greeley (*Medical Record*, April 2, 1898) report forty-four cases anæsthetized by this method at the New York Infirmary for Women, upon whom some operation of a prolonged nature was performed during the months of January and February, 1898. The average quantity used was three ounces and two thirds. Seven eighths of an ounce was needed to produce anæsthesia in ten minutes and a half. Consciousness was recovered in fourteen minutes. Eighteen patients were nauseated. Three needed stimuli. In one, ether was substituted because of a weak pulse. Three had valvular lesions of the heart. Nearly all received morphine and atropine hypodermically beforehand.

There are some objectors to this method who claim to have had alarming asphyxia occur while using the Schleich mixtures. These facts have been imparted to me by several surgeons. Dr. S. W. Wilcox (*Medical Record*, April 2, 1898) gives an unfavorable report in one case. His experience had been favorable up to that time.

"During the first period the patient was very hilarious; then he breathed badly, and the assistant said afterward that his pulse was variable. Nothing was thought of this. Attention being directed to the patient's breathing, he thought he was dead. The pupils were dilated, breathing had stopped, the pulse could not be felt. His jaw dropped and his face was cyanosed. Stimulation, artificial respiration, and moving the tongue outward and inward, the functions of life slowly returned. The trouble is," says Wilcox, "one never knows exactly what he is giving. The differing densities of the various component parts cause them to separate, and one can never be sure whether he is giving a larger proportion of one or another."

The *New York Polyclinic* states editorially (March 15, 1898): "Schleich's general anæsthetic mixtures do not appear to have met with the success that was hoped for them. His method of local anæsthesia has gained such general approval that equally fortunate results were expected from his method of general anæsthesia." No facts are given for these deductions.

Some explanation of these statements may be made when we note the report of Dr. Willy Meyer of the chemical analysis of these mixtures as made by Dr. H. F. Weidig: "These mixtures contain from 36.96 to 53.76 per cent. in volume of free ether. This explains the possibility of asphyxia during narcosis, and particularly when it was not administered by the rapid drop method. It also explains how cyanosis and bronchopneumonia could have occurred" (*Medical Record*, March 5, 1898).

In a subsequent letter Willy Meyer (*Medical Record*, April 23, 1898) quotes Schleich as stating that "with the air that leaves the alveoli during expiration, the sulphuric ether is evacuated in chemical combination with the chloroform and petrolic ether. This combination is exactly the same as takes place within the test tube. None of the three ethereal substances is evacuated at its partial boiling point. Continually the same amounts of sulphuric ether, of chloroform, and of petrolic ether are evacuated during expiration as had been absorbed during inspiration. These ethereal substances, mixed with each other, do not evaporate separately; they represent a real chemical combination."

Chemical and physiological examinations lead Meyer to doubt this statement of Schleich. Chemical examination showed the mixture to contain a fixed molecular solution of chloroform and ether (which he calls M. S.) plus thirty-six to fifty-three per cent. free ether, plus petrolic ether. It does not contain, however, a drop of free chloroform. As these various fluids are not in combination in the shape of a solution, it stands to reason that the lighter ones evaporate first, and hence in a prolonged anæsthesia the free ether and the petrolic ether evaporate first, leaving the molecular solution behind, with which the narcosis continues. Hence, in these cases the anæsthetic mixtures are adapted to the temperature of the body in the beginning of the narcosis only. Meyer has discarded these mixtures for the present and uses M. S.

Schleich states that the petrolic ether is an indifferent carbohydrate. Experiments on animals by Meltzer and Weidig disprove this; their statement is that it is a violent poison. The small amount of petrolic ether used, however, is probably insufficient to have a toxic effect on human beings.

In a paper read before the Surgical Section of the College of Physicians of Philadelphia, Maduro states: "To seek a cause for the bad results noted is a difficult task. To blame it on the methods of administration and say that individual skill will bring about a change is vanity that is intolerable to some; yet there is truth in the fact that we can trace a bad result to improper administration.

"Again, in a good many bad results reported, it may often happen that just those cases would have fared the same with any other anæsthetic. I have had an opportunity to prove this on one occasion where, because of a stoppage of respiration, I continued with ether after the patient was resuscitated; a while after the same accident happened again.

"There is danger in the administration of all general anæsthetics, but to my mind that danger is lessened with the Schleich anæsthetics."

The only reported case of dangerous asphyxia, that of Wilcox, would indicate that more should have been thought of the hilarity of the patient and bad state of the pulse, for those familiar with Schleich mixtures will all agree that quiet respiration without hilarity and a marked increase of the tension of the pulse always exist, and the absence of these should excite serious attention.

Schleich has used his mixtures without a complication a thousand times. Willy Meyer and Maduro each report successes in one hundred cases.

The possibility of anæsthesia without violent excitement and a rapid return to consciousness must be especially alluring to us. If, then, in addition, we may have the knowledge of a great degree of safety if not an absolute one, the ideal anæsthetic will have been found. All are not yet agreed that this latter has been attained by the use of these mixtures, but a great stride toward it has been made.

From the investigations made I believe that we can make the following deductions:

1. That Schleich's theory of the adaptability of the boiling point of the anæsthetic to the temperature of the body is amply proved.
2. These mixtures, properly administered, are comparatively safe, especially in short operations.
3. There is no stage of excitement.
4. The tension of the pulse is increased.
5. The patient becomes rapidly conscious.

This latter fact insures, in my opinion, an additional safeguard against post-operative hæmorrhage in operations on the nose and throat, for which reason alone the Schleich mixtures should demand a more general and thorough investigation on our part.

Note.—Since the presentation of this paper, Schleich's mixture No. 1 has been used in forty-seven operations, making a total of seventy. The results in these additional cases have been as gratifying as those embodied in this report.

THE NEWER PATHOLOGY OF LOCOMOTOR ATAXIA, AND ITS BEARING UPON TREATMENT.

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Still fresh in memory is the picture of locomotor ataxia wherein emphasis was laid upon the primary nature of the sclerotic process. Some recent textbooks even yet describe the disease as a sclerosis of the posterior columns, accompanied by an exudation of plastic lymph, a neurogliar infiltration, a connective-tissue proliferation, and a resulting compression and strangulation of the parenchymatous elements with disappearance of the nerve fibres. With this conception of the disease arose all sorts of ætiological and pathogenetic theories, based upon inflammatory processes in the cord and its membranes and upon disturbance of the circulation induced by atheromatous conditions of the blood-vessels and histological changes due to direct syphilitic and other toxic influences. In these bygone theories the supporting network of the nervous elements was hopelessly diseased, the adjoining delicate cells and fibres were doomed to obliteration, and unless some supposed sorbefacient, like the iodides, could be made to check the sclerotic process, the patient was given the gloomiest sort of a prognosis.

In the last few years this has all been happily changed. The recent discoveries in regard to the anatomy and physiology of the *neurone*, its importance as the nervous unit, and its replacement of the conglomerate mass of cells and fibres of the older histology, have wrought a revolution in the conception and management of the diseases of the nervous system. In none has this change been more pronounced than in locomotor ataxia, the type of the systematic degenerative diseases. The changes wrought in the neurone by hereditary influences and by various toxic and nutritional factors have relegated the sclerotic process to the background and given greater importance to the primary degenerations of the parenchymatous elements. As Möbius * says, "tabes is parenchymatous atrophy, not syphilitic neoplastic growth." It is a centripetal parenchymatous degeneration of the sensory neurones, followed by a sclerosis. An early diagnosis and a lively appreciation of the nutritional character of the primary degeneration enable us now to hold out a much more hopeful prognosis than was possible with the older conceptions of the disease.

Just a word in regard to the *neurone* and its relation to the pathology of locomotor ataxia: The discovery of this nervous unit, for which we are indebted to Golgi, Cajal, Van Gehuchten, Hodge, and others, is one of the brilliant accomplishments in the realm of neurology. Briefly, a neurone consists of a nerve cell with its various kinds of branches. The cell itself contains a nucleus and a nucleolus. It may be pyramidal, polygonal, or flask-shaped. Its processes are of two sorts: (*a*) the protoplasmic or dendritic branches, numbering from two to twenty to each cell, short, irregular in contour, and serving in some way a nutritional purpose for the cell; and (*b*) the axis-cylinder process, consisting of a number of fine fibrils, all of which pass out of the base of the cell and have one of two destinations, either going as a single fibre in one long nerve to some distant part, preserving its identity to the end, or splitting up after leaving the cell, losing its integrity, and dividing and subdividing until a kind of fine brushlike formation is created. One nerve cell is never directly united to another cell. The axis cylinders always terminate in bushy expansions—arborizations—which arborizations extend everywhere throughout the gray matter of the nervous system and constitute the delicate network of nerve fibres in which the cells lie immeshed. The important fact to remember is that the cell and its long and short processes are a unit and are inseparable. The fibre or fibres, wherever found and of whatever sort, are merely extensions or protrusions from the cell. The form of neurone which I have just described is relatively simple, and is illustrated well in the cells of the anterior cornua and their motor prolongations through the anterior roots.

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* *Twentieth Century Practice of Medicine*, vol. xi, p. 813.

Another variety of neurone, especially important in relation to the pathology of locomotor ataxia, and quite distinct from the form just described, both in development and structure, is admirably illustrated in the sensory apparatus, where it develops originally in the posterior spinal ganglia and the homologous ganglia of the sensory cranial nerves. This sensory neurone is flask-shaped. It possesses an axis cylinder which divides into two branches, one of which travels along the nerve to the periphery of the body, forming there a brushlike expansion in the skin; while the other passes inward through the posterior root to the cord, where it bifurcates, one portion going downward, the other passing upward in the posterior columns. From these up-and-down branches in the cord, collaterals spring off at right angles and terminate in arborizations in the gray matter of the posterior horn, either near their point of entrance or as far away even as the nuclei of the medulla oblongata. Note particularly that the body of this neurone lies midway between its extremities, and that these extremities both terminate in brushlike fibrils or arborizations, but never in a spinal-cord cell or brain axis. It is highly presumptive that the body of this neurone, lying as it does midway in its course, subserves some nutritional purpose for the neurone; and it furthermore proves that impulses traveling along these axis cylinders are not always centrifugal (Starr).

The sympathetic system of neurones combines both forms which I have just described, but I will not dwell upon them here, as they have no special relation to the pathology of locomotor ataxia.

Two things are absolutely essential to the normal working of a neurone—namely, normal structure and normal capacity for the maintenance of its own nutrition. Obviously, therefore, all developmental defects of a congenital or inherited origin, and all defects resulting from malnutrition, such as might be produced by overexhaustion, inadequate pabulum, blood toxines, etc., will cause faulty action on the part of the neurones. Wonderfully fascinating is Nissl's description of the internal structure of the neurone, but it is not sufficiently accepted by the scientific world to delay us at this time. The changes which it undergoes during exercise have been beautifully portrayed by Hodge. The cell body diminishes in size, its ability to absorb staining reagents is weakened, and there is manifested an imperfect capacity for self-nutrition and assimilation. Vacuolation occurs, probably from the using up of its own substance. The nucleus undergoes a change in size and assumes an irregular or jagged appearance instead of being round and smooth. Vas (Starr) demonstrated that gentle stimulation caused a swelling of the cell body and its nuclei, with a clearing of the central portion of the cell by a movement of the chromatin bodies toward its periphery. Mann further proved that the activity of the cell is accompanied by an increase in size from the imbibition of the lymph in its immediate vicinity. Thus we can study the physical and chemical alterations wrought in the substance of the nerve units by their own activity, and we observe that the restoration of their function is dependent upon the complete restoration of their histological structure. If this restoration be interfered with before the lapse of the necessary time for its completion, the function of the neurone will be correspondingly interfered with. As I have already indicated, the factors, aside from heredity, liable to mark such deleterious interference in the proper activity of the neurone are of three sorts: (*a*) exhaustion from overwork, (*b*) imperfect blood supply, and (*c*) direct poisoning from some blood toxine. All three factors exert their force chiefly in affecting, directly or indirectly, the neurone's capacity for self-nutrition.

It was long ago surmised from pathological and clinical data that locomotor ataxia was primarily a peripheral degeneration of the sensory apparatus. Bearing in mind, then, the histological structure of the sensory neurone, with its terminal arborizations in the skin and in the cord and its nutritive centre in the body of the posterior spinal ganglion, a ready explanation is afforded for many of the hitherto unaccountable pathological findings and symptomatic phenomena of the disease. We can now understand the absence of sclerosis in some of the cases, especially when the post-mortem has been made early in the disease; nor is it difficult to classify now the peripheral tabes of Déjerine, sometimes called pseudo-tabes. The presence of certain symptoms early in the trouble and at the extremities, as it were, of the neurone, such as the lightning pains, the ataxic gait, the lost knee-jerk, and the anæsthesias on the one hand, the myosis, the ptosis, the optic atrophy, the ophthalmoplegias, and even auditory and other cranial-nerve disturbances on the other hand, is not so surprising, and indicates a degeneration of the neurone terminals much as in an ordinary multiple neuritis. The nutritional origin of this degeneration offers a ready explanation of its occasionally stationary condition, as well as of its steady progression at other times. It also accounts for its "systematic" progress along the neuroaxones, with the succeeding sclerosis filling in the vacancies caused by the wasting of the parenchymatous elements.

Locomotor ataxia being thus a nutritional disease, produced largely by a blood toxine (syphilitic mostly, though not always), by an inherited weakness (Friedreich's form), and by overexhaustion and traumatism, what could be more logical than that the delicate structures of the terminal arborizations of the neurones should give way first? If the views of Golgi be correct, that the bodies of the posterior spinal ganglia lying midway in the course of the corresponding neurones are chiefly nutritional in function, an inkling of the newer pathology of locomotor ataxia seems already to have presented itself in the ganglionic theory upheld by Marie, Leyden, Redlich, Déjerine, and others. In the words of Marie this theory is summed up thus: "The changes found in the tabetic spinal cord are not the result of a primary systematic myelopathy; they are the expression of a progressive degeneration of the posterior root fibres; these medullary changes in tabes occur in segments, while each diseased posterior root furnishes a new contingent of degenerated fibres to the spinal cord." The primary source of the disease in the posterior ganglia has long been suspected. Obersteiner and Redlich have lately sought to account for it on the ground of a post-syphilitic cicatricial contraction of the pia mater surrounding the nerve as it emerges from the ganglion. Marie supposed that the origin of the disease was to be found in the spinal ganglion cells as well as those of the peripheral ganglia, the disease process being directly due to the syphilitic virus. Wollenberg, of Halle, and Ransom support Marie's views from their own post-mortem findings, while Blocq, of Paris, adds his confirmation in demonstrating the developmental character of the degeneration in the medial portions of the posterior roots, the portions which are the first to become diseased consisting of thicker fibres and developing very early (from the seventh to the eighth embryonic month). These isolated views, all tending to associate the origin of locomotor ataxia somehow with the posterior spinal ganglia, needed but the discovery of the anatomy and physiology of the sensory neurone to harmonize them and to give them validity.

Some recent observations of Sherrington and Batten, in regard to certain so-called "muscle spindles" in which terminate the distal arborizations of the sensory neurones, and in which seems to be localized the muscular sense, including the sense of weight and posture, are of great significance. In all of the voluntary muscles, except those of the eye, the diaphragm, and the intrinsic muscles of the tongue, these muscle spindles have been found. In locomotor ataxia Batten has shown degeneration of the nerve endings and the related parts of these intrafusal muscle fibres; while in poliomyelitis, on the other hand, the muscle spindle, its nerve endings, and the nerves generally are unaffected. These facts make it quite clear that these peripheral bodies are involved in the pathology of locomotor ataxia, and they confirm the long-standing suspicion that the disease is, or at least begins as, a peripheral trouble. The muscular sense being one of the latest acquisitions in the process of evolution, its organs would naturally be the first to succumb to such general influences as exhaustion, bad heredity, and toxæmia. The whole of Batten's paper, which may be found in *Brain* for 1897, is most suggestive.

To sum up briefly, then, the newer pathology of locomotor ataxia, we may say there is a lowered vitality of the nervous apparatus, inherited or acquired, and that the nutrition of the neurones is thereby made defective. The neurones whose function subserves the highly specialized and most recently acquired muscular sense are the first to exhibit the signs of malnutrition in the parts farthest removed from their affected nutritive centres in the posterior spinal ganglia, these distal parts being respectively the cutaneous and spinal-cord arborizations.

This conception of the pathology of locomotor ataxia, for which there seem to be strong proofs, not only simplifies the treatment, but also holds out a much more hopeful prognosis than was possible under the older views. Of course, one can not expect to restore health late in the disease, when the neurones are completely degenerated and their places occupied by the subsequent sclerosis. Early diagnosis is therefore of paramount importance.

Even in regard to the syphilitic (toxæmic) cases and their marvelous improvement under antisyphilitic medication, this latter-day pathology affords a more rational explanation. Admitting that locomotor ataxia is a mere sequel of lues, and not to be confounded with the ataxic symptoms that sometimes accompany spinal syphilis, the antisyphilitic medication must act in locomotor ataxia somehow differently from what it does in simple spinal syphilis. In all probability it neutralizes the toxine in the blood and checks its deleterious influence upon the nutrition of the neurones. On the other hand, if it is true, as many syphilographers believe, that the real effect of mercury and the iodides, when administered in syphilis, is to stimulate or maintain the nutritional function of the cells of the body, while the specific poison eradicates itself, the same peculiar stimulant and nutritional effect may be in force when they are employed in the treatment of postsyphilitic locomotor ataxia.

In the modern management of locomotor ataxia, therefore, all measures which conduce to a restoration of the normal metabolic function of the nerve cells or neurones are to be instituted. Rest is of prime importance. Absolute rest in the recumbent position should be taken several hours each day. All agents of the tonic class, such as cod-liver oil, oil inunctions, phosphorus, small doses of strychnine and iron, and arsenic, are to be employed. All agents, such as opium, tending to depress nutrition should be carefully avoided. With the prolonged periods of rest, there must be conjoined a systematic gentle exercise, active and passive; hence, massage, electricity, calisthenics, and all possible forms of gentle outdoor amusements are to be commended. The massage must be applied intelligently, with caution and delicacy; never except under the strict direction and observation of the physician. Of the electric currents, either are available. General faradization, with slight central galvanization, watching with the closest attention the effect produced, has been beneficial in my observation. Langdon, of Cincinnati, recommends highly the sinusoidal current, which has a "high potential," with rapid alternations (480 to 1,920 per second) and comparatively small "quantity" (ampèrage). This he administers by means of a foot plate and neck electrode.

As the nutrition is stimulated by these various measures, the reeducation of the nervous apparatus must be attended to. Here applies the Fränkel system of treating tabes. Time does not permit me to go into the details of this system, but, as is well known, it consists of all kinds of light exercise, gymnastics, and the doing of things that compel the patient to coordinate his movements. Walking along straight and curved lines chalked upon the floor, stepping over a series of equidistant low, upright slabs, kicking from their sockets a series of balls, mounting and dismounting a ladder, and many other easily arranged and ingenious devices have given some marvelously happy results when conscientiously and persistently tried.

Locomotor ataxia in the light of its newer pathology, and under rational methods of treatment applied in accordance with this newer conception of the disease, is far from being so hopeless an affection as it was once thought to be.

Reliance Building.

ON THE RELATIONSHIP OF THE NOSE TO DISEASES OF THE SKIN.*

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By virtue of a function it exercises of absorbing oxygen from the atmosphere and of exhaling in return therefor a certain amount of carbon dioxide—that is to say, a genuine respiratory function—the skin has earned the right to the title that is sometimes applied to it, of the "external organ of respiration."

Though the respiratory action is slight as compared to the analogous one performed by the lungs, and is unimportant as compared to the other functions of the skin—*e. g.*, protection, secretion of sweat and sebaceous matter, regulation of temperature, and so forth—it is mentioned in this place as indicating a kinship in physiology which may be, perhaps, of service in preparing our minds to entertain the possibility also of a pathological relationship.

Remote as this idea may seem upon first thought, and though it has received little or no attention in literature, it will upon examination be found to be sustained by a number of facts drawn from experimental and clinical sources.

In the first place, it is very striking to note in how many diseases both the skin externally and the mucous membrane of the air-passages internally are simultaneously affected.

Take, for example, the acute infectious fevers, and it will be observed that in all those distinguished by cutaneous eruptions, the exanthemata, there is invariably pronounced inflammation in some part of the respiratory organs. Thus in measles we have coryza, laryngitis, or bronchitis; in scarlatina, pharyngitis; in typhus and typhoid, bronchitis; and in small-pox, pustules will frequently appear in the pharynx and larynx.

Often the mucous-membrane manifestations in these fevers are the most prominent feature and occupy a high position in the diagnosis. Löri, for example, claims to be able in many instances to diagnosticate measles by the appearance upon the hard and soft palate of a characteristic papular eruption. A similar claim is made by others in regard to the hyperæmia of the tonsils and superficial necrotic areas seen in the mucous membrane in typhoid; while every one recognizes the diagnostic value of the angina or scarlatina which, occurring during an epidemic, may justify a diagnosis even in the absence of the cutaneous eruption.

The same sympathy in the pathology of the skin and respiratory tract is to be found also in a number of constitutional or diathetic diseases, such as leprosy, glanders, Addison's disease, and scurvy. A sore throat very often ushers in an attack of peliosis rheumatica (Schönlein's disease), and epistaxis is one of the most constant symptoms of purpura hæmorrhagica, or, in fact, of scurvy generally. Glanders seems to be marked by an equal tendency of both the skin and the nose to be affected. Certain cases where the manifestations have been confined to the nose have sometimes been mistaken for a simple chronic rhinitis and for a long time so treated.

There are, furthermore, certain cutaneous diseases proper, in which coexist concomitant manifestations in the mucous membrane of the nose and throat. It was on account of this fact that I once heard a distinguished rhinologist (Hajek, of Vienna) remark that unless one had devoted a certain amount of attention to dermatology he was not competent to intelligently diagnosticate the diseases of the nose and throat.

Herpes, pemphigus, lupus, rhinoscleroma, erysipelas, and lichen ruber planus are skin affections so often accompanied by lesions in the mucous membrane of the nose and throat that they have to be considered in textbooks on diseases affecting these parts.

It is not to be supposed, however, that the nasal and the cutaneous lesion, because of their occurrence at the same time in the same individual, are always to be traced to one and the same cause. In many cases certainly this is the only explanation possible. It may be supposed that a certain pathological sympathy exists between the skin and the nasal mucous membrane, whereby they are both prone to be attacked by the same pathological agents—that is to say, they constitute for certain diseases the places of predilection.

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* Read before the Clinical Society of the District of Columbia, June 13, 1898.

But there are other cases, and it is to these to which I especially address my remarks, which do not evidently fall in this category.

At a meeting of the American Laryngological Society, held in Washington in 1889, G. W. Major reported cases of erysipelas and erythema associated with nasal disease, which was generally located on the side corresponding with the eruption.

By treatment directed to the nose he was enabled to cause the disappearance of the eruptions. The connection between the nasal and cutaneous lesion in these cases, deduced not only from association but from a correspondence in location, can be almost certainly construed as one of cause and effect, by reason of the disappearance of the eruption upon the cure of the condition within the nose. *Naturam morborum ostendunt curationes.*

In the discussion which followed Major's essay, Roe, McKenzie, Delavan, and others admitted having had experiences of the same kind as Major, which bore out in general the statements made by him.

The following is a case of acne rosacea, seen by myself, in which the causative relation of the nasal disease is clearly established:

> The patient, a comic platform lecturer, had for four or five years been afflicted with a very red nose, which he thought he no more deserved than many other hard drinkers. At the time he consulted me there was a diffuse erythema covering the point of the nose and extending considerably on each side over the face. The hyperæmic area contained here and there papular elevations and was tender to the touch.
>
> The patient had observed that the redness became always more marked upon catching a cold, a circumstance calculated of itself to arouse a suspicion of a dependence upon the condition within the nasal fossa. In fact, upon rhinoscopic examination, I discovered on the anterior part of the sæptum a large cartilaginous spur extending across and making pressure on the inferior turbinated.
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> Removal by means of the saw was effected on July 24, 1897. In a few days there was an improvement in the appearance, and by the end of a couple of weeks the eruption, together with the accompanying tenderness, had completely disappeared.

I have also met frequently with eruptions resembling nettle rash or urticaria occurring at the time of the menopause, which were cured by treatment directed to the nose; and I have likewise, on the other hand, noted the appearance of an erythema on the face following cauterization of the nose, and due evidently to that cause.

In one case that I recall, the causative relation of the cauterization was placed beyond doubt by the recurrence of the eruption upon a repetition of the operation.

The dependence of certain cutaneous eruptions upon the nose being admitted, it remains only to determine the exact nature of the connection and the manner of its operation. Major states that the effects upon the skin were to be charged to nasal pressure. But remembering, on the one hand, that a great variety of manifestations in all parts of the body originated reflexly in the nose, and, on the other hand, that many dermatoses are known to be reflexly produced by way of the gastro-intestinal tract or the reproductive system, it seems not unreasonable to explain by reflex mechanism these cutaneous disturbances for which the nose can be held accountable.

In a recent article in the *Philadelphia Medical Journal* for August 20, 1898, I advocate the theory that the nasal reflex neuroses arise only in constitutions in which there is present a greater or less instability of the vasomotor sympathetic, and that the individual outbreaks are provoked by causes giving rise to vasomotor sympathetic irritation.

The increase of the eosinophilic cells in the blood (these cells, according to Neusser, being produced by irritation of the sympathetic), as seen in asthma and other nasal reflexes during the attack, was pointed to as bearing out this theory.

It happens that the skin is one of the organs in which the eosinophiles can be normally found, and it has been shown, according to the studies of Neusser, that in a number of skin eruptions there takes place an increase of these cells in the blood.

Eosinophilia has been noted by Neusser and his pupil in all of the following diseases—namely, urticaria, pellagra, eczema, pemphigus, dermatitis herpetiformis, lymphoderma perniciosa, herpes, prurigo, psoriasis, ichthyosis, myxœdema, lupus, and the exanthems of scarlatina and syphilis.

Besides the occurrence of eosinophilia, there are other reasons for believing in the nasal-reflex theory of some cutaneous manifestations. In the first place, it is noticed that reflex neuroses, especially asthma, are frequently associated with eruptions. McKenzie, of Baltimore, has remarked this. He was especially struck by the relation to one another of coryza, urticaria, and asthma. He has reported a case in which with each asthmatic paroxysm there took place in the fingers of one hand itching and a burning sensation of the skin with slight swelling.

There are a number of cutaneous affections which themselves bear the characteristics of nasal reflex neuroses, both in the general constitutional state with which they are associated and in the peculiarities of the individual cases. The periodically recurring nature of some of them, the decided hereditary influence, the fact that psychical and emotional states play a causative rôle, the well-established connection with disorders of the reproductive system, and the association with the arthritic diathesis and the uric-acid anomalies—since these are nasal reflex characteristics—point strongly to a nasal reflex origin. The cutaneous affections which exhibit these characteristics will be found to be mostly in a group known as angeioneuroses.

It was through the studies of Eulenberg and Landois that it came to be recognized that certain dermatoses were essentially nervous, being dependent upon disturbed conditions in innervation of the vascular supply to the integument.

Angeioneurotic manifestations in the skin, as remarked by Kaposi, may arise in one of three ways:

1. By stimulation originating in the cerebral cortex. 2. By the operation upon the vasomotor centres of a virus circulating in the blood. 3. By an irritation arising in the peripheral termination of the sensory nerves.

Under 2 he includes the various exanthems arising in the course of the specific fevers, measles, scarlatina, typhoid, and small-pox. We referred in the beginning to the general coincidence of lesions of the respiratory tract with these eruptions. As the respiratory tract as well as the skin is quickly influenced by way of the sympathetic, it may be that in this lies the explanation of their association.

Under 3 would come those angeioneurotic disturbances due to the operation of the reflex mechanism; in this way could be explained dermatoses dependent upon nasal disease. An irritation arising in the mucous membrane of the nose, generally the erectile tissue, is conveyed to the spinal cord and throws into action the unstable vasomotor centres, whence the stimulus may be projected to some part of the cutaneous system.

This is in strict accordance with the doctrine of the vasomotor sympathetic origin of reflex neuroses of which I have spoken. As dermatologists now agree in admitting the existence of skin affections of angeioneurotic origin, it will be seen that we have good ground for supposing that diseases of this nature are as likely to arise reflexly from the nose as, if not more likely than, from other organs.

Urticaria is recognized as a type of the angeioneuroses. Besides its association, as already remarked, with other affections well known to be nasal reflexes, its general character and peculiarities are such as are possessed by the nasal neuroses generally. It appears suddenly, has a tendency to recur, is influenced by conditions of the genital tract, occurring frequently at the time of the menses or at the climacterium, and seems to be precipitated at times by depressing mental circumstances. Many cases of this eruption which are set down as symptomatic or idiopathic might be found to be connected with a nasal lesion and yield to nasal treatment.

According to the views of Ebstein, Recklinghausen, Kaposi, and other eminent authorities, the so-called phlyctænoses are to be considered as of angeioneurotic origin.

One of these is herpes, whose association with the uric-acid diathesis and dependence upon psychic or emotional influences show it to have certain of the peculiarities of a nasal neurosis. Antony Roche (*Lancet*, October 18, 1894) cited some striking instances in which this eruption appeared as a result of anger, grief, disappointment, and afflicting accidents, confirming observations previously made by Batman and Schwartz. McKenzie remarks upon the association of herpes with nasal disease.

Pemphigus is another of the phlyctænoses probably of angeioneurotic origin. This seems to be sustained by anatomical changes found post mortem in the spinal cord and sympathetic (Jarish, Schwemmer, Ferraro). The right of pemphigus to be regarded as a possible neurosis might be based upon the demonstrated connection with diseases of the female genital apparatus. Cases appear regularly with each gravidity, and seem often to be associated with hysterical conditions.

Another affection now held to be due to angeioneurotic disturbances is erythema exudativa multiformis. This, like the others, is associated with diseases of the genito-urinary tract. Lewin has seen several cases develop from irritation of the urethra by erosion, and Kaposi describes a periodical erythema located particularly on the forehead and occurring in certain women with dysmenorrhœa or other disturbance of the sexual organs.

Some examples have been reported of erysipelas or erysipelatous eruption due evidently to nasal lesions. This disease possesses also some of the characteristics of those affections of nasal reflex origin. Chantemesse and Sainton (*Semaine médicale,* July 24, 1893) claim to have observed many instances of the recurrence of erysipelas produced by fits of anger and similar emotions, and R. Massalongo (*Riforma medica,* Naples, No. 229, October, 1894) describes under the name of periodical catamenial erysipelas those cases which show an inclination to recur with the menstrual epoch.

There are yet other cutaneous affections which could be mentioned as having, more or less, features of the true nasal neuroses intimately connected with uric-acid anomalies; but these must be left for future investigation. My purpose has been rather to indicate paths to be trodden and possibilities to be entertained than to exhaust the subject before me. There often occur upon the skin eruptions whose cause and manner of origin are obscure and difficult to determine. I am far from intending to say that in all such cases their explanation will be found in pathological conditions of the nose. But knowing that many do arise reflexly, and that the nose is such a prolific source of reflex manifestation, I recommend, in all those cases at least which exhibit such characteristics as have been mentioned and which resist other therapeutic measures, that a careful examination be made of the condition within the nasal fossa.

Of course, the simple discovery of a lesion here does not warrant the conclusion that upon this depends the coexisting disease of the skin. But if we only bear this in mind as a possibility, the removal of the disorder in the nose may have the double advantage both of relieving the patient of cutaneous and nasal disturbances and, in addition, of contributing to the extension of the general knowledge of medicine.

THE HEATED-BLOOD TREATMENT IN CONNECTION WITH CROUPOUS PNEUMONIA.

AN ADDITIONAL REPORT.

By CARL É. ELFSTROM, M. D.,

AND

AXEL V. GRAFSTROM, B. Sc., M. D.

We wish to report the two following cases supplementary to our article on the Heated-Blood Treatment of Croupous Pneumonia, which appeared in the *New York Medical Journal* for August 27th of this year:

Case I.—A man, Scandinavian, twenty-one years old. Unilateral croupous pneumonia, complicated by meningitis simplex.

May 23d.—Late in the evening I was called in consultation to see the patient, who was then in the seventh day of the sickness. Bronchial breathing was heard over the two lower lobes of the right lung, and subcrepitant râles over the upper part of its middle lobe. The morning temperature was 103° F., and the evening temperature 105° F. The pulse was 140, strong and full. The pupils were equal. The patient was delirious. Only a small quantity of blood could be withdrawn by means of a leech. After the addition of the usual amount of salt solution, the blood was heated to a temperature of 140° F. for two hours, and finally injected at 3 o'clock A. M. on May 24th.

I saw the patient again at noon the same day and found him still delirious; the pupils were evenly dilated; the abdomen somewhat retracted. The pulse was 150, but strong and full, and the temperature 104.5° F. The patient was picking at the bedclothes. Tubular respiration and mucous râles were now noticed. In the evening, the same day, the patient became comatose. At this time subcrepitant râles could again be heard over the affected portions of the lung. The patient died the same night.

According to my careful observations, these injections of heated blood have in all my cases of croupous pneumonia caused the same changes in the diseased parts of the lungs; there is no doubt in my mind that the meningitis observed in two of these cases would have been prevented by earlier injections. But if this complication has already set in, the injections will undoubtedly hasten the end on account of an increased hyperæmia and exudation. Carl É. Elfstrom.

Brooklyn.

Case II.—A girl, a Russian Jewess, eighteen years old, had croupous pneumonia in the lower lobe of the right lung. There were no complications. I saw the patient on the third day of the disease (May 5th). The evening temperature was 104.2° F.; the pulse, 135; the respiration, 40. The heated-blood treatment was suggested, and, after some persuasion, was acceded to. The injection was given eighty hours after the chill, and just before the injection crepitant râles were plainly heard over the lung. Ten hours after the injection the consolidation was complete. There was marked bronchophony. Twenty-two hours after the injection the appearance and condition of the patient had changed considerably. The temperature was down to 101.4° F., the pulse was 99, the respiration 22. Subcrepitant râles could be heard in great number over the right lung, and the breathing was broncho-vesicular in character. The patient made a rapid recovery. With the exception of whisky in small doses, no treatment other than the heated blood was employed.

Axel V. Grafstrom.

New York.

KOPLIK'S SPOTS AS AN AID IN THE DIAGNOSIS OF SKIN LESIONS.

By JACOB SOBEL, M. D.

NEW YORK.

The existence of Koplik's spots (1) as a pre-eruptive, pathognomonic diagnostic sign of measles has become so well recognized and accepted by the leading pædiatrists in this country, as well as by Heubner, Slawyk (3), Finkelstein (4), and others (6), that it seems almost a presumption on my part in attempting to add anything further to the subject. In view, however, of the immense importance of this sign from the standpoint of its great prophylactic and diagnostic value, I have ventured to record my experience with this phenomenon since the publication of Dr. Koplik's last article (2), and, *à propos* thereof, to report a case of more than passing interest, which I saw with Dr. A. D. Mayer at the dermatological department of the Good Samaritan Dispensary.

Max G., aged fifteen years, born in Russia, applied for treatment on August 19, 1898. His history showed that since the 15th of the month he had been feeling ill with headache, pains in the back, lack of appetite, a bitter taste in the mouth, and general weakness. To use his own words, "I can not stand on my feet; I can not walk up or down stairs." He did not complain of cough, sneezing, conjunctivitis, or of any other catarrhal symptoms. For the first time, on August 18th, his attention was called to an eruption on the face, and on the following morning his arms, chest, abdomen, and thighs were covered. The eruption was devoid of itching. Upon inspection the forearms presented a macular, brown-red eruption, which at the first glance suggested a syphilide. In fact, we were on the very verge of diagnosticating a macular syphilide, and the existence of a slight epitrochlear enlargement of the right side seemed to substantiate our supposition. The other glands were not involved, and the history was negative. Upon a further observation of the forearms, the possibility of a beginning pityriasis rosea or herpes tonsurans maculosus et squamosus (Hebra) occurred to us. The eruption upon the face was of the maculo-papular type, with an occasional blotch here and there. The entire facial appearance was strongly suggestive of a drug eruption. No history of any drug medication within a recent date could be obtained. The chest showed a few scattered macules and papules, which in themselves were not diagnostic of any particular condition.

It was only when examining the lower abdomen and the thighs that the possibility of measles occurred to us; for here the eruption was of the maculo-papular type, tending to a crescentic shape, and distinctly blotchy. It was then that we examined the buccal mucous membrane and found a corroboration of our diagnosis in the presence of Koplik's spots. The mucous membrane of the right cheek was covered with numerous bluish-white spots situated on a somewhat diffusely reddened background. The punctate character of the redness was lacking on account of the advanced stage of the eruption. The mucous membrane of the left cheek and lower lip also showed these spots, but in fewer numbers.

After a diagnosis of morbilli had been made, the case was shown to Dr. Koplik. The diagnosis of measles was confirmed and the eruption on the buccal mucous membrane pronounced typical. Thereupon the history of the case was entered into at greater length. The patient admitted that his brother was convalescent after an attack of measles, a fact which was subsequently corroborated by a visit to the house. The eruption on the thighs, which had first suggested measles, was said to have existed for a period of six weeks, but in all probability the outbreak which he had noticed was miliaria. The temperature in the rectum was 101° F.; the pulse, 96; the lungs showed signs of bronchitis, the heart was normal, the tongue coated, the pharynx and pillars of the fauces congested; the hard and soft palate presented a punctiform red rash similar to the measles eruption on the skin. The following day the temperature was 99° F., the pulse 78, and the buccal eruption was on the decline.

The patient in question stated that when a child he had had an attack of measles, a fact which is not altogether improbable. As Osler (5) says, in speaking of measles, "There is no infectious disease in which recurrence is more frequent. There may be a second, third, or even fourth attack." Nevertheless, recurrence in measles, as in the other infectious diseases, is the exception rather than the rule. Had this case occurred in a young child, the great probability is that our first thought would have been measles, even though the eruption was somewhat atypical.

During the past few months I have had ample opportunity to convince myself that these spots are pathognomonic of beginning measles. Since the first day of June no less than thirty-five cases of beginning measles in children have come under my observation, and never has the early diagnosis, which was based upon the existence of Koplik's spots, failed to find corroboration in the subsequent development of the disease.

As assistant to the departments of internal medicine and skin diseases at the Good Samaritan Dispensary I have had many opportunities to examine the mouth and throat in various affections, and have become fully convinced that these spots appear in no other disease.

With the exception of the case in question, I have never seen this phenomenon in any of the thousand adult mouths and throats which were also examined within the past two months.

During the months of April, May, and June I took especial pains to examine the buccal mucous membrane of children affected with various skin eruptions, varicella, urticaria, scarlatina, vaccinia, purpura simplex and hæmorrhagica, congenital syphilis, erythema multiforme, scabies, miliaria, eczema, rötheln, impetigo simplex and contagiosa, drug eruptions (bromides, antipyrine), and in no case were similar spots observed.

The diagnosis of measles naturally divides itself into two stages:

I. The pre-eruptive.

II. The eruptive.

I. Before the appearance of the cutaneous lesions the symptoms are too indefinite to admit of a positive diagnosis; the slight pyrexia, cough, and general indisposition may occur in numerous other affections—*grippe*, rötheln, erythema multiforme, and tonsillitis—as has been pointed out by Koplik. Koplik's "infinitesimally minute bluish-white spots on a reddish punctate area" appear *only in measles.*

With a history of slight malaise, even without pyrexia and catarrhal symptoms, the existence of these spots on the buccal mucous membrane stamps the disease as morbilli. These spots are absolutely characteristic and pathognomonic of measles; and, just as malaria can be diagnosticated upon finding the plasmodium in the blood—let the history and symptoms be what they may—so can we diagnosticate measles by the presence of Koplik's spots.

II. The eruption having made its appearance, the question now arises whether or not it is measles. And here let me state that the eruption of measles is not always as typical as one is apt to believe from the description given in most of the text-books. The case cited is an example in point. The diseases to be distinguished have been so clearly brought out in Koplik's article that it is unnecessary here to enter into any detail. The fact that Koplik's spots were lacking in all the skin lesions which were previously enumerated is very significant and of enormous worth in diagnostication. In all cases in which the question of measles or "measles-like rash" has arisen, the presence or absence of the buccal eruption has been the crucial test, and subsequent developments have proved the correctness of the diagnosis.

There is one skin lesion, however, to which sufficient attention has not been called, and which, strange as it may appear, will often test one's diagnostic skill. I refer to miliaria, of which most children receive their share during the summer months. In typical cases where the eruption is limited to the covered parts (chest, back, thighs), and each papule or minute vesicle is distinct, no difficulty will be experienced. In some instances, however, the face is covered with innumerable papules, which are closely aggregated in patches, the eyelids are swollen, the child shuns the light, and there are symptoms of coryza. There may even be a slight rise of temperature (99.5°). Time and again I have seen excellent diagnosticians waver in their diagnosis between measles and prickly heat. Inspection of the mouth eliminates all doubt, for the absence of Koplik's spots at once precludes measles.

In a few cases I have seen an eruption on the buccal mucous membrane which some of my colleagues have mistaken for Koplik's spots. These anomalous epithelial pearls are easily distinguished by their larger size, more irregular form, their brownish-white appearance, their greater elevation, and their situation upon the normal pale-pink mucous membrane.

If one will bear in mind that the spots pathognomonic of measles are very small, round, bluish-white, of more or less uniform size and shape, with either a definite area of congestion or a diffuse red background; if he will remember that they never ulcerate, that they occur on the mucous membrane of the cheeks, lips, rarely (in one instance (3)) on the tongue, and not upon the gums, pharynx, hard or soft palate, he will seldom, if ever, experience any difficulty in distinguishing them from thrush, aphthous stomatitis, and their allied affections.

So firm a believer have I become in regard to the importance of these spots that they are now my sheet-anchor in diagnosticating measles. In truth, were I forced to choose one sign as diagnostic of beginning measles, or as a criterion in distinguishing this disease from other skin lesions, I should unhesitatingly select Koplik's spots.

I well recall three cases of drug eruption in adults which presented a typical measles rash. Koplik's spots were absent, and closer questioning elicited the information that the patients had suffered from gonorrhœa and had procured "some medicine" from a druggist. The "medicine" corresponded in description to Lafayette's mixture and the diagnosis of copaiba eruption was accordingly made.

While Koplik's spots may occur in varying amounts upon any part of the buccal mucous membrane, still, I have been able to corroborate Slawyk's observation that they occur most frequently opposite the region of the lower molars. The number of spots does not influence the prognosis *pro* or *con*, nor does it seem to bear any relation to the severity of the attack.

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1828 MADISON AVENUE.

OBSTRUCTION OF THE NOSE AND ITS INFLUENCE UPON THE HUMAN ORGANISM.*

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ALTHOUGH obstruction of the nose can not in itself be called a disease, but only a symptom of one, yet its sequelæ are so important to the general health of the human organism that I believe I may be excused for devoting this paper to the above subject before this assembly this evening.

As we all know, the nose forms one of the most prominent features of the face, to which it gives both expression and character. Its physiological functions are threefold: it gives a distinguishing character and resonance to the voice; it is the seat of the sense of smell; and, lastly, it forms the upper part of the respiratory tract.

By the closure of the resonance chambers an obstructed nose affects the first of these functions by giving the voice a peculiar nasal twang. It affects the second function by interfering with the entrance of odoriferous particles to the mucous membrane of the olfactory tract, thus often causing parosmia or anosmia. The respiratory function of the nose, which is the last and most important of the three, is prevented in nasal obstruction by the inability in consequence thereof to moisten, to warm, and to purify the inhaled air.

For the accomplishment of these several functions the nose possesses a very delicate apparatus, consisting of the nasal cilia, the turbinated bodies, the accessory sinuses, and a peculiarly constructed mucous membrane. This mucous membrane, which lines the nasal fossæ, consists of two divisions, that of the respiratory and that of the olfactory region. That of the respiratory region is distinguished from that of the olfactory area by its thickness over the inferior turbinals, over the lower part of the lateral wall and nasal sæptum, and by the presence of venous networks of such size that the structure appears like cavernous tissue similar to that of the corpus cavernosum penis. The mucous membrane is further endowed with numerous small glands which open on the free surface by funnel-like pits. By means of these glands the air becomes moistened; by contact of the inhaled air with the rich ramification of blood-vessels, it becomes warmed; the purification of the ingoing air is brought about by the faculty of the erectile tissue of the turbinals to swell up at the least irritation, and in this manner to obstruct the lumen of the nose, and thus, together with the nasal cilia, it prevents the entrance of any deleterious particles into the lower respiratory tract. Thus we can see that the lower respiratory tract possesses in this arrangement a safeguard, such as the eye possesses in its eyelids, or the larynx in its epiglottis. The extreme delicacy of this apparatus is well illustrated in the following case:

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* Read before the Eastern Medical Society of the City of New York, April, 1898.

Miss B., twenty-four years old, of a very nervous disposition, called at my office in October, 1897, complaining that her nose became occasionally obstructed, and that she frequently suffered from what she called a catarrh in her head, together with asthmatic attacks. The patient appeared extremely nervous for fear of an operation. On examining the nose I found both nostrils obstructed by the turgescent turbinated bodies. After I had quieted the patient by telling her that she could be cured without an operation, and having talked with her for a short time, she calmed down. Upon again examining her nostrils I found that the swollen turbinals had considerably diminished in size, and the patient could now breathe freely through her nose. This shows that excitement alone can bring on swelling of the turbinated bodies with all its sequelæ.

The delicacy of this apparatus may again be demonstrated by the fact that gravitation itself may cause the filling up of the turbinals with blood and thus obstruct the lumen of the nose, as is seen in the fact that a person sleeping on one side is at times unable to breathe through the nostril of the same side. As a consequence of frequent inflammation and swelling of the turbinals they may become chronically swollen and lose their power of contraction to the normal size; they then form a permanent obstruction to the free passage of the inhaled air.

These chronically hypertrophied turbinated bodies, although the most frequent, are but one of the numerous causes of the obstruction of nasal breathing. Others are: Ecchondroma and exostosis of the sæptum, deformities and deflection of the sæptum in its cartilaginous or osseous part, weakness of the dilator muscles of the nostril, foreign bodies, new growths, as polypi and fibrous tumors, rhinoliths, adenoid vegetations, enlarged faucial tonsils, syphilitic adhesions of the soft palate with the posterior pharyngeal wall, etc. When through any of the before-named causes nasal breathing is prevented and the patient is forced to resort to mouth breathing, serious consequences may follow. The most frequent consequence is the affection of the lower respiratory tract —*i. e.*, chronic pharyngitis, laryngitis, bronchitis, or asthma. When we recall the previously mentioned physiological functions of the nose in regard to respiration, we easily understand how such an affection of the lower respiratory tract is brought about by resorting to mouth breathing. In this case the ingoing air, unmoistened, unwarmed, and unpurified, enters directly the lower respiratory tract, especially the bronchi, and comes in contact with the sensitive mucous membrane thereof. This often leads to a chronic affection of the lungs which can not be cured until the primary cause—that is, the nasal obstruction—is removed. As an illustration, I will mention only one typical case:

G. M., a twelve-year-old boy, of a very delicate constitution, was sent to my office by a colleague on account of pain in his ear. On examination I found the drum membrane red and swollen—the frequently seen picture of acute catarrhal otitis media. On my inquiring if the boy had always been so delicate, the father answered that his son had twice been laid up with pneumonia, and that he was afflicted with bronchial troubles at the least change of temperature. His family physician had tried all kinds of tonics, such as iron, cod-liver oil, etc., but without any apparent effect. On examination of the patient I found hypertrophied pharyngeal and faucial tonsils. When I advised the removal of these tonsils, he told me that his physician had also noticed them, but had asserted that the boy would outgrow them. I insisted upon their removal, which was done. Now, three years after the operation, the patient is entirely changed. He is robust, has red cheeks, and his inclination for catching cold has entirely disappeared. The father is very grateful, because he feared his son would become tuberculous.

The respiratory tract is not the only organ which suffers from impaired nasal breathing. The mouth is properly the upper part of the alimentary canal, but when there is obstruction of the nose it has also to serve as the upper part of the respiratory tract, and it can not perform both functions simultaneously to perfect satisfaction. The following picture, which is of a type quite familiar to the general practitioner, may serve as an illustration of this statement: The mother of a six-months-old child observes that her baby at each nursing cryingly drops the nipples after a few suctions. This is repeated whenever the child attempts to use the mouth for anything but breathing. A careful examination of such children in most cases shows that these manifestations are caused by an obstructed nose, which obstruction is generally due to adenoid vegetations. The nose being obstructed, and the mouth being unable to perform more than one function at a time, either breathing or feeding, the child is placed in a dilemma: it must either suffocate or starve. In such cases it is evident that the only cure lies in the restoration of nasal breathing.

The symptoms of impeded nasal breathing in an older child often manifest themselves in such ailments as gastritis or gastro-enteritis. It also has to use its mouth simultaneously for a twofold function, and therefore it has to hurry over eating and is compelled to swallow large pieces of insufficiently masticated food. The result of this is gastritis. Such a child is often treated for a long time for its gastric troubles with different acids, pepsin, bismuth, bitter tonics, etc., without any satisfactory result, until the *causa morbi*, the impeded nasal breathing, is removed by restoration of its normal function. We all know that mouth breathers do not enjoy their sleep, but wake up in the morning tired, unrefreshed, and apathetic. During sleep the tongue often falls back, impeding the entrance of the ingoing air through the mouth, and, as the nose is also obstructed, the sleeper suffers from a suffocating sensation, so-called nightmare.

That affections of the ear, such as acute or chronic catarrhal otitis media, impairment of hearing, tinnitus aurium, etc., may be due to an obstructed nose, is recognized in the works of all our standard authors. Some writers affirm that the ear affections are due to the direct extension of inflammation from the contiguous tissue; others, that they are due to imperfect aeration of the middle ear, which is caused by an obstruction in the upper respiratory tract. According to Swinburne, in ninety-five per cent. of all cases where deafness resulted from disease of the middle ear, the primary lesion was found to be in the nose or nasopharynx. Lennox Browne, in his work on *Throat and Nose Diseases,* gives us the following figures: Out of 4,936 persons afflicted with nose and throat affections, ear complications occurred in 1,890. Dr. Buck, in his treatise on the ear, states that permanent relief in diseases of the middle ear can scarcely be attained for any length of time so long as nasal obstruction is allowed to remain.

Nasal reflexes, which are extensively treated and very frequently exaggerated by various authors, are some of the indirect consequences following on an obstructed nose. One of the first authors to call attention to the nasal reflex was Voltolini, who cured spasmodic asthma by the removal of nasal polypi. Richet cured a case of convulsive tic douloureux by removal of a nasal spur. Hack reports a cure of exophthalmic goître by treatment of hypertrophic rhinitis. Elsberg has seen a case of chorea due to the same cause. Richardson cured a lady thirty-four years old, suffering from epilepsy, by removing a post-nasal fibroma. Bosworth reports three cases of epilepsy due to obstructive nasal lesion, the removal of which was followed by a marked improvement in the beginning, although the disease subsequently returned. Gruening, Hack, and others report cases of ocular disturbances, such as conjunctivitis, photophobia, and asthenopia, due to intranasal diseases, which were relieved by treating the pathological condition of the nasal membrane. Von Stein claims that cardiac neuroses are often due to hypertrophy of the inferior turbinals, and that the neuroses disappear after turbinal cauterization. North goes so far as to state that he has yet to see a case of neurasthenia in which there is not some nasal trouble. Mackenzie claims to have discovered certain sensitive areas in the nose, mainly in the mucous membrane of the lower turbinated bodies, which are peculiarly connected with the evolution of the reflex act, and that where a complete atrophy of the turbinated structures existed, as, for example, in ozæna, reflex action was not present, nor could it be induced by artificial stimulation. Baratoux and Hering place the reflex area in the posterior part of the sæptum. According to Schech, the evolution of nasal reflexes must always be preceded by an increased sensibility of the nervous system, and they can always be traced to mechanical causes. I shall go no further in my enumeration of the nasal reflexes consequent upon an obstructed nose, for fear that you may exclaim, as did once a certain physician: "I come now to the conclusion that every ailment of the human body, with the exception, perhaps, of housemaid's knee, is due to an obstructed nose." However, as the authors I have mentioned are well known to you, and as there is no reason for doubting the correctness of their observations on this particular point, I believe that such a view of the subject is entirely unjust.

The study of the radiations of the brain nerves, upon which the medical student spends so much of his time, is, from a theoretical standpoint, undoubtedly, extremely interesting; viewed practically, however, it seems to me that he might with greater benefit to himself, as well as to his future patients, devote a larger part of his time and labor to the study of the anatomy and pathology of the nose. He may meet with a softening or tumor of the brain where he may utilize his thorough knowledge of that organ but once or twice perhaps in the entire course of his practice, while, on the other hand, the affections of the nose present themselves to him almost daily, if his attention is only properly drawn to them.

Although I hardly present to you in this paper many new facts or original observations, yet its purpose will be completely fulfilled if your attention is hereby drawn to a class of frequent affections whose consequences are so very important to the general health of the human organism.

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SHALL PATIENTS BE INFORMED THAT THEY HAVE CANCER OR SYPHILIS?

By C. C. MAPES,
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The question almost daily arises in the practice of physicians and surgeons, Shall patients, suffering from either syphilis or cancer, be informed of the diagnosis, prognosis, curability, and probable ultimate result?

In regard to cancer, the consensus of opinion is that patients be kept in ignorance of the nature and probable outcome of the disease as long as possible, in this way obviating the severe mental depression which invariably accompanies such knowledge; but it is recommended that the nearest friends or relatives should be fully advised and adequately instructed in the care and management of the case. Inasmuch as cancer has not been proved contagious, infectious, inoculable, or transmissible * by contact, and no danger, therefore, exists from association of the sufferer with his family or friends, this view is probably the most rational and correct one.

The converse, however, is true as regards syphilis. Every one with whom the syphilitic associates is in danger of being infected, and not to so inform a patient suffering with active syphilis is to aid in its dissemination. Syphilis may be innocently contracted in divers and sundry ways. The old theory that it is essentially and distinctly a venereal disease, only transmissible through unclean sexual congress, has long since been overthrown. It is not, *per se,* a venereal affection, although probably more often than otherwise communicated by sexual congress. It is well recognized that syphilitic poison coming in contact with an abraded surface anywhere upon the body will propagate the disease. This is demonstrated by reports of extragenital chancres, and requires no further comment—its truthfulness has been established beyond a doubt.

Outside of sexual contact, kissing is probably the most prolific source of syphilitic contagion, and to allow the possessor of active syphilis to continue practising osculatory demonstrations in his family or elsewhere, in ignorance of the almost inevitable consequences, as is the present prevailing custom, is simply to aid in the wholesale dissemination of the disease; it constitutes a crime which should be immediately abolished.

Instances can be recalled where husbands have become infected with syphilis, in turn promptly infecting their wives and children, the latter being innocent victims, in which instances the disease might have been confined to the husband by a proper understanding of its nature and of the dangers incident thereto. Conjugal and domestic difficulties, as a matter of course, might arise from explanations where the husband had already infected his connubial partner, but these would be infinitely preferable to the infection of innocent persons with such a disastrous and persistent disease as syphilis.

It is true that *patres familiæ should not frequent brothels,* or otherwise subject themselves to the liability of syphilitic infection, but the fact remains that some do so, and will probably continue to do so as long as prostitution exists, which promises to be so long as human nature remains radically unchanged.

In the opinion of the writer, when a male, married or single, is unfortunate enough to contract syphilis, innocently or otherwise, he should be immediately informed of the inevitable consequences of personal contact of all kinds with others; and the same is equally true of the opposite sex.

It has been argued that when the husband has infected his wife with syphilis and the latter applies to the physician for treatment in ignorance of the nature of her affliction, she should not be enlightened, in the interests of the patient herself, her family, and the physician, lest the divulging of the husband's secret should disrupt connubial and domestic relations. "Angels and ministers of grace defend us!" Would it not be a thousand times better to disturb domestic relations rather than to permit the syphilitic infection of innocent children, relatives, and friends by the damnable, disgusting custom of indiscriminate, promiscuous osculation? Do not reason and common sense dictate that it would be better to confine syphilitic infection, if possible, within the narrowest limits, even at the expense of conjugal disquietude, rather than to stand idly by and witness wholesale dissemination of the disease, when by judicious explanation its spread might be prevented?

I believe that attendant to be guilty of culpable remissness and negligence of duty who fails to inform every patient suffering from active, transmissible syphilis of the dangers incident to immediate personal contact with others. Syphilitics should even be isolated, when necessary, for the protection of the public, so that the disease may be confined within the narrowest possible limits. That such a course is not followed we have almost daily evidence. As an illustration, a wet nurse contracts syphilis and, remaining in ignorance of the true nature of the affection, continues her vocation during the active or contagious stage, probably infecting every infant which she nurses, to say nothing of the probability of her spreading the infection in other directions. The babies to whom the disease is thus communicated may in turn infect their fathers, mothers, brothers, sisters, as well as a host of admiring relatives and friends, whose custom it is to "kiss the baby."

Under existing circumstances it is impossible to even approximate the number of cases of syphilis emanating from a given source. In some instances the number is undoubtedly great, which, by proper attention to the person originally infected, might have been markedly lessened.

Especially should persons having extragenital chancres, situated on the lips, tongue, in the buccal cavity, on the mammæ, etc., be warned against the danger of communicating the disease to those with whom they associate. This also applies with equal force to those having chancres of the genital organs, and, in addition, patients should abstain from sexual or other personal contact so long as the disease might thereby be transmitted.

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* The writer is aware that experimentations and investigations have recently been in progress concerning the contagiousness, the infectiousness, inoculability, or transmissibility, other than by heredity, of the carcinomata, sarcomata, etc., but thus far the matter is decidedly *sub judice.* If ultimately the nature of these diseases is demonstrated to be what some observers suspect, a revision, a practical rewriting of the entire literature or nomenclature of the so-called "cancerous diseases" will be necessary.

We know of several instances where syphilis and its equally persistent partner, gonorrhœa, have been transmitted to very young female children by older males, who suffered with one of these diseases, "playing" with the genitals. Such a male is guilty of a criminal act, the penalty for which should be exceedingly grave, and the law should be relentlessly cruel. To knowingly submit an innocent child to infection with so formidable a malady as gonorrhœa or syphilis is a heinous, beastly, damnable transgression of human laws, and punishment therefor should be as severe as possible.

The assumption is reasonable that if a better understanding existed as to the danger incident to syphilis and gonorrhœa, innocent persons would be less frequently exposed thereto in the wanton fashion which is at present prevalent, and to which attention has previously been called.

It is stated that the physician must not betray the confidence of his patient, that he must protect the patient's interests, and I do not wish to be understood as advocating anything contrary to the established ethical code which assumes to govern and regulate the practices of medical men and their attitude toward patients; but we would suggest that the same legislative and other regulations should be applied to syphilis and gonorrhœa as to other infectious and contagious diseases, and that the subject thereof in all cases should be made thoroughly acquainted with the dangers incident thereto.

If that sexual purity which should exist in both sexes, whether in or out of wedlock,* existed generally, there would be little likelihood of infection with either gonorrhœa or syphilis from sexual contact; but the fact remains that sexual purity does not exist in a large percentage of cases, which makes the necessity more apparent that persons suffering from either disease should be thoroughly informed of its nature; and we insist that such explanation should be made by the medical attendant, whose aim should be to secure protection to the greatest number, let the immediate results be what they may. The public would thus be largely conserved from the ravages of two diseases, terrible in their most favorable aspects; and, while domestic quietude and tranquillity might suffer temporary upheaval, the ultimate result would be:

1. An improvement in public morals.
2. A limitation of two contagious and loathsome diseases.
3. A diminution of prostitution in both sexes.
4. A production of healthier offspring.
5. A consequent preservation and exaltation of the moral integrity and physical attributes of the human race.

Therapeutical Notes.

Treatment of Acute Colic.—The *North American Practitioner* for September recommends the following for acute colic due to indiscretions in diet:

℞ Chloroform	1½	drachm;
Deodorated tincture of opium	1	"
Camphor	4	grains;
Oil of cajuput	1	drachm;
Water	2	ounces.

M. One teaspoonful to be taken every hour or two.

The Treatment of Fissure of the Anus.—Cheron (*Praktische Dermatologie*, No. 7; *American Journal of Dermatology*, July) proceeds as follows: The anal fissure is first made insensible by laying upon it, during five minutes, a bit of cotton soaked in a five- or ten-per-cent. solution of cocaine. As soon as the fissure is anæsthetized one or two drops of pure ichthyol are allowed to run into it This treatment is repeated daily during four or five days, by which time improvement will have progressed so far that dilatation of the anus is easily accomplished, and the fissure may now be treated throughout its whole extent. As a rule, complete healing follows about ten applications.

Treatment of Suppuration of the Ear by Picric Acid.—Lanoix (*Revue médicale*, September 14th) states that picric acid, being not only analgesic and antiseptic, but also keratoplastic, he was led to employ it in suppuration of the ear, when it is sought especially to cauterize the secreting membrane of the tympanum. He has attained unhoped-for benefits from its use. He uses the following solution:

℞ Picric acid	3	grains;
Alcohol of 90°	45	minims;
Distilled water	300	"

M.

The solution is left for some minutes in contact with the ear. The treatment induces desquamation of the tympanum and of the meatus, which calls for frequent cleansings. This action of picric acid contraindicates its use in cholesteatoma.

The Treatment of Inoperable Uterine Cancer.—Bernhart (*Centralblatt für Gynäkologie; Progrès médical*, September 17th) recommends the injection once in four days of thirty minims of the following solution:

℞ Salicylic acid	6	parts;
Alcohol at 90°	1,000	"

M.

There is at first some exacerbation, then disappearance of the pains and retraction of the tumor.

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* Lincoln is accredited with the statement that every man who contemplated marriage should stand over a doctor with a club and make him tell the truth in reference to the chosen partner for life, if there were no other way of getting it out of him. He declared that the parents who would allow a girl to marry a man without knowing, as nearly as could be known, his physical as well as his moral condition deserved to be scalped; for fashionable girls too often were cursed with foolish mothers, who cared for nothing but to see their flesh and blood sold to the highest bidder.

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A LADY PHYSICIAN'S VIEWS ON BICYCLING FOR WOMEN.

Much has been written on the subject of the effects of bicycling on the health, especially in women. A fair proportion of it is good, but for the most part the statements made have been too general, enabling us to conclude only that the exercise is good for most women and injurious to only a few. At a meeting of the Sacramento Society for Medical Improvement held so long ago as last January, the proceedings of which are to be found in the April number of the *Occidental Medical Times*, Dr. Josephine Calahan read a notable paper on the subject. We think Dr. Calahan falls in too readily with the popular notions that the women of the present day, especially American women, are less healthy than those of former times and that dyspepsia is a distinctively American ailment, but that error, if it is one, does not detract from the value of what she has to say about bicycling.

One of the chief advantages of bicycle exercise for women, according to Dr. Calahan, is the necessity of their having the dress loose, so as to admit of perfect freedom of movement for all the muscles of the body. By its use, she says, women have learned how much healthier and more desirable it is to be comfortable, and she thinks the bicycle has been the means of doing away with tight lacing and heavy skirts to a greater extent than all the arguments of physicians and of dress-reformers that the world has ever seen. "If," she says, "the wheel never accomplished anything further than this—and the end is not yet—it would be entitled to the thanks of a grateful community."

Dr. Calahan thinks that bicycling is the best of all stimulants for a sluggish liver and an inactive skin, and an ideal remedy for a capricious or indifferent appetite. It also stimulates both the secretory and the muscular functions of the stomach and intestines, "assisting Nature in this respect more naturally and materially than any remedy yet known to our materia medica. By it the stout are made slighter and the thin plump," and when it is used judiciously, "improvement in every fibre and in every organ is sure to follow." She considers bicycling one of the very best remedies for insomnia, but adds that for obvious reasons it would not be practicable in all cases. Generally speaking, in nervous derangements not dependent on any real lesion, but rather on undue mental strain or on the opposite error of an inactive, aimless life, systematic exercise with the bicycle will be found to meet the conditions admirably. It is not contraindicated by all pathological conditions of the abdominal organs, says Dr. Calahan, and we presume she means to include the pelvic contents, but she thinks it safe to say that in all conditions which are inflammatory in character or apt to become so an exercise so active as bicycling is dangerous and should be avoided.

Much depends, says Dr. Calahan, on the style in which the bicycle is ridden, and women should be well taught. The lessons should not be more than half an hour long at first, and more attention should be paid to suitability of costume. The dress should be loose about the waist, with the skirt much shorter than that of an ordinary gown, and the shoes should be high, to give support to the ankles, and with low heels. "Bloomers without a skirt are ungraceful and unnecessary," says Dr. Calahan; "they have no excuse for existence, and are only mentioned here to be condemned." This seems to us a matter of taste, but we quite agree with Dr. Calahan from that standpoint.

A most important feature of Dr. Calahan's paper, we think, is that which treats of the rider's attitude on the bicycle. A good general rule, she thinks, is to have the machine so adjusted that the weight of the body will be evenly divided between the saddle, the handle-bars, and the pedals. The saddle should be high enough and far enough back to cause the body to incline slightly forward; the bars should be sufficiently low and so placed that with the hands grasping them the wrists will be extended and the elbows slightly flexed; and the pedal should be so adjusted that when it is nearest to the ground the ankle will be somewhat straightened and the knee slightly bent. By this arrangement the weight is more evenly distributed, better command of the bars and pedals is obtained, and direct jars to the spine and viscera are obviated. Exaggerated leaning forward is dangerous.

THE COTTON-SEED OIL INDUSTRY.

The facts that cotton-seed oil has largely supplanted olive oil as an article of table consumption and that its use for certain pharmaceutical purposes is directed by the pharmacopœia make the industry of its production interesting to the profession of medicine and to that of pharmacy. In the October number of the *Ameri-*

can Journal of Pharmacy there is published a paper on the subject, by Mr. Joseph Jacobs, read at the recent meeting of the American Pharmaceutical Association, held in Baltimore. Incidentally Mr. Jacobs brings forward several facts concerning the cotton plant that in all probability are not widely known. One of them relates to the antiquity of its employment. Many of the ancient nations, he says, were skilled in the weaving of fabrics from this "fleece of the fields," and there are authoritative statements that long before the Christian era the older peoples of the East could weave it into filmy fabrics of far more delicate texture than that of the finest of the present day. It is said, too, that they knew the value of the oil and of the meal. The Chinese are related to have expressed the oil from the seed at least five hundred years before the birth of Christ, but they are not known to have used it as food. Cattle were fed with the crushed seed.

As regards the production of cotton-seed oil, Mr. Jacobs confines the statistical part of his paper mainly to his own State, Georgia, but the industry, he says, is by no means confined to the South or to our own country. In England there are now about twenty-five mills, consuming principally black seed of the sea-island plant brought in ships from Egypt, and in Holland the industry is perhaps quite as large. In both those countries the oil has been made for many years. The oil made in our Southern States, however, is superior to all others, and this is partly due, Mr. Jacobs thinks, to the fact that the seeds can be secured fresh from the fields, near the mills, whereas in England and Holland some months are often required for their transportation in sailing vessels. Moreover, the British and Dutch oils are not so clear as ours, because the seed used is difficult to pick and is not decorticated. Our cotton seed, he says, admits of more satisfactory treatment in every way.

The production of cotton-seed oil in the United States began early in the present century. Perhaps the first mill devoted to it was one situated near Columbia, South Carolina, mention of which is found to have been made so far back as in the year 1826. In the course of the next thirty-five years the industry developed enormously, so that before the civil war one of the mills in New Orleans was producing daily five hundred gallons of oil and five tons of oil cake. This yield, according to the *Southern Farmer and Planter*, required the use of about fifteen tons of cotton seed. Since the war the cotton-seed oil industry of the South has grown immensely. In 1867 there were only four mills devoted to it; now there are more than three hundred. In 1896 about thirty thousand barrels were exported, and the present annual product amounts to about twenty-eight million gallons, worth about thirty cents a gallon. It goes to nearly every European port, to South American countries, to the West Indies, to the Canary Islands, to Japan, to Australia, to India, and to Africa.

The use of cotton-seed oil as a table oil seems to have been first suggested by Professor Charles T. Jackson, who, in the course of a chemical analysis of the seed, found that it had "a sweet and agreeable flavor." It is now largely used as a table oil, either under its own name or as so-called olive oil. It is certainly superior to any olive oil that is not of the first quality, and is worthy of even more extensive use. Much of it, however, is employed for cooking purposes and in the preparation of "refined lard." It has been prescribed as a substitute for cod-liver oil. It is useful as an illuminant, as a lubricant, and as an ingredient of various kinds of soap. It has been stated that more than three quarters of the immense number of sardines exported from France and other European countries are now treated with cotton-seed oil instead of olive oil. It will be seen from all this that most of us are consuming cotton-seed oil almost daily, and it is satisfactory to reflect that it is undoubtedly a wholesome article of food.

MINOR PARAGRAPHS.

CRYMOTHERAPY; "CARBONIC SNOW" AS AN APPETIZER.

At a recent French society meeting (*Gazette hebdomadaire de médecine et de chirurgie*, September 1st) M. Ribard made some remarks on what he called crymotherapy, meaning the therapeutical use of great cold. Acting on the notion that people eat more in winter than in summer and that a sojourn in a cold country excites the appetite, and not being able to subject tuberculous patients as entire organisms to the influence of cold, he had conceived the idea of its topical application, and this is how he had carried it out: A good-sized bag was filled with "carbonic snow," at a temperature of 176° below the Fahrenheit zero, and applied to the pit of the stomach. It was surrounded with cotton, to prevent damage to the skin; nevertheless, M. Ribard thinks, the cold must have penetrated to the stomach and liver, causing violent reaction on the part of the sympathetic nervous system manifested by a feeling of hunger. The applications were made daily and each one lasted about half an hour. In from three to five days consumptives who had had no appetite felt hunger, ate, and were conscious of a sense of well-being. Unfortunately, the bagful of "carbonic snow" costs eighty cents, and it can not be kept for more than a day.

TUBERCULIN R. IN HIP-JOINT DISEASE.

The *Annales de chirurgie et d'orthopédie* for August records a case of right coxalgia accompanied by fistula. The disease was aggravated after an attack of measles, and there was ankylosis with great distortion. Injections of tuberculin R. were followed by great improvement of the general condition, and straightening under an anæsthetic, with subsequent immobilization, effected a cure. As regards the effects of the tuberculin, the first injection of a five hundredth of a milligramme was given on January 5th, and Koch's directions as to repetition—viz., the administration of double the preceding dose on alternate days—were strictly followed. Some diarrhœa followed the first two or three injections, but the general health steadily improved. On January 14th there was less suppuration, and this diminution continued till by March 11th it had entirely disappeared and the fistula was completely obliterated. A month later the operative measures which resulted in cure of the deformity were practised.

THE WORKING OF THE CONSCIENCE CLAUSE IN THE ENGLISH VACCINATION ACT.

THE conscientious objectors to vaccination who have recently come before magistrates in England for certificates of exemption from the need of vaccination appear, according to the *Lancet* for October 1st, to have advanced extraordinary reasons for their objection in some cases. One man had his application refused because his objection lay in the fact that he had been vaccinated half a dozen times and only once successfully, and it "put him to a lot of trouble." Another, we learn, objected because he had heard that calf lymph sometimes gave rise to consumption. The magistrate asked him, "What do you do when you are ill?" "Go to a doctor," replied the applicant. "Why do you not cure yourself?" asked the magistrate. "Because the doctor is skilled in his profession." "Then," said the magistrate, "if you have confidence in the medical man in one case, why not in another. You had better go away and reconsider the matter." One objector argued that "the child is made in the image and likeness of God," and that "it was not meant that God's skin should be cut about." This objector was unconsciously hard upon the Old Testament rite of circumcision. Yet another said that "if it were necessary for man to be inoculated by beast," the Creator would have done it before the child was born; to which the magistrate replied that the man might as well expect the Creator to provide him with pocket handkerchiefs. Altogether the magistrates will have a pretty hard time in "satisfying" themselves, as the act requires, as to what is and what is not "conscientious" objection. Some cases are clear enough, as that of one objector who said, "Well, sir, I lost one child, I thoroughly believe, through vaccination, and I do not wish to run the risk with a second child, not a very strong baby." Then what if the magistrate himself happens to be an antivaccinationist, not altogether an improbable contingency?

A DUTY WELL DONE PAYS.

WE understand that notwithstanding the brilliant way in which the State of Colorado and the city of Denver entertained the American Medical Association, the treasurer was enabled to make a refund of thirty-two per cent. of their subscriptions to the subscribers, a circumstance probably unique in the history of such entertainments of that or any other society. A good meeting scientifically, a pleasant meeting socially, an enjoyable meeting in view of everything interesting, and a brilliantly successful one in point of administration is a record of which Denver may well be proud.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 8, 1898:

DISEASES.	Week ending Oct. 1.		Week ending Oct. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	147	30	102	36
Scarlet fever	96	4	55	8
Cerebro-spinal meningitis	0	7	0	1
Measles	39	4	33	3
Diphtheria	113	15	60	14
Croup	8	7	4	8
Tuberculosis	172	135	135	147

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending October 8, 1898:

Small-pox—United States.

Cedarville, Ala	Aug. 1–Sept. 29	50 cases.	
Detroit, Mich	Sept. 24–Oct. 1	5 "	
Conway, Miss	Sept. 28	3 "	

Small-pox—Foreign.

Antwerp, Belgium	Sept. 3–10	1 case,	1 death.
Ghent, Belgium	Sept. 10–17		1 "
Southampton, England	Sept. 10–17	5 cases.	
Calcutta, India	Aug. 20–27		1 "
Madras, India	Aug. 27–Sept. 2		1 "
Awamori Ken, Japan	Aug. 17–Sept. 11	53 "	16 deaths.
Moscow, Russia	Sept. 3–10	2 "	
Odessa, Russia	Sept. 10–17	3 "	
Warsaw, Russia	Sept. 3–10	10 "	

Yellow Fever—United States.

Bowie, La	Oct. 6	1 case.	
Delogny, La	Oct. 6	1 "	1 death.
Franklin, La	Total to Oct. 6	375 cases,	7 deaths.
Taylor, Miss	Total to Oct. 6	100 "	11 "
Orwood, Miss	Total to Oct. 6	79 "	4 "
Waterford, Miss	Total to Oct. 6	2 "	
Jackson, Miss	Total to Oct. 6	41 "	4 "
Oxford, Miss	Total to Oct. 6	52 "	6 "
Edwards, Miss	Total to Oct. 6	6 "	
Water Valley, Miss	Total to Oct. 6	10 "	
Harriston, Miss	Total to Oct. 6	42 "	4 "
Fayette, Miss	Total to Oct 6	1 case.	
Madison, Miss	Total to Oct. 6	3 cases,	1 death.
Port Gibson, Miss	Total to Oct. 6	1 case,	1 "
Woodville, Miss	Total to Oct. 6	1 "	
Clinton, Miss	Total to Oct. 6	1 "	
Starkville, Miss	Total to Oct. 6	3 cases.	
Hermanville, Miss	Total to Oct. 6	2 "	

Yellow Fever—Foreign.

Tampico, Mexico	Aug. 18–25		12 deaths.

Cholera—Foreign.

Calcutta, India	Aug. 13–20		1 death.
Calcutta, India	Aug. 20–27		4 deaths.
Madras, India	Aug 27–Sept. 2		63 "
Tokyo Fu, Japan	Aug. 17–Sept. 11	7 cases,	4 "
Awamori Ken, Japan	Aug. 17–Sept. 11	1 case.	
Fukushima Ken, Japan	Aug 17–Sept. 11	3 cases,	2 "
Kanagawa Ken, Japan	Aug. 17–Sept. 11	4 "	3 "

Plague.

Calcutta, India	Aug. 20–27		4 deaths.

The New York State Medical Association.—On page 575 of this issue we omitted to mention that the paper on Anthropological Rambles in the Orient will be read by Dr. Ernest H. Schmidt, of Westchester County.

Changes of Address.—Dr. John Milton Dexter, to No. 109 West Eighty-seventh Street, New York; Dr. Joseph Muir, to No. 41 West Thirty-sixth Street, New York; Dr. J. V. Stevens, to No. 3 West Main Street, Madison, Wisconsin; Dr. George K. Swinburne, to No. 64 East Fifty-sixth Street, New York.

The Society of Medical Jurisprudence.—At the one hundred and thirty-sixth meeting, on Monday evening, the 10th inst., J. Hampden Dougherty, Esq., of the New York Bar, was to read a paper entitled The Status and Legal Rights of the Soldiers.

The Personnel of the Medical Department of the Army.—The *Cleveland Medical Gazette* for September, in an editorial, has the following just and pertinent remarks on the personal charges so freely made in the press against individual medical officers:

"As to the *personnel* of the medical department of the army during this last war, a few words are necessary. It would be useless, and it is unnecessary, to deny that there have been occasional instances of incompetence and shirking, to some degree, on the part of surgeons. The baleful influence of political machinations has been felt in the medical as in the other departments of the army. Political adherents or *protégés* have sometimes been supplied with all kinds of credentials and recommendations for appointment in the medical service, have in the haste born of urgent demand been accepted upon the honor of their friends, have been sent to the field, and proved incompetent, for one reason or another, to cope with the conditions confronting them. But such instances have been far fewer in proportion than similar instances of incompetence among officers of staff and line among the volunteers; and we consider that the average of all the medical talent serving in the United States army during the past summer has been very remarkably high. We believe that old army surgeons who have served in previous wars in this or other countries, and have been cognizant of the conditions prevailing during this last short unpleasantness, will corroborate the statement we have just made."

Sir William Gull's Directions concerning Typhoid Fever.—The *Albany Medical Annals* for October quotes the following general directions of Sir William Gull to the attendants of the Prince of Wales when suffering from typhoid more than twenty-five years ago, as being just as applicable to-day as then, and says that they can not be too often reiterated: 1. Typhoid is a disease which runs a more or less definite course. It can not be stopped or cured simply by medicine. 2. The chief thing to be done at the outset of an attack is to send the patient to bed so as to save strength from the beginning. 3. No strong purgative medicines are desirable. 4. As the fever develops and the strength grows less, light food should be given at short intervals. This must be directed medically, but in general it may be said that the amount required is that which induces repose and sleep. 5. The bowels may be left to themselves. If unmoved for twenty-four or thirty-six hours, a lavement of warm water may be necessary. 6. The restlessness or wakefulness in fever is best remedied by the careful giving of wine or spirits with the food or in water. Sedatives such as opium are inadmissible—most injurious. 7. The bedroom should be kept at a temperature of 62° to 64°. 8. Great care is necessary to keep the bed clean and sweet. This is most easily done by having in the same room a second bed, to which the patient can be removed for two or three hours daily, while the other is thoroughly aired and the linen changed. 9. All fatigue is to be sedulously avoided. No visitors should be admitted, and no other person than a nurse and one attendant to help her. 10. The patient should never be left unattended for a moment, as in the delirium of fever he might jump from bed and injure himself. 11. As to medicines and the treatment of complications, the immediate medical attendant must be responsible. 12. As the discharges from the bowels in typhoid fever are a source of contagion, it is desirable that before being thrown down the closet they should be largely mixed with some disinfectant. On the same principle the strictest cleanliness must be observed in the sick room. 13. There is no reason to believe that typhoid fever is contagious from individual to individual in the ordinary way. The largest experience shows that it does not extend like an ordinary contagious disease to nurses or others attending upon patients suffering under the disease.

Treatment of Alcoholism.—Dr. N. S. Davis (*Quarterly Journal of Inebriety*, No. 2, p. 162, 1897; *Medical Record*, October 1st) recommends that the patient be placed under good physical and social surroundings. For impaired digestion, irritable nervous system, and disturbed sleep, a sixtieth of a grain of digitalin and a thirtieth of a grain of strychnine at each meal, with from twenty to thirty minims of diluted hydrobromic acid at bedtime, will, he says, give excellent results. For constipation, thirty minims of fluid extract of rhamnus purshiana may be added to the acid. Instead of the digitalis and strychnine, a pill or capsule of a grain of extract of hyoscyamus, with three grains of cerium oxalate, may be given. Before an anticipated period of dissipation, a pill of two grains of quinine sulphate, the same amount of extract of eucalyptus globulus, and a third of a grain of extract of cannabis indica should be given with each meal for two weeks. The patient should be separated from his associates, and if this can not be done in any other way, he should reside in a well-regulated asylum for from six to twelve months.

The Rectal Administration of Antitoxic Serums.—Dr. J. E. O'Connor (*Lancet*, July 30th) says of the rectal administration of serums that no harm can accrue through administering antitoxine by the bowel if the diagnosis is established and if the ordinary rules as to posology and aseptic preservation of the serum are observed. He has not seen a single case of rash or other complication which could reasonably be attributed to the serum. Such complications are, he thinks, almost invariably caused by the coinjection of adventitious organisms or their products, and it is at least possible that many of these would fail to pass through the rectal mucous membrane. The serum itself, judging by results, appears to undergo rapid and complete absorption, so that he has observed the usual posological rules. A difficulty with which many provincial practitioners have to contend is to procure fresh serum expeditiously. It deteriorates rapidly, and the twenty-four hours' delay which perhaps ensues before it can be obtained fresh may determine the evil result of a case. For this reason dried serum has been commended, but its viscidity when dissolved interferes with its hypodermic injection—that is, unless it is mixed with an inconveniently large volume of water. Moreover, it is by no means easy to insure its sterility when mixing it. Administered, however, per rectum, these two difficulties vanish and it becomes, *cæteris paribus,* the ideal serum for provincial practitioners.

Briefly, he thinks, the advantages of rectal over hypodermic serotherapy appear to be as follows: 1. It can be employed in almost all cases without fear of prejudicial interference. 2. Solid serums can be conveniently used. 3. It is expeditious and simple. 4. The absorbed serum is purer. He also administered antistreptococcic serum per rectum with gratifying result in a case of scarlet fever. The method appears to be deserving of trial, and possibly some enterprising firm may supply solid serums in the form of suppositories.

A New Symptom in Peripheral Facial Paralysis.—Bordier and Frankel (*Medical Week,* October 1, 1897; *Cleveland Medical Gazette,* September, 1898) relate their observations of a phenomenon in facial palsy, the original discovery of which they believe themselves to have made. Their observations lead them to ascribe to this new symptom both a diagnostic and a prognostic value.

If a patient with a severe facial paralysis is asked to shut his eyes, it will be found that while the eye on the normal side closes promptly and well, the one on the diseased side presents but a slight narrowing of the palpebral fissure. Now, if the closing effort be continued, the globe of the eye of the affected side will be seen to move first upward, then slightly outward, the eyelid in the meantime finishing its descent according to the degree of the paralysis of the orbicular muscle. Trial will demonstrate that the patient can not close the affected eye without this outward and upward movement of the globe; hence, if the patient is looking at some object, he is compelled to remove his gaze before he can close the eye.

The authors ascribe a triple value to the symptom. 1. It occurs only in peripheral disease. 2. The symptom is marked only when reaction of degeneration is complete; hence its presence stamps the paralysis as severe and serious, and in the cases observed, where the orbicularis is contracted without the deviation of the globe, the paralysis proved transient and curable. 3. It permits an accurate judgment of the progress of the recovery, since such result is invariably accompanied by a lessening deviation during orbicular contraction.

A Detail in Abdominal Incision. — Dr. Henry Scherck (*International Journal of Surgery,* June) says that in performing laparotomy he has noticed that the abdominal incision having been made, the constant introduction and manipulation of the fingers through the abdominal incision causes the peritonæum to become separated, to a greater or less extent, from the muscular tissue. Appreciating the possibility of several complications arising from this condition of affairs, the idea suggested itself to him to introduce a stout ligature through the centre on either side of the incision, about half an inch from the margin of the wound, this ligature being first tied snugly, and a loop of from four to six inches being allowed to remain beyond the first knot. Two results are accomplished by this procedure: First, the prevention of the separation of the peritonæum from the tissues overlying; and, secondly, the provision of two retractors which take up no room and cause less traumatism than the ordinary metal retractors. When the operation is completed the ligatures are clipped and removed, and the wound brought together according to the method adopted by the surgeon.

A Peculiar Case of Acute Hepatitis.—Dr. Jacob Fuhs (*Brooklyn Medical Journal,* October) records a case of acute hepatitis signalized by the following peculiarities: "1. A continued fever; not the intermittent, hepatic fever of Charcot. 2. Only very slight jaundice. 3. The gall bladder was only very slightly enlarged. 4. Very marked enlargement of the liver. 5. No marked tenderness over the gall bladder. 6. A circumscribed swelling at the anterior surface of the liver, very tender and painful, and about three fingers' width above the lower border. 7. There was no pus found in the gall bladder, nor in the discharges from the womb, nor about the gallstones. 8. The fever did not abate until the gallstones that apparently came from the ducts had passed."

The Increase of Specialism.—The *Druggist's Circular* for October quotes the following from the *Chicago News:*

Old M. D.: "Are you having much practice?" Young M. D.: "Yes, quite a good deal, thank you." Old M. D.: "Ah! I'm glad to hear it. Are you making a specialty of any particular thing?" Young M. D.: "Yes, indeed. About nine tenths of my time is devoted to the practice of economy."

A Colored Lady Doctor.—We learn from the *Fort Wayne Medical Journal-Magazine* for September that at a recent examination before the medical board of Louisiana, Dr. Emma Wakefield, a young negress, passed a successful examination. She is the first woman in the State of Louisiana to study medicine, and the first negress in America to receive a medical diploma.

Cobalt Nitrate a Hydrocyanic Antidote.—The *Medical Standard* for October quotes the *American Practitioner* as authority for the statement that cobalt nitrate has been successfully used as an antidote in some forty cases of poisoning by potassium cyanide and hydrocyanic acid, after having been proved effective on animals.

Indications for Operation.—According to the *Druggist's Circular* for October, the *Detroit Journal* is responsible for the following:

Young doctor: "Patient out here wants to be operated on for appendicitis, but I don't believe he can stand it." Old doctor: "Well, I suppose we can operate on him for something cheaper."

A Case of Syphilitic Reinfection.—Dr. Casalini (*Riforma medica,* 196, 1898; *Gazzetta degli ospedali e delle cliniche,* September 11th) has observed recently a case of syphilitic reinfection while the manifestations of the first attack were already existing.

Society Meetings for the Coming Week:

MONDAY, *October 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *October 18th:* New York State Medical Association (first day—New York); New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Kings, St. Lawrence (semiannual), and Westchester (White Plains), N. Y.; Hunterdon, N. J., County Medical Society (Flemington); Baltimore Academy.

Wednesday, *October 19th:* New York State Medical Association (second day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *October 20th:* New York State Medical Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

Friday, *October 21st:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society (annual).

Births, Marriages, and Deaths.

Married.

Johnson—Groat.—In Hudson, N. Y., on Wednesday, October 5th, Dr. Henry Warner Johnson and Miss Anna Elizabeth Groat.

Marsh—Stone.—In Troy, N. Y., on Wednesday, October 5th, Dr. Arthur White Marsh and Miss Anna Mulford Stone.

Pillot—Prewitt.—In St. Louis, on Wednesday, October 12th, Mr. Peter Stuyvesant Pillot and Miss Dorothy Prewitt, daughter of Dr. Theodore F. Prewitt.

Reynolds—Hoye.—In Newton, Mississippi, on Wednesday, October 5th, Dr. William Weston Reynolds, of Meridian, Mississippi, and Miss Mary Hoye.

Obituaries.

CLAUDIUS H. MASTIN, M. D., LL. D.

Dr. Mastin died at his home in Mobile, Alabama, on Monday, October 3d, aged seventy-two years. He was at one time president of the American Surgical Association, also of the American Association of Genito-urinary Surgeons, and first vice-president of the Congress of American Physicians and Surgeons. He was trustee of the first Pan-American Medical Congress, honorary fellow of the American Association of Obstetricians and Gynæcologists, member of the Southern Surgical and Gynæcological Association and of the Boston Gynæcological Association, and medical examiner for the University of Pennsylvania in Florida, Georgia, Alabama, Louisiana, and Texas.

Dr. Mastin will be remembered as the originator of the Congress of American Physicians and Surgeons, a body concerning whose utility there was at first so much skepticism that one of the societies which, according to his plan, were to be brought together temporarily once in three years held aloof from the first meeting. Promptly thereafter, however, the society in question joined with the others, and the triennial meetings of the congress have since demonstrated Dr. Mastin's wisdom. The organization is a monument to his memory.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. Thomas R. French, of Brooklyn, in the Chair.

(*Continued from page 532.*)

Natural Immunity of the Mucous Membranes.—Dr. H. L. Wagner, of San Francisco, read a paper with this title. (See page 545.)

Dr. Wright: I wish to take the present occasion to withdraw my charge of not having read the paper written by Dr. Park and myself, which I made yesterday, so far as it applies to Dr. Wagner.

There is one very interesting point to which he calls attention in this communication: it is as regards infection of the upper air-passages. It is very well known, in the case of children, that tubercle bacilli reach the lungs through the lymph channels in the throat. It is almost impossible to find tubercle bacilli in the tonsils or adenoid tissue, but they may frequently be demonstrated in the cervical lymph glands. Undoubtedly it seems possible that the tonsils and adenoid tissue are points of entrance of tubercle bacilli into the organism, and that they must pass through it into the general system and reach the glands in the neck.

I want to call attention to the paper presented by Dr. Goodale in a recent issue of Fränkel's *Archiv.* I regard it as the most valuable paper presented by an American observer on a laryngological subject during the past year. His observation of the carmin granules absorbed by the adenoid tissue is especially important. Dr. Hodenpyl's experiments many years ago tended to show that the tonsils had no power of absorption, but it is proved in this paper by Dr. Goodale that they have an absorptive power at least for inorganic matter, but he has never been able to find tubercle bacilli in the tonsils.

Schleich's Mixtures for Anæsthesia.—Dr. Mayer read a paper with this title. (See page 547.)

Dr. Delavan: While the method of Schleich has gained some strong advocates here and abroad, the opinions among our surgeons regarding it are not universally favorable. Indeed, in several of the leading hospitals in New York it has been tried and objected to. Mr. Bennett, of London, has lately introduced here the method of beginning the process of anæsthetization with nitrous-oxide gas. Within three minutes the patient can be thoroughly anæsthetized and made ready for operation.

Dr. Simpson: I think that Schleich's method may be especially adapted for nose and throat operations, which, as a rule, do not require long anæsthesia; but as regards the asserted advantage of the absence of vomiting during the administration of the anæsthetic, or subsequently, this is not always observed. One of the resident physicians in a hospital in which it had been used has mentioned vomiting as one of the objections to its use. In a number of cases coming under my observation in the New York Eye and Ear Infirmary, the patient took it well, and the rapidity of coming out from its effects was certainly a very great advantage.

Dr. Mayer: Dr. Simpson has anticipated what I wished to say in part. I have not enough experience in the use of the Schleich mixtures for anæsthesia in prolonged operations to warrant the expression of a decided opinion as to their absolute safety. In operations of short duration, where only a few drachms are used, it seems to act in an ideal manner.

The liability to hæmorrhage after operations in the pharynx and nasopharynx should never be lost sight of, and it seems to me that the somnolency that follows other anæsthetics does not detract from the danger. It may happen that blood trickles down the pharynx while our patient is still unconscious, and we become aware of it only by the alarming pallor that ensues some time after.

The rapidity of a return of consciousness is then the chief merit of these solutions, for the patient will expectorate and be aware of the hæmorrhage very promptly.

I do not say that the ideal anæsthetic has been found, but it seems to me that we are starting in the right way toward it. If an anæsthetic is absolutely safe, is free from danger, or nearly so, and consciousness is promptly restored, the greatest danger subsequent to operations in the nose and nasopharynx will be decidedly diminished.

(*To be continued*)

Book Notices.

BOOKS, ETC., RECEIVED.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. Third Edition, revised and enlarged. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Illustrated with Two Hundred and Four Engravings and Thirteen Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xii–17 to 624. [Price, $4.75.]

A Clinical Treatise on Diseases of the Breast. By A. Marmaduke Sheild, M. B. (Cantab.), F. R. C. S., Senior Assistant Surgeon and Lecturer on Practical Surgery to St. George's Hospital, etc. London and New York: The Macmillan Company, 1898. Pp. xvi–510. [Price, $5.]

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D., F. R. C. P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital, etc. Revised and enlarged by H. Montague Murray, M. D., F. R. C. P., Physician to Out Patients and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. New (Eighth) American Edition. Thoroughly revised from the Eighth English Edition by Walton Martin, Ph. B., M. D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, etc. Illustrated with Two Hundred and Sixteen Engravings, of which Six are in Colors, and a Colored Plate. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. 3 to 582.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Dreizehnte Lieferung. Mit 12 Abbildungen im Text. Pp. 353 to 592. Vierzehnte Lieferung. Mit 9 Abbildungen im Text. Pp. 593 to 832. Fünfzehnte Lieferung. Mit 15 Abbildungen im Text. Pp. 833 to 979. Sechszehnte u. Siebzehnte Lieferung. Mit 69 Abbildungen im Text. Pp. 576. Jena: Gustav Fischer, 1898.

Ueber die Wirkung des neuen Tuberkulins TR auf Gewebe und Tuberkelbacillen. Experimentelle Untersuchungen. Von Dr. H. Stroebe, Prosector am neuen städtischen Krankenhause zu Hannover. Jena: Gustav Fischer, 1898. Pp. 114.

Transactions of the Obstetrical Society of London. Volume XL. For the Year 1898. Part III, for June and July.

Vibratory Therapeutics. By Frederick Peterson, M. D. [Reprinted from the *Medical News.*]

New Paths in Psychiatry. By Frederick Peterson, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

A Case of Amaurotic Family Idiocy with Autopsy. By Frederick Peterson, M. D. [Reprinted from the *Journal of Nervous and Mental Disease.*]

Katatonia. By Frederick Peterson, M. D., and Charles H. Langdon, M. D. [Reprinted from the *Proceedings of the American Medico-psychological Association.*]

Report of a Case of Severe Hæmorrhage following Paracentesis of the Drum Membrane. By James F. McKernon, M. D. [Reprinted from the *Laryngoscope.*]

Three Cases of Intracranial Abscess: The First Two Cerebellar and Fatal (Autopsies); the Third Subdural (Recovery); with Remarks. By James F. McKernon. [Reprinted from the *Archives of Otology.*]

The Advantage of Physical Education as a Prevention of Disease. By Charles Denison, M. D., of Denver. [Reprinted from the *Bulletin of the American Academy.*]

Homonymous Torsion—A Position of the Retinal Meridians heretofore Unrecognized. By Edward P. Brewer, M. D., of Norwich, Connecticut. [Reprinted from the *Ophthalmic Record.*]

Miscellany.

Immunity in Gonorrhœa.—Dr. I. N. Bloom (*American Practitioner and News*, September 15th) says that "writers have gone out of their way to devise complicated theories" to account for the fact that a woman who is the subject of gonorrhœa may and does infect some men, while others likewise exposed escape, "when the simplest and the truest explanation should have been obvious." The explanation of this seeming anomaly is, in the author's opinion, immunity conferred upon him who escapes by previous attacks of gonorrhœa. Dr. Bloom cites four or five cases in evidence of the truth of the immunity theory, and closes the paper with the statement that those who see much gonorrhœa in dispensaries will bear him out in saying that seventy-five per cent. of the cases treated occur in men under twenty-five years. No such ratio exists with syphilis and chancroids:

Dr. Bloom maintains that:

1. A previously cured case of gonorrhœa gives a certain amount of immunity to a patient.
2. The older the man, the less his liability to gonorrhœa.
3. After the age of thirty a man who has had gonorrhœa may in many cases safely have sexual connection with women who would be certain to communicate it to younger men and to men whose urethras have not been rendered to some degree immune by previous gonorrhœa.

Military Medical Instruction at Netley and Aldershot.—Dr. W. Nattrass, of Toronto (*Canadian Journal of Medicine and Surgery*, October), in writing home, says:

"It is nothing but work here. I am at work on the parade ground every morning at 6.30, and we keep it up (calling off for breakfast and lunch, of course) until four in the afternoon. I am not looking on, but live up with the rest of the 'Tommies,' sometimes going through the mazes of squad and company drill, or a few battalion movements. At other times I am assisting in lugging around 'the wounded' on a stretcher. It is a little trying at times, especially when the sergeant gives the command 'Lift wounded,' and then lets you stand there until he gives the detail for reaching the nearest ambulance wagon or collecting station. Then you are started off, when some one makes a blunder or false step before we get half way and 'As you were' rings in your ears, and you feel like dropping the poles, wounded and all. At last we reach the ambulance wagon, get our patients stowed away comfortably, backboard and tailboard—for there are both—up and snugly fastened, when we get the command 'Unload wounded.' It is funny to watch the perfectly mechanical way in which 'Tommy' goes about his work. It makes no difference to him whether he is doing or undoing. The other day we went down to 'Scroggie's Bottom' for a lesson on building kitchens. We made the Aldershot Gridiron Kitchen, which is large enough to cook for a whole battalion. The place was a sort of summer-dried marsh, hard as a rock. It had all to be picked out, but the Tommies worked away and at last got it completed, lugged some water from a neighboring well, filled their kettles, banked them round, and started a fire. Then we all fell in and listened to a brief lecture from the major in command. On the command 'Fall out,' 'Fill in trenches,' Tommy went at it again to fill in, apparently just as happy in the undoing as in the doing.

"One day we went out for a field-day exercise with a bearer company in active service. Wounded men were strewn about the battlefield. We were sent out with stretchers and first aids, temporarily bound up their wounds (each man was labeled with the wound he had received), and carried them to the collecting station, where we placed them in the ambulance wagons drawn up to receive them. Then we drove off about two miles to a dressing station, out of range of fire, where the most seriously wounded were further attended to and operations performed, after which they were reloaded in a fresh relay of ambulances, wagons plying between the dressing station and the nearest field hospital, which was supposed to be some five or six miles away. The whole thing was very instructive and realistic, especially so as a brigade of artillery had gone out an hour or two before us and had taken up a position on some rising ground about a mile or so in front of us, and were pegging away all the time we were there (this without any previous arrangement on our part). The whole thing had quite a warlike appearance."

. . . .

"This is an excellent course, and although I am as tired as a dog every night, I am enjoying it very much and feel I shall know something about my branch of the service when I leave here. The army medical corps here is a perfectly independent unit. Its organization is as complete in itself as any other battalion. The C. O. is a Surgeon-Colonel Allen, who gives us an hour every day on administrative work, orderly room, internal economy, military law, etc. Major James takes us in wagon drill, pack-animal drill, cacolet drill, pitching field hospitals, and bearer company camps, their organization and administration. Captain Parry takes us in stretcher drill, hand-seat drill, loading and unloading wounded on improvised vehicles and into railway cars, etc., while Captain Julian, the adjutant, looks after our squad, company, and battalion drill."

. . . .

Writing from Aldershot, Dr. Nattrass says:

"Our course is now drawing near the end. We expect to get away next week for the Salisbury manœuvres, and then on to Netley. We shall not be many days there, as we have only two or three things to look up—the X ray as a localizer, a combination or attachment for telling the distance of the bullet from the surface of the body, and the treatment of bullet wounds in the Royal Victoria Hospital.

"I have been very much pleased and interested with the course here. There is a lot of special drill in connection with it. Not the least interesting was a practical illustration this morning of how to handle the cavalry wounded; how to mount, dismount, and carry the wounded with a disabled arm or leg, or, when not too seriously wounded, to sit on his horse alone. This appealed to me as more practical than the cacolets or chairs for mule transport of wounded.

"The officers at this depot have been exceedingly kind to us and have shown us everything they possibly could."

The Use of Egg Membrane in Trephining Operations upon the Skull.—Dr. Leonard Freeman (*Annals of Surgery*, October) says that the beneficial results of the most brilliant operations on the brain may be destroyed by the formation of adhesions between that organ and its coverings and the scalp. In the endeavor to prevent this a number of devices have been employed. W. W. Keen has suggested the inversion into the trephine opening of a pedunculated flap of periosteum obtained from the adjacent surface of the skull. The manœuvre, although ingenious, is troublesome and not altogether satisfactory.

The most popular method consists in the introduction of some foreign substance, such as gold foil (Beach) or rubber tissue (Abbe); but observation has demonstrated that both of these materials may become surrounded by connective tissue, which gives rise to more extensive adhesions than would otherwise have occurred. Even the heavier varieties of foil are apt to crack and break into smaller pieces. Rubber tissue also becomes disintegrated. Furthermore, a foreign body, be it gold, rubber, or what not, is liable at any time to cause suppuration, which will necessitate its removal, even though the wound may originally have healed by first intention.

Some time since Dr. Freeman conceived the idea that the lining membrane of an egg would present advantages in the prevention of adhesions following operations upon the brain. This membrane is exceedingly compact and tough, in spite of its thinness. It is so remarkably durable that it has been employed to close perforations in the tympanum, where it often remains intact for months. It was assumed without question that the contents of a fresh egg would be sufficiently aseptic.

In order to test the efficiency of the method, some experiments were undertaken with the assistance of Dr. A. H. Williams. The method employed was as follows:

A newly laid hen's egg was scrubbed and sterilized in bichloride of mercury. The shell was cracked and peeled from the underlying membrane over a sufficiently large area. Trephine openings were made in the skulls of animals, the membranes cut away, and the surface of the brain lacerated. A portion of egg membrane was removed with sharp-pointed scissors and inserted in the openings, the scalp being closed above it. The egg membrane was found intact on the animals being killed after varying intervals, or replaced by new membrane, and the scalp and brain non-adherent. Microscopic sections, prepared by Dr. E. R. Axtell, of Denver, showed in one case that the egg membrane had apparently been replaced by a layer of adipose tissue, permeated here and there by blood-vessels. Beneath this was a delicate layer of connective tissue, containing a moderate number of small, round cells, which filled the trephine opening. In view of the above considerations and experiments, the writer feels justified in claiming the following advantages for the use of egg membrane in cerebral surgery: 1. That it is inexpensive and can be easily obtained where such substances as gold foil are not at hand. 2. It is not in the full sense of the term a "foreign body," but seems in a measure to incorporate itself with surrounding tissues without causing perceptible irritation or the formation of noticeable cicatricial deposits. Even though it ultimately becomes absorbed, it remains intact sufficiently long to accomplish the purpose for which it was inserted. 3. There is no danger of subsequent infection requiring a second operation and leading to extensive formation of connective tissue.

The Tuberculin Treatment of Phthisis.—Dr. Boardman Reed (*International Medical Magazine*, September) thus concludes an important summary of the results reported at the Congress of Tuberculosis:

"The numerous efforts made in various parts of the world to modify tuberculin in such a manner as to remove its toxic power, and at the same time to retain its assumed bland or innocentlyacting curative principle, have been quite probably inspired by an erroneous theory. We know that we can easily poison our patients, or at least obtain disastrous physiological effects, by administering too boldly and continually digitalis, mercury, arsenic, nitrate of silver, or various other active drugs. Yet, instead of trying to get up some laboriously refined or emasculated preparation of them, we simply give them in doses very much smaller than those found experimentally to be dangerous, being careful not to push them too long, and meanwhile watching carefully the results. This would seem to be the sensible way to administer tuberculin, and in this way substantially the most fortunate results reported from its use in many quarters have been obtained, whether the preparation employed was a simple dilution in carbolated water or an expensive and mysteriously concocted modification which amounted possibly to the same thing, the active principle having been diluted by removal through filtration or otherwise sufficiently to render its effects therapeutic instead of physiologic or toxic.

"It must not be forgotten, however, that the men who have reported the largest percentage of cures with tuberculin are experts in the treatment of tuberculosis, and several of them practise in places exceptionally well adapted to the arrest and ultimate cure of the disease. They have reenforced the specific treatment not only by the help of climate, but also by the most painstaking care as to diet, exercise, clothing, oxygenation, and all other possible hygienic aids. Nor can it be objected that these other potent aids to cure, and not the tuberculin, should be given the whole credit. The physicians now referred to, being experienced and expert in the treatment of such cases, should be believed when they insist that under the same conditions otherwise their tubercular cases have done decidedly better with tuberculin added to the treatment."

Atropine in Delirium Tremens.—Touvime (*Vratch; Archives médicales belgiques; Gazzetta medica Lombarda*, September 12th), starting from the standpoint, based upon the researches of Mendel and Krukemberg, that in delirium tremens certain regions of the brain are in a state of depression, has tried various medicaments with a view to counterbalance and dispel the cerebral depression.

He administered atropine to eleven alcoholics affected with delirium tremens, of whom five had the furious and six the calm type. In ten cases the patients became quiet shortly after a single injection and fifteen minutes later were asleep. The dose employed was one milligramme (about one sixtieth of a grain) of sulphate of atropine subcutaneously. In one case alone, notwithstanding the administration of a larger dose of one milligramme and a half, the patient continued very restless. The injection was made in this case in the evening; in the morning, after a cold affusion, the patient became calm. The following night he slept well.

Further, Touvime resorted to injection of atropine in a case of post-typhoid psychosis in a non-alcoholic. Two injections daily were given—namely, morning and evening—the dose being again one milligramme. The patient was completely cured in five days.

Sanitary Mistakes of the Small Towns.—Dr. Harvey B. Bashore (*Sanitarian*, October) makes the following pertinent remarks:

He says that somehow or other people have got the idea that spring water, no matter where it comes from, is the thing to be desired, and if the spring has a source high enough to permit the use of the water by gravity without costly pumping works, it is considered an ideal supply. So a few of the prominent citizens of the town get together, buy land, lay pipes, and before long claim to have a pure mountain spring water—the best in the land.

Now the fact is that spring water, as such, is no better, not even as good, as some other waters. A spring is even no better than a well, except that it is very often situated in an uncultivated upland if it is in a town or surrounded by dwellings, it is often worse than a well on account of being so readily polluted by surface washings.

Another point worth remembering is that these towns, when they have procured a water supply presumably pure, expect it to look out for itself, and here they make a fatal mistake; for to keep water pure which is in any way near human habitation needs vigilance. There is a small town near Harrisburg, Pennsylvania, which recently tapped a fine spring in the Blue Mountains. Originally it was a pure supply, but the town which uses the water exercises no care over the gathering grounds, and as a result cows from a neighboring pasture wallow in the spring. Of course this does not necessarily breed disease, but it demonstrates at least that this community is not getting as pure water as it imagines.

Then, again, another difficulty arises before long in these towns. Some of the richer citizens think they ought to have water-closets and bath tubs, and soon a plumber is obtained. What to do with the sewage—for sewage it will be—never troubles the householder. He will run it into the sewer, forgetting that there are no sewers, or that sewers must have an outlet; but the wise plumber has been in such places before and helps him out of the difficulty by running the soil pipe into the old privy, and he tells him if the privy gets full he can have it emptied. In the majority of cases it never will get filled, for the simple reason that most of the water will leak into the surrounding soil.

This might not be so bad if only Jones or Smith had water-closets, but other citizens do the same, and, following the example of the hardy innovators, turn their privies into cesspools. Now, as time passes, there are cesspools everywhere, and, as they all leak, the ground water soon becomes poisoned.

Water pipes, too, always leak, and whenever the pressure from without becomes greater than that in the pipes—which it must frequently do—filthy soil water passes into the pipes, the town water supply becomes polluted, and eventually typhoid breaks out.

As time passes the town increases in size, while still retaining its primitive sanitary appliances; consequently we are treated to the sight of towns of six or ten thousand inhabitants using cesspools. Now and then the town becomes a great city, and we wonder why its typhoid death-rate is almost five to the ten thousand.

Sooner or later all cesspool towns will travel the same road—all will end in an epidemic, and then the cesspools will give place to sewers; but the damage will have been done, many lives lost and much sickness endured, all because we want to patch mediæval shiftlessness on to nineteenth-century progress.

The Pathology of the Colored People of the Soudan.—The *Revue médicale* quotes the *Presse médicale* as saying that among certain people it is the fashion to credit all the diseases and vices among African peoples to European importation. For a people who have only been quite recently in any kind of communication with Christian civilization, the blacks of the Soudan would appear to be possessed of an abundant collection of pathological conditions, if one may credit a very interesting article by Suard on the History of the French Military Post at Nioro, appearing in the *Archives de médecine navale.*

Nioro is situated in the northern part of the Soudan, on the confines of the Sahara desert, and has only been occupied by French troops since January, 1891, when Colonel Archinard took possession of this capital of the state of Amadou.

The inhabitants of Nioro and its environs are a mixture of dissimilar races. Lustful, thievish, vain, and treacherous, they practise sodomy extensively, and have no compunction about assassination if it is lucrative and likely to go unpunished. Subjects of guinea-worm, paludism, and leprosy, they are not for all that exempt from the maladies common in the civilized world: tuberculosis, rickets, and rheumatism. Diseases of the eyes, as conjunctivitis, blepharitis, keratitis; diseases of the skin, as eczema, impetigo, tinea, itch, and phtheiriasis, are the reward of their inveterate filthiness. Among them blennorrhagia and syphilis develop and are propagated with facility.

They pay no attention to sanitation. Their houses are only miserable huts in groups of two or three, surrounded by a wall, and giving shelter not only to men and beasts, but also to the dead. Slaves alone are buried in the brush; people "of quality" are interred in the soil over which eat, love, and sleep their descendants and neighbors.

Neither are they troubled with therapeutics. The Marabout sells charms, which are supposed to be both protective and curative, each one having some special property. Wounds are dressed with sheep's dung or cow dung diluted with urine and covered with a leaf. The woman at the beginning of her accouchement is shut up in a hut *tête-à-tête* with an old matron, who contents herself to hasten the birth with burning the rhizomes of iris or branches of resinous trees. The child either comes or not, the matron making no attempt of any kind to assist Nature.

Axes to Grind.—"What do I get out of it?" is, according to the *Sanitarian* for October, one of the official stumbling-blocks encountered by the discoverer of a certain disinfectant when he sought to induce the war department to use the germicide at the sick camps. In his innocence and surprise, the maker responded: "The assurance that by using it disease and fever will be greatly lessened, and the ground rendered pure and wholesome." The official laughed in the speaker's face: "I know it is an excellent thing, but we won't take it just for that." Apparently, says the *Sanitarian,* "humanitarian" ideas do not influence men who "run things" on red tape what-do-we-get-out-of-it principles. Is this, it asks, one of the shameful "mistakes" which have cost so many of our brave boys their lives and health, or is it a well-understood "business transaction," sanctioned by the government? The "pull" in this war has been quite general—especially in the selection of camp sites.

It Made all the Difference.—Scene: A county court in London. Very youthful surgeon suing for his fees for attendance on a case of accident. The judge: "You say you charge two guineas for the first and one guinea for each subsequent attendance. Is not that a very high rate?" Youthful surgeon: "Certainly not. I am a pure surgeon and those are the customary fees." The judge (with a twinkle in his eye): "Ah! How do you spell *puer?*"

The Complications of Operation for Removal of the Appendix.—Dr. R. A. Sterling (*Intercolonial Medical Journal of Australasia,* August 20th), in his third clinical lecture on The Treatment of Acute Appendicitis, thus tabulates the more frequent complications that may upset all plans of treatment, even in the presence of the most careful technique: 1. General septic peritonitis. 2. Intestinal obstruction, due to kinking of the recently separated intestine, or to adventitious bands. This is a possibility after any serious abdominal operation, and the author has related elsewhere a case of strangulation of the lower part of the ileum by such a band successfully treated by abdominal section. Three years previously the woman had been operated on for ovarian tumor. 3. Retroperitoneal abscess. 4. Fæcal fistula occurred in one of his forty-two cases, and healed spontaneously. The enterolith may be a cause, when not escaping with the discharges. 5. Multiple abscess of the liver, met with here occasionally, also in the treatment of suppurating hydatid of the liver. 6. Gangrene of the cæcum. 7. Phlebitis of the femoral vein. 8. Communication of the abscess with the rectum, vagina, or bladder. 9. Ventral hernia, which is said to be an exceedingly frequent sequel in America. 10. Fatal hæmorrhage. Bryant mentions one case from ulceration of the deep circumflex artery; Fowler, another from ulceration of the iliac vein. 11. Parotiditis. Paget saw five cases following perityphlitis. 12. Empyema. 13. Pericarditis.

The Fallacies of X-ray Pictures.—Dr. Edward A. Tracy (*Journal of the American Medical Association; Journal of Electrotherapeutics,* September), in a careful article, points out that while much has been gained in accuracy of diagnosis by the aid of X-ray pictures, there is one branch of practical medicine where harm is threatened by their employment—namely, medical jurisprudence. X-ray pictures have been already admitted as evidence in some courts. Their indiscriminate admission, he says, will hurt the cause of justice, because they can easily lead to fallacy or error. Their use as evidence of injury is only safe when certain conditions have been fulfilled in their taking and presentation.

In all X-ray pictures there is distortion. The reason is that X rays emanate from a point, and are not parallel. Interference with these rays follows the ordinary physical and mathematical laws of rays emanating from a point. It must be understood that there is neither reflection nor refraction of the X ray. Thus the nearer to the source is an obstruction to the rays, the larger will be the resultant shadow or picture; the size of the shadow depends also upon the nearness of the object to the surface upon which the shadow falls; the further the surface from the object, the larger the shadow. With a surface as large as the object to be pictured for the source of the rays, there would be no distortion, for the X rays would be parallel. X-ray pictures in that case would be easy of comprehension and never misleading. To read correctly the lesson of an X-ray picture, the obliqueness of X rays must be kept in mind, and mental correction must be made for the disproportion and distortion caused by this obliqueness.

To illustrate the foregoing remarks, the author showed plates of radiographs of the same hand, the right, of a boy thirteen years of age. Before taking them, he thought that the relations of the palm and wrist lines to the underlying bones could be accurately determined by radiography. His plan was this: He covered the palm and wrist lines with pieces of copper wire. The wire was attached to the skin by means of collodion and cotton fibre. The copper wire being resistant to penetration by the X rays would cause dark lines upon the picture, and thus he hoped to have the palm and wrist lines represented with bones, and their relations shown. The palm and wrist lines were represented, but their relations were not accurately pictured, as was proved by the plates. The first was a radiograph of a hand with its palm toward the sensitized plate. The second was one of the same hand turned over so that its back was toward the plate. The relation of the palm and wrist lines to the bones had not been actually changed by simply turning over the hand; the pictures represented these relations as changed, and were therefore fallacious. Had the source of the rays been so large that the rays streaming through the object were parallel, such divergence would not have existed, and the lines representing those of the palm and the wrist would have coincided in both pictures.

Dr. Tracy, in conclusion, says that because X-ray pictures can be fallacious, they need not be excluded from court as evidence. It is well, however, to know their limitations, and to remember that appearances may deceive. X rays, properly used, are as a searchlight in the exposition of bone lesions. But the lesions must be pictured from different directions, and the resulting pictures compared with pictures of the normal opposite member. Moreover, the pictures of the injured member and those of the opposite normal member must be taken with the same relative positions of the Crookes's tube, the limb, and the sensitized plate. So only can truth be arrived at, and truth is essential for justice.

General Infection by the Gonococcus. — Ahman (*Archiv für Dermatologie und Syphilis; St. Louis Medical Gazette,* October). In the case recorded by the author, five days after the beginning of the gonorrhœa the patient presented the signs of a cystitis and an arthritis of the wrist and of the tibio-tarsal articulations, accompanied by a slight fever. Bacteriological examination of the fluid obtained by puncture of the tendon of the right anterior tibial muscle showed a pure culture of the gonococcus. Gonococci were also found in the blood and in the ascitic fluid. In order to verify the demonstration made with the gonococci in blood-serum culture, the gonococci were injected into the urethra of a man who wished to undergo the experience of having gonorrhœa; in a few days, as a result of this inoculation, the man gave evidence of a gonorrhœal discharge from the urethra, and, in turn, synovitis of the tendons of the pedal muscles; the exudate from this synovitis also showed the gonococci present in pure culture, thus fulfilling all the three postulates of Koch in the establishment of the existence of an infectious disease.

The Good Things Around Us.—Dr. C. H. Hughes (*Colorado Medical Journal,* September), in an article on The Recognition of Western Medical Men, says:

"The sun shines as he sets in the west, though he rises in the east, and the sunset views are quite as glorious as the views of the rising sun. The east is not all to blame for the non-recognition of western glory. The west itself, in medicine, still looks to the east for light. Eskridge of your own city has worked hard and waited long, O Lord, how long! for eastern recognition. Hodgen once told me a pet story apropos of the subject. We were rooming together away from home, east of St. Louis, and, getting up earlier that usual, I remarked how beautiful the sunrise was. He replied, 'Just as beautiful at home, if we would take time to look at it.'"

Sarcoma of the Clitoris.—Dr. James F. McCone (*Pacific Record of Medicine and Surgery,* September 15th) read before the California Academy of Medicine a paper on A Case of Sarcoma Clitoridis. He points out that in the *American System of Gynæcology* but one case is recorded. Howard Kelly has recorded one case. The description given by Dr. McCone is as follows:

On inspection, a large, grayish, soft tumor was found extending to the labia minora and involving the meatus urinarius. It was exquisitely tender and bled when touched. To the touch, the tumor on the surface was soft, but infiltrated deeper tissues down to the pubic arch. The upper part of the vagina and the cervix were free from disease. The inguinal glands of both sides were tender and enlarged to the size of walnuts. Microscopical examination showed it to be a fibrosarcoma. The tumor was excised.

New Method of Producing Local Anæsthesia.—Dr. James B. Bullitt (*North Carolina Medical Journal*, September 20th) exhibited to the Louisville Surgical Society a contrivance for producing local anæsthesia by the use of carbonic-acid gas. He had been familiar for some time with the use of this gas in the manufacture of ice by the carbon anhydride system, and it occurred to him that the gas could be used very well for local anæsthesia. The apparatus decided upon for experimental purposes, which worked very well, consisted of a storage drum containing twenty pounds of the gas, which had been liquefied by very high pressure; probably twelve hundred pounds pressure at room temperature would be necessary to convert this gaseous matter into liquid form; and when pressure is released expansion of the liquid caused it to return to the gaseous state.

Local anæsthetics were becoming more and more used, and this would be a very cheap method of producing local anæsthesia. The drum which he exhibited cost three dollars and a half, but could be bought for three dollars with proper arrangements. When exhausted the drum could be recharged. Attached to the outlet of the drum was a small brass pipe at the end of which was arranged a hypodermic needle, and by turning the small top valve the gas was liberated, and, passing out through the small pipe and the hypodermic needle, it produced in a very few seconds a small cake of ice in the piece of cloth held in his hand. When turned on the hand it immediately produced a white spot like ethyl chloride. It was apparently a very harmless procedure. A smaller drum containing, say, two or three pounds of gas could be made for surgical use. One thing in favor of the carbonic-acid gas for local anæsthesia was its comparative cheapness as compared with ethyl chloride.

The Therapeutic Action of Orexin Tannate.—Dr. Golmer, of Erfurt (*Allgemeine medicinische Central-Zeitung*, July 6th; *Therapist*, September 15th), says that in cases of chronic pulmonary tuberculosis in children, the first thing that attracts the attention of the medical attendant is not the lung mischief, but the general feeling of debility experienced by the child. We first notice a general feeling of *malaise*, loss of appetite, and loss of flesh. It is observed that the face gets paler, the children don't care to play, they become apathetic and quickly tired, but it is only in weeks and months after these disturbances of the general health have appeared that it is noticed that on some spot in the thorax the percussion note is diminished as against the corresponding spot on the other half of the chest, and on auscultation bronchial râles can be distinguished, while the apices of the lung are entirely unaffected. Meanwhile, the children get thinner and thinner, the paleness increases, and the general feeling gets worse. At the affected part of the lung the signs of consolidation become more marked, the percussion note becoming less distinct. If we can not succeed at this period in improving the nourishment of the child, the tuberculous process will gain ground, extending to other organs, thereby accelerating a fatal termination. Care must be taken in our efforts to treat anorexia that the functions of the digestive apparatus are normally active, and in cases where a function is lacking, remedies should be applied in order to stimulate them or to get a substitute for them. Orexin tannate is a remedy suitable in the highest degree for improving the nourishment of tuberculous patients. It is an odorless, tasteless, yellowish-white powder, insoluble in water, but easily soluble in diluted acids. The author has had the opportunity of testing its efficacy in a number of cases, especially of tuberculous children.

The result was satisfactory throughout, the children taking the orexin tannate readily, and feeling very hungry afterward. For younger children he employed the orexin tannate chocolate tablets containing about four grains each. Two hours before dinner and supper the little patients took two tablets each time, fasting in the meantime. This medication was continued for five days; then an interval of three days took place in order to ascertain whether the appetite continued to be increased, and whether the patients increased in weight. The result was highly satisfactory.

Older children took the orexin tannate in powder form, three to four grains and a half, with a little sugar and water, two hours before meals, with the same result as to appetite and increase in weight. Besides this, Dr. Golmer employed the preparation in a number of cases of adult convalescents from severe feverish diseases, especially after inflammation of the lungs and pleura. At the beginning of convalescence the inclination for taking food was small, owing to the ability of the digestive organs being limited. Orexin tannate in powders of seven grains and a half each, given with a little sugar and water two hours before meals, effected in all convalescents an increase of appetite amounting almost to ravenousness, and increase of weight. In some exudations of a pustular or serous kind the improved nourishment caused by orexin tannate is almost a cure. In all cases where it is a question of properly nourishing chronically tuberculous patients, the orexin tannate, the author considers, undoubtedly occupies the place of an important therapeutic remedy.

Arsenical Paralysis.—M. Krever (*Gazette hebdomadaire de médecine et de chirurgie*, September 15th) reported to the Medical Society of St. Petersburg the case of a girl aged nineteen, who took by mistake a packet of arsenious acid. Acute symptoms of arsenical intoxication lasted three days. There then supervened symptoms of toxic polyneuritis, which in turn disappeared. Fifteen days later the invalid returned to hospital with considerable atrophy of the muscles of the limbs and trunk, motor paralysis, and very pronounced cutaneous and muscular hyperæsthesia. The treatment consisted of hypodermic injections of strychnine, massage, hydrotherapy, electricity, and iodide of potassium, under which the patient gradually improved, but was not yet well.

The Treatment of Charbon by Bicarbonate of Sodium.—The *Progrès médical* for September 17th quotes the *Repertoire de pharmacie*, 1898, as stating that Camescasse reports excellent results in malignant pustule from compresses impregnated with a two-per-cent.

solution of bicarbonate of sodium, as Gueorguerski had previously succeeded in suppurating wounds, furuncles, etc. The *Progrès médical* points out, however, that the author had previously incised the charbon and painted it with tincture of iodine.

The Treatment of Pneumonia with Clysters of Creosote.—According to the *Clinica moderna* for September 14th, it has been demonstrated that clysters of creosote, each containing from twenty-five to forty drops, are of great value in pneumonia, and cause a subsidence of all the alarming phenomena of the disease.

The Medical Service in the Battle of Omdurman.—The London correspondent of the *Lancet* (September 24th) says that at this early stage it is almost impossible to give any very definite ideas of the working of the various dressing stations and field hospitals, but on every side and from every mouth nothing but praise is accorded to the admirable working. Not a single man was left on the field a moment after his injuries had been attended to, and he can say without fear of contradiction that not a man was left on the field five minutes after the "cease fire" had sounded.

A Peculiarity of Premature Births.—According to the *Revue médicale* for September 21st, Beaujon had married one of his clerks to one of his mistresses; and when the clerk came to him in a state of anxious surprise at the lady giving birth to a son six months after marriage, he replied: "Be at ease, my friend. These things often occur in the case of a first child, but never with subsequent ones."

The New York State Medical Association.—The fifteenth annual meeting will be held in New York, at Mott Memorial Hall, on Tuesday, Wednesday, and Thursday, October 18th, 19th, and 20th, under the presidency of Dr. Douglas Ayres, of Montgomery County. The following papers are included in the programme: Conservative Surgery in Crushing Injuries, by Dr. J. G. Hunt, of Oneida County; On the Teaching of Physiology and Hygiene in the Public Schools, by Dr. Frank Overton, of Suffolk County; A New Method of Amputation at the Knee Joint applicable to Cases of Senile Gangrene of the Foot, by Dr. Stephen Smith, of New York County; Dental Pathology in its Relationship to General Health, by Dr. Dwight L. Hubbard, of New York County; Subnormal Temperature, by Dr. Leroy J. Brooks, of Chenango County; Urethral Stricture, by Dr. John W. S. Gouley, of New York County; State Examinations of Milk for Tuberculosis, by Dr. Florince O. Donohue, of Onondaga County; The Treatment of Cases of Pulmonary Tuberculosis, by Dr. De Lancey Rochester, of Erie County; The Treatment of Tuberculous Peritonitis, by Dr. Zera J. Lusk, of Wyoming County; Some Observations of General Interest regarding the Course and Management of Cataract, by Dr. J. H. Woodward, of New York County; The Differential Diagnosis and Treatment of the Commoner Forms of Insanity, by Dr. J. J. Kindred, of Queens County; Genital Neuralgia and Genito-reflex Pains, by Dr. F. P. Hammond, of New York County; Memoranda, by Dr. H. D. Didama, of Onondaga County; Tuberculosis of the Middle Ear, by Dr. Seymour Oppenheimer, of New York County; Lantern Slide Exhibition relating to Prostatic Disease, by Dr. Samuel Alexander, of New York County; Anthropological Rambles in the Orient, especially the Island of Java (profusely illustrated by stereopticon views); True and False Medical and Other Charities, by Dr. Wickes Washburn, of New York County; Some Thoughts on the Rational Treatment of Disease, by Dr. Chauncey P. Biggs, of Tompkins County; The Treatment of Fractured Patella by Open Operation, by Dr. Charles Phelps, of New York County; Intestinal Obstruction, by Dr. Parker Syms, of New York County; The Causes of Acute Intestinal Obstruction, with a Description of their Mechanism, by Dr. E. D. Ferguson, of Rensselaer County; The Causes of Chronic Intestinal Obstruction, with a Description of their Mechanism, by Dr. George D. Stewart, of New York County; Intestinal Obstruction due to Impaction of Fæces, Gallstones, Foreign Bodies, etc., by Dr. J. W. S. Gouley, of New York County; The Diagnosis and Indications for the Treatment of Acute Intestinal Obstruction, by Dr. J. D. Rushmore, of Kings County; The Diagnosis and Indications for the Treatment of Chronic Intestinal Obstruction, by Dr. Leroy J. Brooks, of Chenango County; Intestinal Obstruction due to Intussusception and Volvulus, by Dr. John F. Erdmann, of New York County; The Technics of Operative Treatment of Intestinal Obstruction, by Dr. Frederick Holme Wiggin, of New York County; A Plea for the more Frequent Digital Exploration of the Uterine Cavity and Histological Study of Uterine Scrapings as an Aid to the Diagnosis of Diseases of the Uterus, with a Report of Two Cases, by Dr. William E. Swan, of Albany County; The Use of Catgut Sutures in Ventrofixation of the Uterus, by Dr. Joseph E. Janvrin, of New York County; The Pneumogastric Nerve in the Production of Stomach Disease, by Dr. Julius Pohlman, of Erie County; The Passing of Alcohol, by Dr. J. M. Farrington, of Broome County; The Operative Cure of Inguinal Hernia in Men, by Dr. E. D. Ferguson, of Rensselaer County; Dermoid Cysts of the Ovary, by Dr. Crawford E. Fritts, of Columbia County; Eye Lesions in Some Diseases of the Kidney, by Dr. H. S. Oppenheimer, of New York County; A Case of Extra-uterine Pregnancy operated in at Full Term, by Dr. Ely Van de Warker, of Onondaga County; What to do to be saved, being the Conclusion of the Inquiry into the Abuse of Medical Charity, by Dr. Thomas J. Hillis, of New York County; The Coccyx, by Dr. J. E. Walker, of Steuben County; Insanity following Surgical Operations, by Dr. William D. Granger, of Westchester County; An Account of the Life and Services of Frank G. Seaman, by Dr. Elias Lester, of Seneca County; The Technics in the Use of Saline Infusions, by Dr. Thomas F. Reilly, of New York County; Ancient and Modern Animal Products used as Medicines, by Dr. T. J. Acker, of Westchester County; Senility, by Dr. F. W. Higgins, of Cortland County; Brief Comments on the Materia Medica, Pharmacy, and Therapeutics of the Year ending October 1, 1898, by Dr. E. H. Squibb, of Kings County; Convalescences' Shoe for Clubfoot Cases, by Dr. S. E. Milliken, of Dallas, Texas; A Case of Fistulous Opening between the Ileum and Bladder: Operation; Cure; Remarks, by Dr. H. O. Marcy, of Boston; Acute Frontal Sinusitis, by Dr. Henry L. Swain, of New Haven; Medicine without Drugs, by Dr. Solomon Solis-Cohen, of Philadelphia; Drugs *versus* Cardiac Insufficiency, by Dr. O. T. Osborn, of New Haven; A Case of Attempted Obliteration of the Deformity in Pott's Disease, by Dr. Charles Alling Tuttle, of New Haven; Notes on Neuralgic Affections of the Head, by Dr. Gustavus Eliot, of New Haven; and Appendicitis from the Standpoint of the General Practitioner, by Dr. Samuel E. Milliken, of Dallas, Texas.

The Milk Supply of Chicago.—The department of health of the city of Chicago has recently sent the following circular to the producers, handlers, and shippers of milk for Chicago:

"The return to their homes of so many of our soldiers sick with or convalescent from typhoid fever has a special interest for milk producers as well as for health authorities at the present time. Hundreds, and probably thousands, of these sufferers are scattered throughout the area in which milk is produced and shipped to the Chicago market—on farms and in villages, small towns, and other places, which drain directly into the streams that furnish the water supplies of dairies and milch cows. It is highly probable that many of these streams will be or already are polluted by the typhoid-fever poison, and it is positively known that the disease may be conveyed in milk received and carried in vessels washed in such polluted water. One observer, the eminent sanitarian Ernest Hart, has investigated ninety-seven outbreaks of typhoid conveyed by milk, which caused upward of five thousand seven hundred cases and six hundred and fifty-six deaths. The quality of the milk supply is of vital importance to Chicago. It has greatly improved during the last few years, and the deaths of infants and young children, for whom milk is the staple article of diet, have diminished in direct proportion to this improvement. A recent report of the department shows a saving of 1,530 children's lives last year compared with the average number prior to 1894, when the supervision of the milk supply was fully undertaken by the department of health. In this supervision it has been the aim of the commissioner to secure the cooperation of milk producers by showing that their interests are best promoted by improving the quality of their supplies. Such improvement and its effects have been repeatedly shown to the Chicago public by diagrams, tables, and other matter furnished to the newspapers and published in them and in the department reports. One result of this publicity is seen in the great increase in the milk shipments to the city. In 1896 the average daily receipts of milk by railroad amounted to 13,275 cans. Last year 16,450 cans were received daily, or 48,034,000 gallons during the year. This is an increase of 9,271,000 gallons more in 1897 than in the previous year, or nearly twenty-four per cent. There has, of course, been no such increase in the population of the city, and the conclusion is, therefore, irresistible that mothers, having been taught that the milk supply is of better quality, are feeding their children more generally and more liberally with this best of all food for the young. This consideration alone would warrant the commissioner in directing the attention of milk producers to the threatened danger of typhoid and in asking their cooperation and assistance in preventing or restricting the evil as much as possible. No producer can afford to have his milk infected with the typhoid poison. The methods of the department are such as to make it certain that any outbreak of this disease in Chicago caused by infected milk will be located in the dairy from which the milk was shipped, and it would then not only be the bounden duty of the commissioner to prohibit the receipt and sale of such milk in this city, but the publicity which would surely be given to such prohibition would ruin the business reputation of the unfortunate producer. All concerned in the production, handling, and shipment of milk for the Chicago supply are, therefore, earnestly requested for their own interests, as well as for the interests of health and life in Chicago: First, to keep posted as to typhoid fever in the vicinity of their places of business, especially with relation to the sources of their water supplies. Second, to notify the Chicago health department immediately on learning of any case of the fever in their respective neighborhoods. On receipt of such information an inspector will be sent direct to the locality to ascertain the exact condition of affairs and the extent of the danger of milk infection, and to advise and assist in proper precautions. No charge will be made for such inspection and assistance, but all the resources of the department, its laboratory, and its skilled experts are freely offered to those to whom this circular letter is addressed."

The Medical Society of Missouri Valley.—Dr. F. F. Thomas, of Council Bluffs, Iowa, offered these resolutions, which were passed at the recent meeting of the Medical Society of the Missouri Valley, on September 14th and 15th:

Whereas, Prevailing conditions of patent and trade-mark laws enable any one to secure proprietary rights to chemical compositions associated with or without trade-marks, thereby inflicting an injustice upon the American people; and

Whereas, Under our lax laws, Professor Emil Behring and his agents have secured a patent on diphtheria antitoxine;

Resolved, That the Medical Society of the Missouri Valley expresses its unqualified condemnation of the course pursued by Professor Emil Behring and the Farbwerke of Hoechst-on-the-Main, Germany, in securing a United States patent on diphtheria antitoxine, and that this society regards such action as a violation of professional ethics, as an injustice to the medical profession, and as an imposition upon the American public.

Resolved, That this society earnestly reprobates the prevailing laxity in our patent laws, which bestow upon foreigners special privileges, concessions, and monopolies that they can not secure in their native lands.

Resolved, That while it is the duty of our government to encourage invention, it is eminently unjust and contrary to public policy to grant a perpetual property in a trade-mark name and to accord patents on the chemical composition of medicinal substances, thus preventing their manufacture by other processes or their sale under different names.

Resolved, That copies of these resolutions be transmitted to the members of the commission appointed by President McKinley for the revision of the United States patent and trade-mark laws—namely, Mr. Francis Forbes, of New York city; Hon. Arthur P. Greeley, assistant commissioner of patents, Washington, D. C.; and Hon. Peter Grosscup, of Chicago, Illinois.

Resolved, That we commend the action of the American manufacturers of antitoxine who have agreed to protect the profession in the use of their serum, and recommend the use of the American product in preference to Behring's.

The North Hudson County Medical Society, of Hudson County, New Jersey, was organized on September 29th. We learn that at present it has twenty members, and that five more are to be taken in at its next meeting.

Bellevue Hospital.—We are informed that Dr. Charles H. Chetwood has been appointed by Commissioner Keller to the visiting staff of Bellevue Hospital.

THE NEW YORK MEDICAL JOURNAL, OCTOBER 22, 1898.

Original Communications.

OBSERVATIONS ON CARDIAC SYPHILIS.*

BY I. ADLER, M. D.,
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VISITING PHYSICIAN TO THE GERMAN HOSPITAL.

THE majority of clinicians and practitioners are accustomed to consider syphilitic heart lesions more or less as pathological rarities. On the other hand, a number of authors—Semmola,† Sacharjin,‡ and others—have insisted on the frequency of cardiac syphilis, and have endeavored to establish certain diagnostic characteristics with a view toward its early recognition and prompt treatment.

Pathological anatomy has pointed out certain forms of heart lesions as more or less characteristic of syphilis of the heart. Aside from those cases of so-called syphilitic endocarditis and pericarditis which, if at all connected with syphilis are, as a rule, merely secondary to other primary lesions, we find the gumma, the interstitial, or fibrous myocarditis and the syphilitic endarteritis, with their sequelæ, as the typical forms in which syphilis is manifested in the heart. These well-marked and typical lesions have been fairly well studied, though there are still numerous and interesting questions in the minute anatomy and pathology of these processes that require further investigation.

Within recent years Mracek # has published an extensive study of the whole subject, both from an anatomical and clinical point of view. It is, however, not always possible even for the pathologist to decide whether a fibrous myocarditis or a partial aneurysm of the heart is due to syphilis or to other causes, so that even the anatomical diagnosis as regards syphilis is not infrequently doubtful. Thus the heart gumma, which is not found too often, remains after all the only unmistakable anatomical type of cardiac syphilis. Considering the relative rarity of typical gumma of the heart, and convinced that syphilis is much more frequently an ætiological factor in heart disease than is commonly assumed, it appeared of some interest to examine a number of hearts of syphilitics not presenting any well-marked gross anatomical changes, with a view of ascertaining whether minute lesions could not be found sufficient to throw some light on the early development of luetic heart lesions, and from which certain clinical deductions might possibly be derived.

It was thought best in the first place to examine the hearts of very young infants, not only because it might be interesting to study the behavior of congenital syphilis in reference to the heart, but principally because the possibility of confounding vascular and myocarditic lesions due to syphilis with those due to other causes (such as arteriosclerosis, gout, alcohol, tobacco, etc.) was here reduced to a minimum. Four infantile hearts were thus examined. They were all from babies under four months of age that had exhibited unmistakable symptoms of syphilis: copper-colored skin eruptions, ozæna, fissures about the lips and anus, mucous patches, etc. None had shown during life any symptoms of cardiac disease, and they all died during the summer and fall of 1897 of acute enteritis. The hearts and large vessels appeared to the naked eye entirely normal. The hearts were fixed in formalin, hardened in alcohol, divided into blocks of various sizes, imbedded in celloidin, and cut into sections, very frequently in unbroken series of several hundred. The sections were stained in various ways, but the ordinary hæmatoxylin-eosin stain was found most serviceable.

In two of these hearts a most careful scrutiny failed to discover any lesion ascribable to syphilis. Here and there minute hæmorrhages were found, and in some places the smaller veins and capillaries were much distended. But throughout the coats of the vessels appeared perfectly normal, as did also the muscle fibres and the interstitial tissue. The blood extravasations were quite fresh, and it is probable that they represented merely agonal symptoms. In the other two hearts, however, very characteristic though mostly quite minute lesions were found, lesions affecting the blood-vessels, the interstitial tissues, and the muscle.

In the first of these hearts, from an infant about two months old, nothing abnormal could be detected except in one place in the outer wall of the left ventricle about halfway between the apex and the sulcus coronarius and near the pericardial surface, and here a small branch of the left coronary artery exhibited a very characteristic patch of endarteritis (Fig. 1); the adventitia and muscular coat seem entirely normal, but on one side of the somewhat flattened vessel there is evident a very distinct proliferation of the intima. This proliferation takes place within and below the elastic membrane; it can readily be seen that the elastic membrane is lifted up, as it were, below and between its layers of elastic fibres. At first the elastica still covers the proliferating mass, though it gradually loses its undulating and looped appearance and becomes more or less straightened out. Following the course of the proliferation in serial sections through the little artery, we find the patch of new-formed cell material growing larger, bulging out more and more, and at its point of greatest development almost entirely occluding that part of the vessel's lumen, so that merely a very small slit remains open to the current.

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* Read before the Association of American Physicians, at Washington, D. C., May 3, 1898.

† Ueber Herzsyphilis. *Int. klin. Rundschau*, 1892, Nos. 41 and 43.

‡ Die Lues des Herzens von der klinischen Seite betrachtet. *Deutsches Archiv für klin. Medicin*, Band xlvi, p. 388.

# Die Syphilis des Herzens bei erworbener und ererbter Lues. *Archiv für Dermatologie und Syphilis*, 1893, Band xxv. Supplementheft. This very excellent paper contains a fairly exhaustive review of the whole literature of the subject.

At this point, too, the elastic membrane has entirely lost its characteristic appearance, and can be traced only in threads and filaments of elastic fibres, irregularly distributed throughout the proliferating cellular mass. This latter consists of cells having clearly defined nuclei and finely granular very pale protoplasm. Owing, no doubt, to the pressure exercised upon them by the blood current and the tension of the elastic vascular wall, these cells are all much flattened out and are packed together into layers, as it were, so that the nuclei appeared as if arranged with some sort of regularity. Probably for the same reason the individual cell boundaries are not very distinct, the cells seeming to merge into each other, thus presenting in places the appearance as if the nuclei were dispersed throughout a rather amorphous finely granular substance.

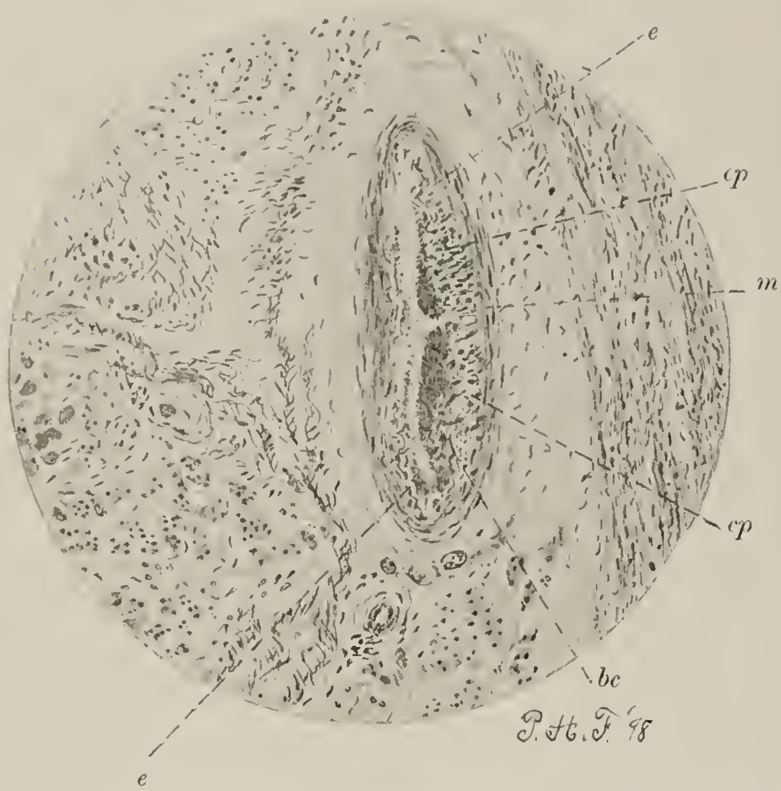

FIG. 1.—Infant two months old. Zeiss A, ocular 3. Small branch of left coronary artery, showing very early stage of endarteritis. *e*, elastic membrane; *c p*, cell proliferation of intima; *m*, muscular coat; *b c*, blood clot in lumen of artery.

I will not enter here into a more detailed discussion of the minute histology and pathology of this form of endarteritis. It differs in some particulars from the description given by Heubner of endarteritis in the smaller arteries of the brain, but of its specific nature there appears no reason to doubt. There speak for this not only general considerations, the age of the subject, the possibility of excluding other forms of endarteritis, but more forcibly still the fact that in the course of the systematic examination of the other hearts a fairly complete series could be established leading from this earliest form of endarteritis through various stages of development up to complete fibrous degeneration and total occlusion of the blood-vessels. In the immediate neighborhood of the diseased artery just described a very minute area was found in which the interstices between the bundles of muscular fibres appeared rather wider than normal and somewhat infiltrated with small cells. With the exception of this lesion just described nothing abnormal could be discovered throughout the entire heart, and it should be particularly stated that in the large vessels, aorta, pulmonary artery, and main trunks of the coronaries numerous sections failed to show any morbid alterations.

The fourth baby heart exhibited more decided and extensive lesions. It was taken from a male child three months and a half old, who had died in October, 1897, with the symptoms of intestinal catarrh and bronchopneumonia of left lung. As appears from the history, no signs of cardiac disease were noted during life. Macroscopically the heart appeared entirely normal, the valves were intact, the heart muscles well contracted, somewhat anæmic, but uniform throughout. No degenerating patches could be made out anywhere, and the large vessels likewise appeared absolutely normal. Microscopical examination, however, demonstrated pathological conditions in their very incipiency indeed, but unmistakable. In the first place, endarteritis, as described above, was found in various vessels, both arteries and veins. In several places it was a smaller branch of the left coronary artery, situated immediately under the epicardium. In other places little vessels were affected that were located well within the heart muscle itself, but in every instance rather nearer to the pericardial surface. The endarteritic process seemed more advanced than in the previous case, inasmuch as the entire intima was often involved, the proliferation being more bulky, thus more nearly obstructing the lumen of the vessels affected, and, moreover, in some of the vessels, just beginning to assume a more fibrous character, intercellular fibrous tissue making its appearance between the heaps of cells,

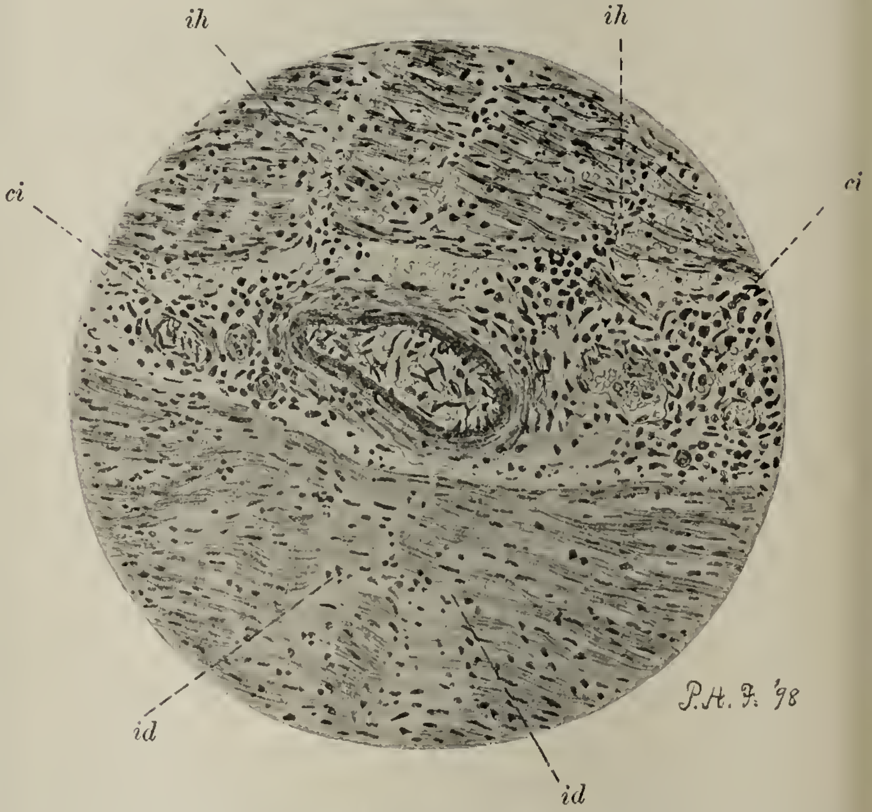

FIG. 2.—Infant three months and a half old. Zeiss A, ocular 3. Left ventricle. Cell infiltration filling circumvascular space and radiating from there into the muscle of the heart wall. *c i*, cell infiltrations; *i h*, interstitial hæmorrhages between the muscle fibres; *i d*, newly formed connective tissue pushing apart the muscular fibres, which show beginning degeneration.

which latter accordingly appear less numerous and set farther apart from each other.

In addition to this endarteritic condition, circumvascular processes could be observed. The circumvascular space surrounding minute arteries and veins within the muscular tissue appeared broader than normal and more or less completely filled with leucocytes (Fig. 2). From the circumvascular space the leucocytes radiated out into the surrounding vascular tissue, invading the intermuscular spaces and forcing themselves between the striated fibrils. In another place the circumvascular infiltration has lost its purely cellular character, and consists of very loose and soft connective tissue still rich in cells, while the muscular fibrils in the immediate neighborhood have become separated by wider bands of the same loose and wavy, partly cellular, partly fibrous material. Still in another place the connective tissue has become firm, more fibrous, and containing but very few cells. The muscular fibrils are now separated in all directions by comparatively broad areas of fibrous tissue, so that single fibrils or small bundles of fibrils appear dispersed amid a proportionately wide tract of fibrous tissue. Here and there, too, the nuclei of the muscular fibres have become pale and are stained but little by the hæmatoxylin. The transverse striation has become indistinct or has disappeared altogether, thus exhibiting the early signs of degeneration. All these morbid conditions appear only, it must be remembered, in minute microscopic patches, which are everywhere surrounded by entirely normal tissue. They are found scattered mainly through the walls of the left ventricle, principally near its pericardial surface, and to some extent in the interventricular sæptum. The walls of the right ventricle appeared normal. It should be added, too, that in several places circumvascular infiltration and new formation of connective tissue can be demonstrated in the subserous layers of the epicardium of the left ventricle. It is evident that we have to deal here with the very early stages of interstitial myocarditis.

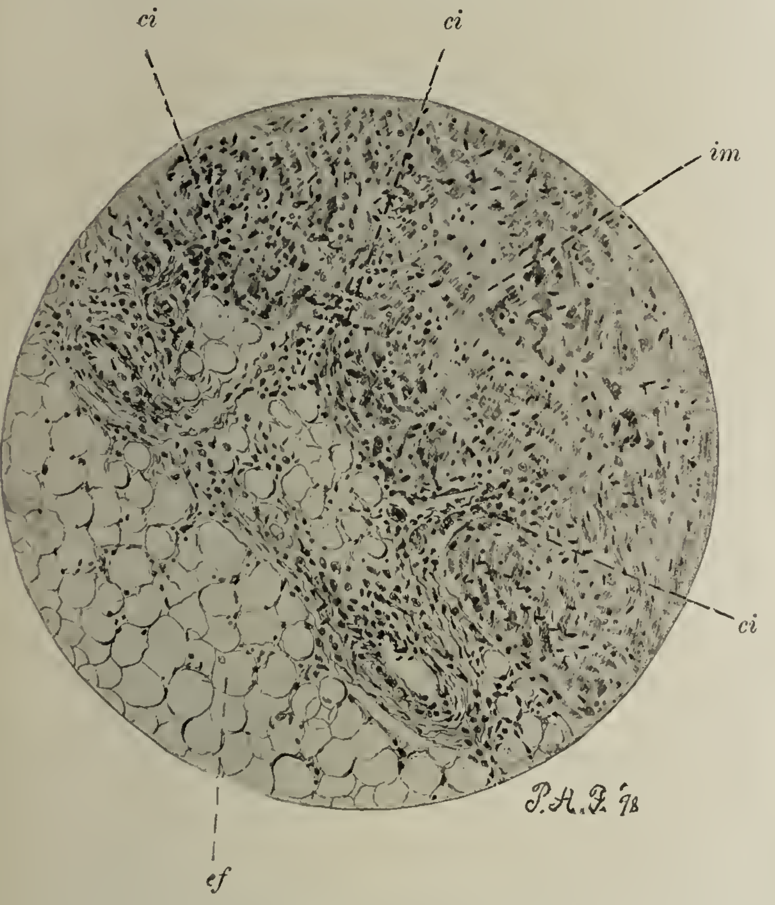

Fig. 3.—Infant three months and a half old. Zeiss A, ocular 3. Left ventricle. Showing epicardium and cell infiltration in circumvascular spaces, radiating from there into muscular tissue. *c i*, cell infiltrations; *e f*, epicardial fat; *i m*, interstitial fibrous tissue pushing apart the bundles of muscular fibres.

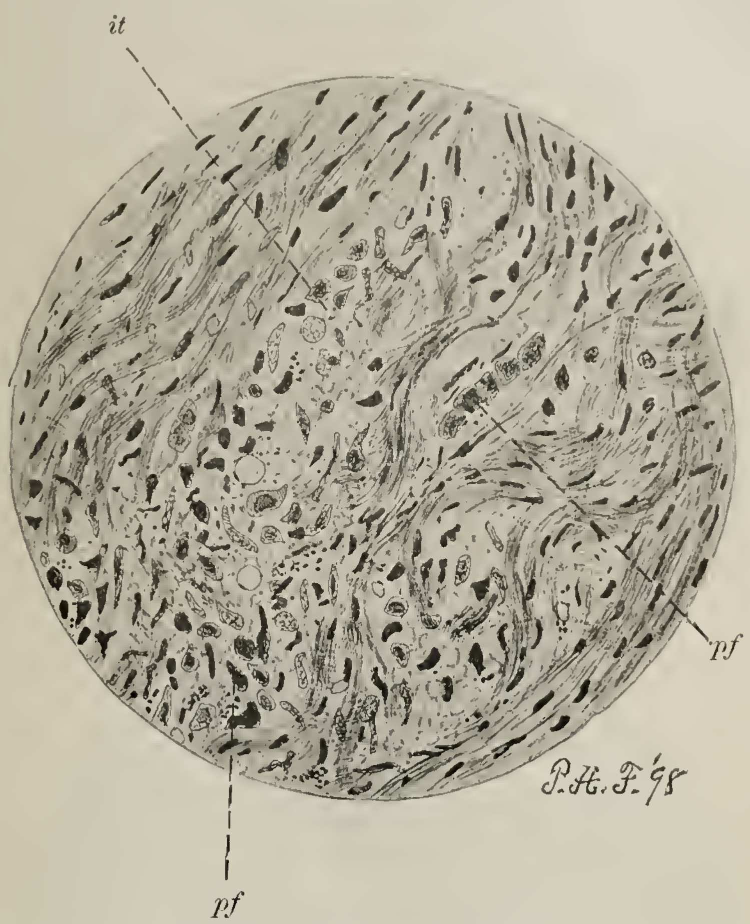

Fig. 4.—Infant three months and a half old. Zeiss D D, ocular 3. Left ventricle. Showing interstitial cellular proliferation and disruption of muscular bundles. *i t*, newly forming interstitial connective tissue; *p f*, large epithelioid tissue-forming cells.

It may be confidently stated, therefore, that out of four hearts taken from syphilitic infants, two gave unmistakable evidence of disease traceable to syphilitic infection, although neither the clinical history nor the macroscopical examination at the autopsy pointed toward any heart lesion. It now became of interest to examine the adult heart under similar conditions—that is to say, the heart of adults who bore the unmistakable stigmata of syphilis, but who showed neither during life nor at the post-mortem examination any sign of cardiac lesion.

Through the courtesy of Dr. Schwyzer, I was placed in possession of two hearts, one of a male, one of a female, that fulfilled the required condition. Both patients had died of Addison's disease, caused by gummatous degeneration of the suprarenal capsules, and had besides this other syphilitic lesions, more particularly interstitial hepatitis and gummata of liver. The one heart was taken from a woman thirty-seven years old. The pericardium and endocardium, including valves, were normal. The heart muscle, somewhat atrophic and flabby, showed layers of intense dark-brown pigmentation, and there were some patches of atheromatous degeneration in the aorta and pulmonary as well as in the upper portion of the coronary artery. Microscopically similar conditions of interstitial myocarditis were found as in the baby hearts, though in a somewhat more advanced stage. The very early stage of mere cellular infiltration was nowhere to be met with. Areas of connective tissue containing comparatively few cells were seen to separate the muscle fibres, which very frequently showed signs of atrophy and degeneration. The smaller vessels, both arteries and veins, under the epicardium as well as in the substance of the muscle, were often the seat of endarteritis and periarteritis, the latter perhaps more frequent than the former. The endarteritic degeneration is in a more advanced stage than in the infant's heart. Vessels completely blocked were frequently seen, and the proliferation everywhere had assumed a decidedly fibrous character. Besides these processes, which are undoubtedly to be attributed to the syphilitic infection, there appeared numerous and rather large areas of muscular degeneration, the ætiology of which is as yet not quite certain, but which do not seem to be directly dependent upon the syphilitic lesion. No connective tissue or cell infiltration appears between the muscle fibres, which latter retain their relative position and outline. They lose, however, their striation. The nuclei become at first indistinct, then disappear altogether, the entire mass takes the stain but imperfectly, and while, for a time, the single fibrils can still be made out, and no granules or droplets of fat are present, finally, the fibrillary texture becomes indistinct and the tissue is converted into a pale, rather homogeneous colorless mass. It is difficult to decide whether this coagulation necrosis is due to the pathological condition of the vessels or in some way connected with Addison's disease and the abnormal and excessive deposit of pigment material.

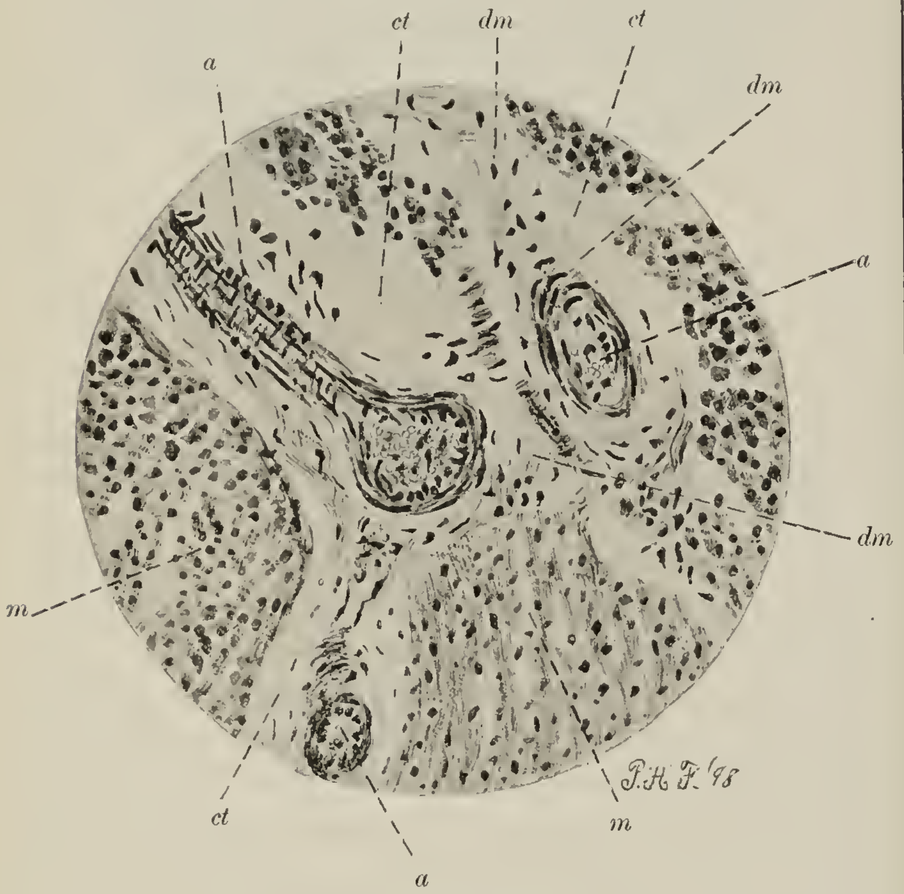

Fig. 5.—Infant three months and a half old. Zeiss D D, ocular 3. Left ventricle. Showing more advanced stage of interstitial connective-tissue formation. *a a a*, small arteries; *m m*, muscular fibrils with enlargement of fibrous interspaces; *c t*, broad areas of fibrous tissue; *d m*, remnants of muscle fibrils in a state of degeneration.

The other heart was taken from a man aged thirty-eight years. There are no clinical symptoms of heart disease. The autopsy notes describe the heart as small, flabby, the muscle brown in color, interspersed with numerous minute gray streaks. No abnormal fatty deposit in or about the epicardium, and the valves normal. On microscopical examination interstitial myocarditis was found as described above, but in a still more advanced stage. The areas of firm connective tissue are larger and more extensive, the degeneration and destruction of muscular fibres have assumed larger proportions, so that these areas become visible even to the naked eye as minute gray streaks imbedded in the brown heart wall. The vascular changes are equally well marked, but besides the endarteritis and periarteritis we find in this heart, in many places, enormous dilatation of the capillaries and small veins which are engorged with blood, and in addition thereto small hæmorrhages, the extravasated blood occupying the perivascular spaces and pushing its way from thence between the muscular fibres, forcing them apart, and breaking them into fragments. So far as I can gather from the literature, Ehrlich * first described these hæmorrhages in heart syphilis, his own case showing typical hæmorrhagic infarction of the heart. Mracek has also described this condition in several of his cases. Both have had before them more advanced stages of the process than here described.

To complete the series, I have had the good fortune to obtain, through the kindness of Dr. Van Gieson, a heart taken from the body of a negro woman between thirty and forty years old, which showed macroscopically in a very exaggerated form all the typical lesions of cardiac syphilis. The aorta and pulmonary, as well as coronary artery, contained numerous patches of degeneration. In the left ventricle and in the interventricular sæptum there were several gummata, large areas of fibrous degeneration were distributed throughout the walls of both ventricles and sæptum, and fibrous patches were to be seen in the visceral pericardium, the papillary muscles and the trabeculæ. The endocardium was apparently normal. Microscopical examination, besides the typical structure of the gumma, revealed everywhere destruction of muscle and its replacement by fibrous tissue. The blood-vessels were degenerated, and scarcely a normal vessel was to be found. All stages of the process were represented. Some were hardly to be recognized as blood-vessels, and could be traced as such only by remnants of elastic fibres (orcein stain), others still partially exhibited their characteristic structure, but were more or less completely blocked by fibrous masses; others, again, were still sufficiently open to the blood current, but were more or less degenerated in their walls.

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* *Zeitschrift für klinische Medicin*, Band i, S. 378.

Nowhere, however, not even at the very outskirts of any patch of fibrous degeneration, could those very early stages of the process in the vessels, as well as in the muscular tissue, such as described above, be recognized.

A fair survey of the process of syphilitic disease in the heart has thus been obtained, beginning with one or two isolated patches of characteristic endarteritis in some of the smaller vessels and extending through an unbroken chain of subsequent alterations in the blood-vessels and the myocardium up to the most aggravated form of gumma and fibrosis, involving the greater portion of the heart substance. (Nothing has been said concerning the nerves of the heart. The difficult question as to the rôle which the nerves play in cardiac syphilis requires much further study before anything very definite can be asserted. There is no doubt in my mind, however, that larger as well as smaller nerve branches take part in the general fibrous degeneration, though it is impossible at this moment to state to what extent and under what conditions. The consideration of heart gummata has also been deemed foreign to the purpose of this discussion.)

It is thus demonstrated that at a time when neither the aorta, pulmonary artery, nor main trunks of the coronaries, exhibit any signs of disease, endarteritic and periarteritic processes may develop in and about smaller vessels. Just what relation these vascular alterations bear to syphilitic structural lesions is still a matter of some uncertainty. It may be stated as a fact that wherever structural changes due to syphilis are found there also typical alterations in the blood-vessels can invariably be demonstrated. (For primary syphilitic lesions this has recently been studied by Rieder,[*] who found also similar changes in the lymph vessels.) It is, however, as yet not positively ascertained whether these vascular lesions are the initial starting-point of the syphilitic process, or whether they are merely concomitant or secondary affections. From the course of development of the luetic process in the heart, as demonstrated in our series, good reasons can be adduced for assuming the vessels to be the primary point of origin of the disease, and the interstitial myocarditis and subsequent degeneration and destruction of the muscular tissue as complementary to the primary vascular lesions. It has further been shown that before any functional disturbances or gross anatomical changes become apparent, interstitial myocarditis and its sequelæ, the disorganization of muscular tissue, may have become firmly established. Particular attention should be called in this connection to the comparative rapidity with which the simple cellular infiltration is converted into fully organized, though at first loose and soft, connective tissue, which latter again is quickly transformed into dense and hard, fibrous material.

Aside from anatomical and pathological considerations, conclusions of some clinical value may perhaps be deduced from these observations. It is evident that while therapeutic measures may arrest the process of syphilitic disease and cause absorption of gumma and other cellular proliferations and degenerations, they are powerless as against fully developed fibrous tissue. In many other organs the cicatrization caused by the shrinking fibrous tissue does not necessarily entail serious disturbance of function. It is in most instances, if not too extensive, readily compensated. In the case of the heart, however, the loss of muscular elements and their replacement by fibrous tissue signify permanent impairment of vital function. It has been shown above that the vascular, interstitial, and muscular lesions may be well established, and may have advanced considerably on their insidious course of destruction long before clinical symptoms warn us of their presence. It is therefore fair to assume that when clinical symptoms do appear the anatomical process has already attained some magnitude.

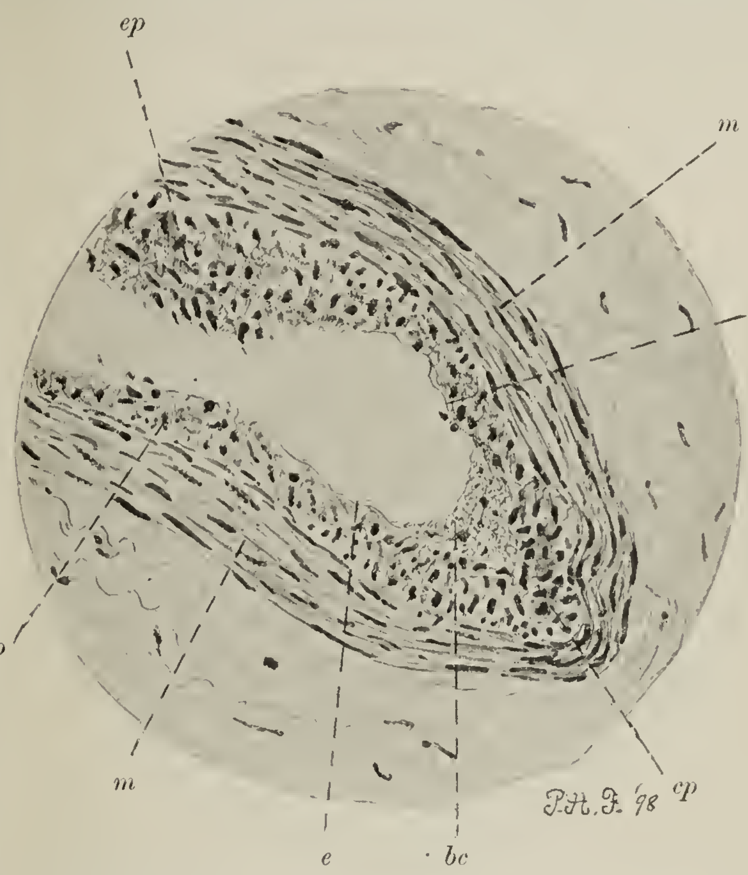

Fig. 6.—Heart of infant three months and a half old. Zeiss A, ocular 3. Left ventricle. Branch of coronary artery showing proliferation of intima. *m m*, muscular coat; *e p*, cell proliferation of intima; *e e*, remnants of elastic membrane; *b c*, blood clot.

It is imperative, therefore, to establish the correct diagnosis at as early a stage of the disease as at all possible. Unfortunately there are no distinctive diagnostic features which characterize the various forms of cardiac syphilis as distinguished from other forms of heart disease. By careful attention to anamnestic and physical details, however, it will not infrequently be possible, in individual cases, to make the diagnosis of luetic lesion, if not absolutely positive, at least very probable. It is self-evident that in many forms of heart disease, as, for example, the purely senile form, the valvular lesions on rheumatic basis and myocarditis following these, the fatty, the alcoholic, and the nicotine heart, syphilis can, as a rule, be excluded, though it is by no means impossible that even these forms, especially the two last named, may occasionally be complicated with syphilitic lesions. Myocarditis, on the other hand, especially when occurring in younger individuals, not clearly attributable to some other causation, should always give rise to a suspicion of syphilis. Active syphilitic lesions in other organs would, in such cases, go far toward corroborating the diagnosis, but even when no such lesions are to be found, the absence of any other satisfactory ætiology would warrant the tentative assumption of syphilis, and this whether the patient gave a history of previous syphilitic infection or denied it.

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[*] *Deutsche medicinische Wochenschrift*, No. 9, 1898.

In this respect the same principles that have for a long time been applied in the diagnosis and treatment of presumptive syphilis in other organs hold good for the heart as well. Here, as well as elsewhere, a diagnosis can often be established *ex juvantibus*, though it must be remembered, in view of the anatomical considerations set forth above, that the failure of antisyphilitic treatment to effect a cure does not necessarily militate against the diagnosis. But it is not only the well-marked myocarditis that requires attention.

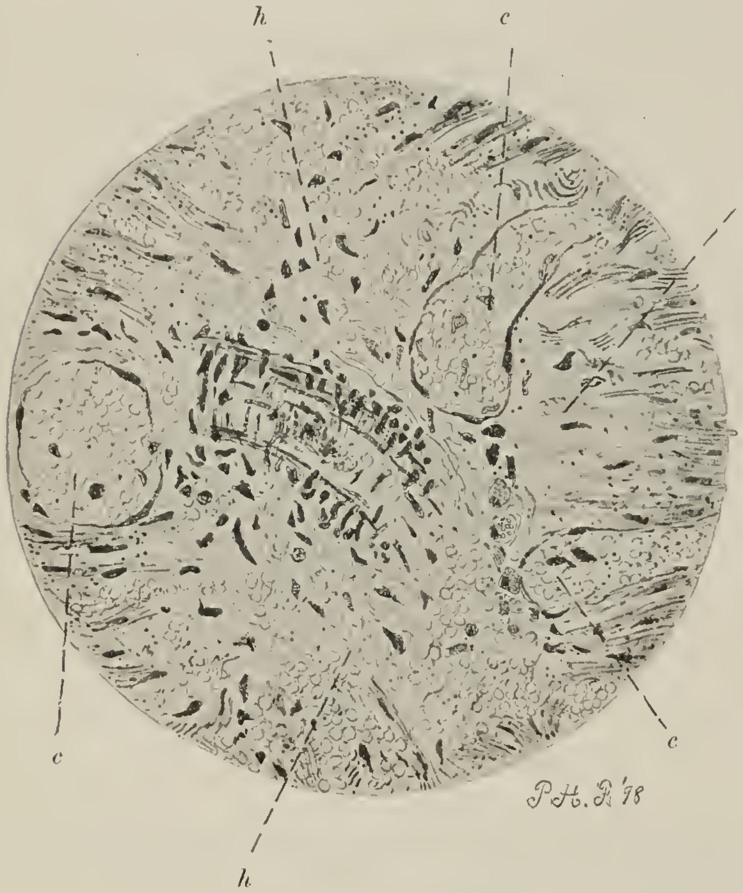

Fig. 7.—Adult male heart. Zeiss D D, ocular 3. Left ventricle. Showing interstitial hæmorrhages. *c c c*, dilated capillaries; *h h*, interstitial hæmorrhage; *d m*, degenerating muscular fibrils.

There are numerous cases, especially in younger individuals, of so-called weak or irritable heart associated either with bradycardia or more frequently with tachycardia, and always with more or less arrhythmia, that are often the result of syphilitic lesion.* In these cases there are none of the graver physical signs of cardiac disease. No murmur, no dilatation of the ventricles. The symptoms consist mainly of functional disturbances, and it is often difficult to distinguish between neurasthenic, hysterical, or incipient organic processes. Semola contends that arrhythmia and tachycardia, even without other functional disturbances, not clearly to be accounted for on other grounds, and not readily yielding to the ordinary treatment with digitalis and other heart regulatives, are pathognomonic for cardiac syphilis, and he reports a number of such cases cured by iodides and mercury, after all other treatment had failed. It is impossible to decide at present to what extent Semola's views are borne out by actual fact. The clinical and anatomical material is as yet entirely insufficient for that purpose. I have observed several cases which correspond quite closely with those published by Semmola and which were entirely unaffected by the usual methods of treatment. They recovered rapidly under mercury and iodide of potassium.

Bearing in mind the necessity for timely therapeutic intervention before the minute lesions in the heart walls have assumed irreparable proportions, it may be as well in all such cases, even if the diagnosis is doubtful, to give the patient the benefit of the doubt and proceed without delay with energetic antisyphilitic treatment.

Angina pectoris has frequently been mentioned in connection with cardiac syphilis. Hallopeau,* Rumpf,† Sacharjin, and others have described cases of angina pectoris of syphilitic origin. In some instances the angina was the sole symptom of disease, in others it was complicated by more or less grave myocarditic symptoms. Hallopeau and Rumpf appear to consider their cases as due to a syphilitic process affecting the nerves of the heart; commonly, however, angina pectoris is considered as in some way caused by endarteritis of the coronary arteries. We have seen that syphilitic endarteritis of the small branches of the coronary is always to be found in heart syphilis. Palma,‡ Crooke, Coekel,# and others have described endarteritis syphilitica of the larger branches and main trunks of the coronaries. It is therefore not surprising that syphilitic angina pectoris is occasionally met with.

The following case has come under my own observation:

Mr. H., aged fifty-three years, merchant, acquired initial sclerosis eight years ago, followed by moderate secondary symptoms. He was subjected to several courses of mercurial inunction, twice at Aix la Chapelle, in connection with sulphur baths, and took iodide of potassium off and on for years. Two years previous to his present malady his general health was much affected by reverses in business, though he never complained of any heart symptoms. He was first seen by Dr. Stieglitz, the family physician, on the evening of March 12, 1897. For some days previously the patient had complained

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* Such cases have been first described by Fournier, *Leçons sur la syphilis*, 1873, and by various authors after him.

* *Annales de dermatologie et de syphiligraphie*, 1887, vol. viii, p. 747.

† *Die syphilitischen Erkrankungen des Nervensystems*, p. 500, ff.

‡ *Prager medicinische Wochenschrift*, 1882, No. 6.

Schmidt's *Jahrbücher*, 1893, Band ccxxxviii.

of pain in the region of the heart and of general debility. On that evening, walking from his bed to the sofa, he was suddenly seized with an attack of intense pain in the left half of the chest, together with short and difficult respiration, great præcordial oppression, palpitation of heart, and a feeling of impending death. He was seen by Dr. Stieglitz within fifteen minutes after the onset of the attack, which was then already beginning to subside. He had less pain and breathed with less difficulty. The pulse was irregular, thready, and rapid (100 to 115). Examination of the chest showed extension of the cardiac dullness about three centimetres beyond the left mamillary line. To the right the dullness did not extend much beyond the border of the sternum. The action of the heart was irregular, jerky, and tumultuous. The lips and finger nails were cyanotic, hands and forehead clammy. Under the influence of morphine, strychnine, and nitroglycerin the distress disappeared, the acute attack subsided, and the heart's action slightly improved.

I saw the patient with Dr. Stieglitz on March 13th. He was extremely weak, hardly able to move, somewhat cyanotic, extremities cold and clammy. The pulse was very irregular, easily compressible, thready, and rapid, varying between 100 and 130, the slightest exertion increasing the number of beats considerably. There were no signs of arteriosclerosis. The apex beat neither visible nor palpable. The heart, especially the left ventricle, dilated. The dilatation was demonstrably increased by any exertion, such as turning in bed or coughing. He complained of pains in the left arm from the shoulder down the entire length of the arm, and of a sensation of numbness in the finger tips. The main nerve trunks of the left arm were very sensitive to pressure, but no anæsthesia could be made out. The centre of the manubrium sterni, at about the level of the second rib, was extremely sensitive to touch and the seat of considerable spontaneous pain. A similar spot, though not quite so tender, was located in the body of the sternum at about the level of the mamilla. On the left leg the traces of former serpiginous ulcerations could be seen. With absolute quiet in bed, ice bag to region of heart, strophanthus, morphine, and moderate doses of iodide of potassium, the patient improved but slightly, the pulse became slower, not quite so irregular, the dilatation of heart receded a little, pain in arms and sternum continued unchanged. He still reacted upon the slightest exertion with palpitation and dyspnœa, and the general prostration and debility persisted.

On March 21st he had, without known cause, another attack similar to the first, though not quite as severe. I saw the patient for the second time on March 22d. His condition was but little better than on my first visit, though the heart was not quite as much dilated and the pulse somewhat stronger. Besides the tender spot in the sternum, a very sensitive area could be made out on the sixth rib a little beyond the maxillary line in the right half of the chest. Here the rib was thickened, extremely sensitive to pressure, and on auscultation a distinct friction sound was noted over this spot. The concussion of the liver, which latter was not enlarged nor sensitive to the touch, was distinctly painful. The doses of iodide of potassium were now increased and mercurial inunctions systematically instituted. Gradual improvement set in.

Early in April very suddenly there began attacks of hiccough, which lasted throughout the next seven days for many hours at a time, and proved most distressing and debilitating. Numerous external and internal remedies were tried, but failed to give any relief. The only measure that almost instantly stopped the singultus was a rhythmical traction upon the tongue, the patient at the same time making a deep inspiration. This procedure, however, was extremely painful, and while it cut short the attack did not prevent its speedy recurrence. Gradually, however, the attacks of singultus became shorter in duration and less frequent, and finally ceased altogether.

Under the influence of continued mercurial inunctions and large doses of iodide of potassium the patient now improved rapidly. No more attacks of angina and acute dilatation recurred. The heart rhythm became regular, the pulse fuller and stronger. The painful spots in the sternum, rib, and arm disappeared entirely. By the end of April the patient was able to sit up and walk about his room, and on May 8th he was able to go out for a walk. Since that time he has resumed his usual occupation and habits. He has remained subject, however, to attacks of palpitation, though without any pains, and on several occasions after some overexertion he has had slight attacks of heart weakness with some dilatation of left ventricle.

It is evident that we have here a case of myocarditis with acute dilatation of heart and angina pectoris. There can be no doubt that the disease was of syphilitic origin. The absence of any arteriosclerotic symptoms, the simultaneous outbreak of fresh syphilitic lesions in sternum, ribs, and nerves, the failure of digitalis and other heart tonics to influence the condition, and the rapid and decided effect of the antisyphilitic treatment concur in corroborating this. It is worthy of note, too, that even larger doses of iodide of potassium seemed to have no effect, and the improvement commenced with the systematic use of mercurial inunctions. Until within a few days of the severe and acute outbreak the man had apparently been well and had never experienced any heart symptoms. But, nevertheless, and notwithstanding the occasional courses of inunctions and iodide in previous years, the myocarditic process had undoubtedly for a long time been slowly developing, though causing no symptoms until changes in the vessels and heart muscles had been effected sufficient to produce this sudden breakdown of the cardiac functions.

Reviewing, in conclusion, all these anatomical and clinical considerations, the necessity becomes apparent of methodically considering syphilis as an ætiological factor in heart disease. It may not happen very often that an absolutely positive diagnosis of heart syphilis can be established, but in every case in which the ætiology is not absolutely clear, and in which syphilis can not with reasonable certainty be excluded, the iodides and mercurial preparations should be accorded the same privileges as the digitalis and strophanthus, strychnine, and nitroglycerin. If carefully administered they can not do any more harm than these latter, and may do immeasurably more good.

I desire to take this opportunity to express my indebtedness to Dr. Van Gieson, Dr. Schwyzer, Dr. Maisch, and the staff of the Foundling Asylum, especially Dr. Norton and Dr. Northrup, for the courtesy and kindness with which they furnished me with valuable material for this investigation. I am indebted to the skill and kindness of Dr. Percy H. Fridenberg for the very exact and artistic illustrations.

SOLID TUMOR OF THE OVARY, ATTENDED WITH ASCITES,

TREATED BY PRELIMINARY TAPPINGS AND ABDOMINAL SECTION.

RECOVERY.

By WILLIAM C. WOOD, M. D.,
GYNÆCOLOGIST TO THE NATHAN LITTAUER HOSPITAL, GLOVERSVILLE, N. Y.

In 1890 Miss I. S., then sixteen years old, a glove maker, came to me suffering from what at first seemed to be a pernicious anæmia. She had naturally the white, transparent skin that accompanies red hair, and, though somewhat plump, was of a ghastly, corpselike appearance. Her bowels were constipated, menses irregular or absent, and appetite morbid, having a special craving for starch, of which she would consume large quantities.

The administration of iron and arsenic for several months caused a considerable improvement, and I lost track of the case. Several years afterward she married and went south to live. Three years ago she gave birth to a child which lived but three days. She was attended by a midwife, and had a protracted labor. The child, she says, was strong and apparently healthy, and thinks its death was due to lack of care; also says the midwife remarked that a doctor would have used instruments. Evidently, had she had a physician, he would have recognized the presence of a tumor.

About three months after her confinement she was troubled with a frequent desire to urinate, and later would discharge urine involuntarily when working or walking. Then noticed a sore spot in left ovarian region, which became worse during menstruation. The periods, too, began to be more frequent—every two or three weeks; the color varying—sometimes very pale, at others very dark. At such times the pain was of a cutting, sticking character. If she was walking in the dark, she would feel compelled to hold out her hand for fear something might strike against her abdomen. A year after the birth of her child she would bloat during menstruation, and this bloat would last longer each time, but would be relieved on taking medicine. About this time a bunch could be felt in the left side, which would shake or quiver with any sudden movement; while any jar, like stepping downstairs or jumping from a carriage, would cause her much pain.

In August, 1897, soon after coming north, the bloating became permanent, and in September began to increase rapidly, until November 1st, when her physician, Dr. C. B. Walrad, of Johnstown, N. Y., was obliged to tap her. He drew off about twenty pints of fluid and discovered a tumor filling up the *right side of the pelvis.*

I saw her in consultation about ten days later, when the question of operation was considered and rejected by us on account of the intense anæmia and debility. We decided to attempt to get her in condition and to continue the tapping as often as the abdomen became full enough to cause too much distress. She was ordered forced nourishment, Armour's preparation of bone marrow, and Bourboule arsenical mineral water.

The second tapping was performed by Dr. Walrad, as were all the tappings, two weeks after the first, the third in twelve days after the second, the fourth in ten days, and so on for eleven times, the intervals between the tappings growing shorter. Under Dr. Walrad's excellent care the general condition had become much improved and the patient was decidedly stronger, though far from what we considered to be safe. She was clamorous for an operation, however, and as the improvement seemed to come to a standstill we consented.

She was removed to the Nathan Littauer Hospital, Gloversville, and the operation performed on February 16, 1898.

A small incision was made in the median line of abdomen, which was greatly distended, and about twenty pints of fluid allowed to escape slowly. On enlarging the incision the tumor could be perceived occupying the right side and centre of pelvis. It had the appearance of a fibroid and was non-adherent, but on attempting to lift it out the fingers sank easily into its substance, tearing it, and giving rise to a profuse hæmorrhage. I therefore rapidly extended the incision in the abdomen until it reached above the umbilicus, and placing both hands under the tumor rolled it out on the abdomen. To my great relief, it was attached by a thin pedicle, which was quickly clamped, transfixed, and tied off with a double interlocking ligature. When the blood had been washed out of the abdominal cavity, it was seen that, although the tumor lay in the *right side* of the pelvis, it was attached to the left side—was, in fact, a tumor of the left ovary, which had twisted itself over to the right, and by thus rotating on its pedicle had shut off its blood supply, causing it to soften and partially break down. The right ovary was diseased and was also removed. An incision was made through Douglas's *cul-de-sac,* and a strip of gauze passed through for drainage.

The uterus was normal in position and only slightly enlarged. The tumor measured seven inches in diameter and about three inches and a half thick. The wound in the abdomen was closed with a single row of silkworm-gut sutures, which were removed on the tenth day, the gauze drain on the eighth. Convalescence was rapid and uneventful, unusually so, in fact, and now, five months nearly after the operation, the patient is at work in a glove shop.

July 10, 1898.

HYPERTROPHY OF THE PHARYNGEAL TONSIL,

AND THE IMPORTANCE OF ITS RECOGNITION BY THE GENERAL PRACTITIONER.

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It is not my purpose in this paper to incorporate or dwell upon the history, bibliography, or clinical minutiæ of the subject under discussion, or to enter upon an exhaustive study of the condition from the point of view of the specialist. My object is simply to present a picture of the disease as it manifests itself to the general practitioner, emphasizing its frequency, its conspicuous and important place in the general practice of medicine, and its prompt and satisfactory submission, with all its attendant train of symptoms, to the application of the proper measures for its relief. The disease is one of comparatively recent recognition, and it is only within the last very few years that it has been accurately demonstrated and described. If I succeed, even in a very slight degree, in impressing any members of the profession at large with the important and imperative nature of the indications for the treatment of this distressing affection, I shall consider my time and trouble well expended; for the wedge once fairly started, the point is not easily turned aside, and it is not long in being driven squarely home.

Hypertrophy of the pharyngeal tonsil, more familiarly known as adenoids in the nasopharynx, is perhaps the commonest of all the chronic throat diseases with which we have to deal, with the possible exception of nasopharyngeal catarrh. It is important not alone *per se*, but because of the far-reaching and lasting effects which it is capable of producing. A growth harmless and non-malignant in itself, its influence has yet corrupted, disorganized, and sapped the very foundations of many a life, branding the unhappy victim with marks and stigmata but too often carried to the grave, when the timely recognition of the condition in the nasopharynx, and the proper treatment thereof, would have stayed the shadow of disease, and given to the world a better and a brighter life as a monument to science and manipulative skill. This may seem an extravagant statement, but it is literally true. Many a child, and adult, too, have I seen brought for treatment when the mischief caused by these adenoids had been allowed to progress beyond repair; yet even in the latest stages prompt intervention often gives remarkable results, and at least prevents the occurrence of further harm from the same cause.

Definition.—Hypertrophy of the pharyngeal tonsil is, as its name implies, a simple hypertrophy, a hyperplasia of the lymph tissue in the vault of the pharynx (the pharyngeal tonsil), attended with various symptoms, both direct and reflex—mouth breathing, snoring, nasal discharge, and phlegm in the throat, and often grave complications.

Ætiology.—The causation of the condition is obscure. Inasmuch as it never develops after puberty, it may be called a disease of childhood. Yet not infrequently its effects are manifested only in adult life, or at least are not recognized until that time. The enlargement has no tendency to decrease in size at puberty, but its deleterious influences are, as a rule, lessened from the fact that as the pharynx grows larger the relative size of the hypertrophy to the pharyngeal space is, of course, less. Within certain limitations the results of the condition are in direct proportion to the size of the growth.

In most children afflicted with this disease there is probably a tendency to its development which is aroused into activity by some acute infectious disease, such as diphtheria, scarlet fever, measles, or others. Doubtless, it is often congenital. There is reason to believe that the changes resulting in the formation of these hypertrophies may be induced by a series of inflammatory conditions of the upper air-passages, as pointed out by Bosworth; but this can not be accepted as a frequent cause.

In a case that I have on my records, I removed a Tornwaldt's bursa from the pharyngeal vault of a young lady aged twenty-four years. Two weeks afterward there was a typical adenoid growth occupying the site of the former bursa.

There is little tendency to continued growth in these enlargements. Having attained a certain (or perhaps it would be nearer the mark to say an uncertain) size, they remain practically unchanged, though the size of a given growth will vary very much at different times under the influence of local irritation or atmospheric conditions.

Heredity is a marked factor in the existence of the condition, and it is rather the rule than the exception for more than one person in a family to be affected. The so-called "lymphatic temperament" undoubtedly influences its development. In a large percentage of cases that have come under my observation there have been present hypertrophied faucial tonsils and follicular enlargements over the posterior wall of the pharynx. To such an extent does this hold good that in every case of hypertrophied faucial tonsil or enlarged follicles on the pharyngeal walls, the general practitioner should bear in mind the more than possible concurrent existence of hypertrophy of the pharyngeal tonsil.

As further predisposing causes I am inclined to think that cold or damp climates are more apt to favor the development of the disease than warm or dry climates; and that the negro race is not so prone to the condition as are whites. I do not mean by this that in negroes and in warm, dry climates the disease is rare, but only that it is more common in the other cases mentioned. Why this should be so I shall not attempt to explain here, except to say that in changeable climates and damp atmospheres the function of the mucous membrane of the upper air-passages is always more prone to perversion.

Pathology.—The growth is usually situated in the middle of the dome of the pharynx, extending in every direction, according to the size of the hypertrophy. There is a tendency toward the posterior wall of the pharynx rather than other surfaces. It is composed of small, soft lobules of lymphatic tissue, massed together, giving the feeling of a bunch of diminutive grape pulps. They are well supplied with minute blood-vessels, which are easily ruptured. The lobules may be more or less prominent, the whole mass usually presenting a smoother appearance as the child grows older. The growth seldom occupies the entire postnasal space, though in two cases that I operated upon recently it was so large as to be pressed into the posterior nares, completely blocking them up. I believe that the hypertrophy rarely occludes the Eustachian orifices, though even a slight enlargement will markedly interfere with the muscles regulating the flow of air through these tubes, and so help, in connection with the progress of the often-present local inflammation, to set up first a catarrhal and then a suppurative otitis media. This is not only dangerous to the hearing of the patient, but its presence is an absolute menace to life itself.

It has been asserted that the development of the inferior maxillary bone is frequently interfered with. I do not think that this is strictly true, though certainly it often appears to be so from the dropping of the lower jaw for breathing purposes, and its retraction by muscular action.

It is probable that the very large majority of cases of suppurative middle-ear disease are due to the presence of adenoids in the nasopharynx; yet how many of these cases are treated accordingly?

It is true also that few patients with well-marked adenoid hypertrophies escape the middle-ear complications. This is a significant fact, and can not be too well remembered. Dench says: "This condition is undoubtedly responsible for more than half of the pathological lesions met with in the tympanum."

I shall not enter here into a description of the growth microscopically, or of its appearances in the nasopharynx, in detail, for they are familiar to every specialist, and such minutiæ would probably be uninteresting to the general practitioner.

Symptomatology.—In most instances the hypertrophies seem dormant and unobtrusive for a long time, asserting themselves only upon the appearance of some exciting cause; or else their baneful effects come on so gradually as to escape notice.

Perhaps the child can not breathe comfortably through the nose. It goes about during the day with its mouth open for breathing purposes. When asleep, the mouth is wide open, and the child is apt to snore, even to veritable snorting. There is discharge from the nose, and perhaps hawking and spitting to remove the discharge from the pharynx. Then deafness comes on gradually, caused by retraction of the drum membrane, and perhaps ankylosis of the ossicles in the middle ear from a catarrhal otitis media caused by insufficient air supply through the Eustachian tubes. The catarrhal condition grows worse. The inflammation assumes an exudative form. The patient complains of earache. The middle ear becomes filled with fluid. The distended drum membrane ruptures. The exudation is infected from the air and becomes purulent, and the case is seen for the first time by the family physician, who, in nine cases out of ten, tells the child's parents that it has had an "abscess" in the ear, which is now discharging its contents. The hearing of the child is at this time much impaired, and is threatened with serious permanent injury. Indeed, the disease having progressed thus far, the hearing can seldom be completely restored, though it may even now be much improved with only slight permanent impairment, and all the symptoms can be relieved by prompt and proper intervention. But this only too seldom happens.

The parents, having the opinion of the family physician that there is nothing very serious the matter, syringe out the ear, perhaps, and with his consent, even sometimes by his order, plug up the external meatus with a piece of cotton, the very worst thing that could be done. By this means the purulent discharge is dammed up in the ear, unable to escape; is forced up from the middle ear into the mastoid cells, and a purulent mastoiditis is set up. Even now the child's life can be saved by a prompt mastoid operation. If this is not done, the pus burrows through the bone to the brain (which may, of course, be reached through other channels without a primary mastoiditis), a cerebral abscess or a septic meningitis results, and death ensues.

Or, the discharge may never get out of the ear into dangerous localities; but the inflammation and purulent exudation will remain; the hearing will be lost beyond recovery; and the case will continue in this state, while the adenoids are allowed to stay just where they are, and where, in too many cases, they will be to the end. A purulent process in the ear is a terribly dangerous condition, since it might at any minute invade a field where its presence would kill; and if, as is most frequently the case, it is caused by a hypertrophied pharyngeal tonsil, the task of controlling it is hopeless until the cause is removed, which, being done, the rest is astonishingly simple, inasmuch as the process stops almost if not quite, of itself. One ear or both may be affected.

The above is the most common course of symptoms in this condition. Many other and important effects are often noticed, but this picture is the most frequent, as well as the most dangerous. In view of these facts, any physician who is confronted by a case of purulent discharge from the ear is, under most circumstances, either criminally ignorant or criminally negligent if he does not advise the patient at once that he should consult a specialist.

In almost every case of adenoids in the nasopharynx there is present the above-mentioned mouth breathing and snoring, together with a mucous discharge more or less profuse from the nose and into the pharynx; and the presence of these signs is almost diagnostic of the presence of the condition. It must not be forgotten that the discharge usually ceases in dry weather, and in summer, so that cessation or absence of this symptom is by no means a sign that the disease is not present.

At a recent meeting of the Maryland Medical and Chirurgical Faculty, as reported in the *Medical Record,* Dr. William Osler said that the profession as well as the laity was to blame for allowing children to go unoperated upon when they gave every evidence of large growths of adenoids filling the nasopharynx; and he thought the profession at large needed education on this subject just as much as the laity. He saw every year eight or ten cases of serious trouble resulting from negligence on the part of the physician, who should have compelled the parents to submit the child to an operation at the hands of a specialist. He said that diagnosis was an easy matter, and a child that breathed with open mouth, and snored in its sleep, should be at once put in the hands of a specialist. This was an important subject, and the profession needed enlightenment as well as the public. Such is Osler's opinion, and, as always, it is a valuable one.

L. Emmett Holt, the celebrated pædiatrist, says: "Adenoid vegetations of the vault of the pharynx form a very common and, by the general practitioner, a much-neglected condition. They are the source of more discomfort, and the origin of more minor ailments, than almost any other pathological condition of childhood."

A frequent symptom is the loss of resonance in the voice. The nasal element is lost, and the patient talks as though he had a severe cold in the head. Huskiness and hoarseness are often present, and may lead to a mistaken diagnosis of laryngeal disease; hence this should always be borne in mind.

Cough may or may not be present. When present, it may be either small, dry, and not very annoying, or persistent and distressing, caused by the dripping of mucus into the lower pharynx and larynx. It must be remembered, however, that cough of a much more serious character is apt to supervene, from changes brought about in the respiratory apparatus by air breathed through the mouth, and consequently not warmed, moistened, and filtered, as it would be were it properly inhaled through the nose.

Headache and vague pains in the nose may be complained of. The headache is usually not localized, and does not occur as frequently in this as in intranasal morbid conditions.

Asthma is by no means an infrequent manifestation, and is practically invariably a reflex symptom. It may occur as the result of occlusion of the posterior nares, but this is unusual, and my experience is that asthmatic attacks are most common in relatively small hypertrophies. Why this should be so I am unable to say, and I only mention it as a clinical fact. I am of the opinion that a very large percentage of cases of spasmodic asthma are traceable to adenoids in the nasopharynx, and are curable by the simple operation of removal of the hypertrophies.

Spasm of the glottis, or false croup, is often caused by reflex action set up by the presence of adenoids in the nasopharynx. Indeed, it will be found that in a large proportion of cases of false croup adenoids are present; and, further, that their removal frequently lessens in a marked degree the tendency to repeated attacks of the spasms.

Pavor nocturnus (night terrors) and insomnia, or disturbed and restless sleep, are frequently met with in children, concomitant with adenoids, which cause obstructed respiration, either by the size of the growth or by the accumulation of their profuse mucous secretion in the nasopharynx. Partial asphyxia occurring, an attack of convulsions may be precipitated.

Attacks of acute sore throat are common.

In many cases of hypertrophied pharyngeal tonsil the facial expression of the patient is of itself almost diagnostic. Improper and often insufficient breathing renders the child logy, dull, and stupid. The parents will complain that the child is inattentive and absent-minded, perhaps. These conditions have the effect of producing a listless expression, with drooping and inactive facial muscles. Added to this is the open-hanging mouth, giving to the whole an expression of heaviness and stupidity, which in the vast majority of cases is most unjust to the child, who is in reality quite as bright naturally as other children, but is the unhappy victim of a condition that has no tendency to recovery of itself, and is but too often either unrecognized or ignored by family and physician. It is unjust to the child because a condition which is so easily and quickly amenable to the proper interference is allowed to continue, giving an altogether unenviable appearance to a child normally bright and happy, and often altering its entire disposition from one of sunshine, cheerfulness, and sweet temper to one of morbid brooding, unhappiness, and inactivity.

Diagnosis.—The diagnosis of the condition is not difficult. Mouth breathing and snoring, with mucous discharge into the nose or pharynx, often accompanied by hawking and spitting and the characteristic facies, are ordinarily sufficient for at least a presumptive diagnosis in a child. Posterior rhinoscopy or digital examination of the nasopharynx confirms the diagnosis. The feel of an adenoid hypertrophy is peculiar and characteristic, and once familiarized can not be mistaken. It is to be remembered that adenoids exist, especially in older children and young adults, when no sign may be present other than headache, asthmatic attacks, cough, or deafness. It is therefore incumbent upon the physician, when these symptoms present themselves, to see that a thorough examination of the upper respiratory tract is carried out. Nor is it to be forgotten that hypertrophied faucial tonsils and follicular enlargements on the walls of the oropharynx furnish grounds for a strong suspicion of the presence of adenoids. In all such cases, therefore, they should be carefully looked for, remembering that even a relatively slight enlargement may be capable of producing disastrous effects. Cold in the head in a child under twelve years of age is an exceedingly rare condition, and cases of discharge from the anterior nares resembling acute coryza in this class of patients are almost invariably due to adenoids in the pharyngeal vault.

Complications and Sequelæ.—Some of the complications have been alluded to under symptomatology.

Anæmia, general malnutrition, and even deformity may be seen as a result of interference with sleep and proper respiration.

Chorea may be the result of reflex irritation arising from hypertrophied pharyngeal tonsils. Holt, in his work on *Diseases of Infancy and Childhood*, says: "The association of the two diseases (chorea and adenoids) is not very infrequent."

Adenoids, by reflex irritation, are at this time one of the accepted causes of epilepsy.

In short, the continued presence of these growths may lead to the development of a general neurotic condition with any or many of its attending phenomena. Prominent among these may be mentioned nocturnal incontinence of urine, a condition which confronts the general practitioner almost daily, and which he is not infrequently at a loss to explain. Dr. A. C. Groenbeck (*Jahrbuch für Kinderheilkunde*, 1897), as cited by the *Medical Record*, operated on thirty cases of adenoids associated with enuresis, with the following results: Twelve patients were completely cured; in two of these enuresis recurred simultaneously with a new growth of adenoid tissue; fifteen were improved, two only partially; and three were unimproved.

It is to be borne in mind that the mouth breathing caused by the partial or complete obstruction of the nares by the hypertrophy is far from being devoid of danger. Air drawn through the nose is warmed and moistened by its passage over the turbinated bodies, and is at least partially filtered by the small hairs in the nostrils, before passing into the larynx and lungs. When drawn through the mouth, it enters the larynx cold, dry, and dusty, and is abundant cause for irritation, setting up a laryngitis, tracheitis, bronchitis, or pneumonitis, and weakening the resisting power of the lungs. Even, therefore, if there were present no indication for treatment other than the relief of mouth breathing, it must be admitted by all that it is imperative to meet this, and without any unnecessary delay, by the removal of the obstruction in the nasopharynx.

Patients with adenoids contract the acute infectious diseases more easily than do others, and suffer from them more severely.

Treatment.—There is but one satisfactory treatment for the condition, and that is, as in hypertrophied faucial tonsil, the removal of the enlargement.

Astringent applications and douches occasionally give temporary relief, but even then only to a very limited extent. Chemical means or the electro-cautery may be used to destroy the growth, but are unsatisfactory.

Removal is accomplished by forceps or curette, or by a combination of the two. My own preference is for the latter—that is, both forceps and curette. I use a modification of Curtis's or French's postnasal forceps to grasp and cut away the growth, after which I use a small Gottstein pharyngeal curette to cut away any small portions that may remain. It is unnecessary at this time to enter into the technique of the operation; suffice it to say that the whole operation seldom occupies more than a minute.

In the choice of a curette I should like to draw attention to the fact that a very frequent mistake is made, even by many rhinologists, in the use of an instrument much too large. The blade of the Gottstein curette is straight, and, should too large a size be used, it is obviously impossible for the natural curve of the pharynx to be properly curetted. Moreover, with a large instrument there is added danger from possible injury to the Eustachian orifices. I have in several instances used a modification of the Jarvis wire snare, bent to a right angle to reach well up into the nasopharynx, for the removal of these growths, as suggested by Bosworth. This is an eminently satisfactory method in some cases, but is only useful where the growth rises sheer from the pharyngeal surface, or is pedunculated. This method, besides not alarming the patient so much as forceps and curette, has the additional valuable recommendation that with a twenty-per-cent. solution of cocaine the operation is almost absolutely painless. In young children, whatever method is adopted, it is wisest to use chloroform, a primary anæsthesia being usually sufficient for the short operation. In older children and adults I use a twenty-per-cent. solution of cocaine in a saturated boric-acid solution (aqueous), and the pain is inconsiderable. Hæmorrhage is often severe for a few seconds, but invariably stops of itself with little loss of blood.

Where chloroform is administered there is no reason why the growth should not be entirely and completely removed in the one operation. Where only local anæsthesia is used, two or more sittings may be required, but even this is unusual.

If the growth is not completely removed the operation will probably be useless, or at best of only temporary benefit, for the enlargement will return in nearly every case to its former size, or will perhaps increase. If, however, the extirpation has been thorough, it is agreed by all observers that there will be no recurrence of the disease.

Frequently, after operation, more or less well-marked follicular enlargements appear on the posterior surface of the oropharynx. These usually disappear spontaneously in the course of a few weeks. Their departure may be hastened by the local application of simple astringents.

Prognosis.—The prognosis is good in all cases. Even in a long-standing chronic suppurative otitis media, with much loss of hearing, the results are rapid and beneficial. Hearing will, of course, not be completely restored, but much improvement will be noticed. Unless there is caries of the ossicles or walls of the middle ear, the discharge will be promptly controlled.

With other causes excluded, the prognosis for the other symptoms enumerated is excellent. The rapid and wonderful improvement in disposition and facial expression that is observed in the child after operation is often almost incredible, and is one of the most gratifying results that we have in throat practice. Indeed, I know of no condition in the whole scope of general surgery or practice whose correction is relatively productive of such far-reaching, marked, and satisfactory results. And I take the liberty of urging the earnest consideration of and attention to this disease which the latter-day accurate demonstration of the condition has shown it unquestionably to merit.

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AUTO-INTOXICATION.*

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The term auto-intoxication is conveniently used to designate a long series of morbid events with the most diverse clinical manifestations. It was, so far as I know, first used by Netter in 1884, in a somewhat narrow and technically etymological sense, including only cases in which the poisoning occurred from materials normally present in the tissues of the body. It was Bouchard, however, whose classical researches cleared the way for all subsequent workers, who broadened the scope of the word, and fixed its place in medical literature. This he did in his article in the *Union médicale* in 1886, and in his published volume on *Auto-intoxication*, which will remain a monument to his industry and genius, and mark an epoch in the progress of medicine. According to this author, the term includes all those cases in which the poison is generated within the organism, in the common and not in the ultra-scientific sense of that phrase. From a strictly physiological point of view the contents of the stomach and intestines are outside of our organism; but for most practical purposes they are most emphatically inside of it. From every practical and utilitarian point of view, and without any undue laxness of scientific terminology, all chemical products produced within the gastro-intestinal tract should be regarded as autogenetic in origin. This interpretation, as an eminent French writer (Boix) observes in a recent brochure, is broader and truer, and appears to be in accordance with the majority of pathological processes, as it is frequently impossible to give to each of these poisons of different origin its due share in the production of disease. He also says that it is the current acceptation of the meaning of the word. Vaughan would only designate those diseases as autogenous which arise from changes in the living cells of the organism itself. The word auto-intoxication, which has been firmly intrenched in medicine by French investigators, does not occur in the index to his volumes, nor is it mentioned in his chapter on autogenous disease. The time, in my opinion, is not ripe for a practical classification of diseases, such as he makes, into bacterial, fungous, protozoal, animal parasitic, intoxications, traumatic, and autogenous, although these sources of disease processes may and must be scientifically recognized.

By auto-intoxication, therefore, we mean a toxic condition broader than the strict etymology of the word implies, but fixed by usage and the priority of original research, and resulting from chemical poisons formed either as an incident of tissue metabolism, or as products of bacterial growth in some part of the animal economy. It is a widespread condition. Either as a primary or secondary element it enters into the pathology of very nearly every case with which the clinician is called upon to deal. This is a pretty broad statement, but I am satisfied that a searching and thoughtful inquiry into the problems of disease will fully bear it out. Its influence upon current medical thought can be seen in the circumstance that, at the present time, the chemical factor very nearly dominates the realm of pathology. That form of the germ theory of disease which prevailed but a little more than a brief decade ago has been supplanted by another which recognizes in the chemical products of germ growth the ultimate causes of germ disease. Not only so, but in a host of morbid conditions which are not primarily of germ origin, we find the same or similar chemical agents at work, secondary in historical sequence, but frequently paramount in importance. Again, we are startled by such revelations, for instance, as this, that deutero-albumose produces physiological effects indistinguishable from those of Koch's tuberculin when subcutaneously injected in animals. The same elevation of temperature, the same local congestion around tuberculous foci when the subject of experiment is tuberculous, the same lethal results when the dose is correspondingly large, occur in the one case as in the other. Pepsin, peptone, egg albumin, and other proteids produce notable toxic phenomena. Here, indeed, is food for thought. The chasm which separates bacterial ptomaines from the leucomaines of tissue metabolism and the intermediate products of digestion is neither broad nor impassable. The suspicion that they merge into each other gradually becomes a settled conviction, and links together the entire chain of toxæmic phenomena.

Keeping in view the constant presence in the tissues of poisonous leucomaines in varying kinds and quantities, together with the myriads of bacteria in the nutrient culture media of the gastro-intestinal canal, we feel obliged to ask ourselves the oft-repeated but irrepressible question: Why are we not, in the ordinary conditions of health, overwhelmed with these multiform poisons, and our very existence threatened or terminated?

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With regard to the leucomaines, we may tentatively accept the view of Gautier that they are formed in the tissues, and are, for the most part, destroyed near their seat of formation by a process of oxidation. Just what these final oxidation products are we do not know; but it seems to be very probable that they may be uric acid, xanthin, and similar compounds. It is interesting to note at this point that uric acid, which has been demonstrated by Bouchard to be practically non-toxic, in spite of the untenable assertions of Alexander Haig, contains thirty-seven per cent. more oxygen than does paraxanthin, a highly poisonous leucomaine. This gives incidental support to the theories of Gautier, which explain numerous phenomena; and, among others, the marvelous effect that open-air exercise has been shown to have upon the toxicity of urine by Bouchard and others. Its poisonous properties are said to be reduced nearly one third, and this would be in part at least accounted for, in accordance with this view, by the greater oxidizing power of the blood, and the interstitial fluids furnished by it, owing to the larger intake of oxygen and the accelerated circulation incident to open-air exercise. *Per contra,* the rapid development of toxæmic phenomena in many bedridden patients with feeble oxidizing power would also find here a partial explanation.

But oxidation is probably not the only method by which the organism protects itself against its own toxines. There probably are processes that we know not of, as inexplicable as the demonstrated germicidal power of living healthy blood serum, which aid in the conversion of toxic into non-toxic chemical agents. Before we can solve these riddles, the fathomless depths of nutrition, about which we talk so glibly and know so little, must yield up their secrets; and I fancy that the "secrets of the sea" are not more securely guarded.

Our protection from ptomaines, which are poured into the circulation from a great variety of sources, but principally from the gastro-intestinal tract, depends upon a variety of conditions, which may be favorable or otherwise; and consequently our protection may be sufficient for our needs at one time, defective at another, and entirely fail at still another, which latter condition means the speedy termination of our existence. The kind and quantity of bacteria actively existent in the alimentary tract depend upon the character of our food and the integrity of the digestive functions. If these latter are normal and vigorous, the toxicity of fæcal matter is much less than is commonly supposed. A normal gastric juice will permit but few active micro-organisms to pass the pyloric gate; but, excepting in the infant, there is a permanent mixed infection of the lower alimentary tract which varies remarkably at different times, indicating a greater or less efficiency of some restraining or inhibitive function below. Intestinal digestion doubtless plays an important rôle; but under the most favorable conditions there are probably enough poisonous ptomaines and toxines formed and brought in contact with the absorbing surface of the intestinal canal to cause considerable damage if they should reach the general arterial current unmodified. In the first place, we must credit the intestinal epithelial cells with a certain selective and transforming power. It is probably through this agency that peptone, the final transformation product of proteid digestion, is converted into serum albumin before entering the circulation. It is just as plausible to suppose that the intestinal epithelial cells will modify and transform ptomaines, to a certain extent, as peptones. Having entered the portal circulation, however, these products will have to run the gantlet of the liver, which stands as a guard to the general circulation. Its power of so modifying and transforming toxic proteids as to render them either less toxic or innocuous is well established. It is interesting to recall, in this connection, that the liver is apt to suffer severely in doing this picket and scavenger duty. Among other things, it has recently been clearly proved that at least one form of hypertrophic cirrhosis is thus produced. These ptomaines must therefore share with alcohol the obloquy of the cirrhotic liver, and it is quite possible that they are the principal direct causes, the alcohol acting indirectly.

But the intestinal epithelium and liver combined have only a limited protective power. Their action is measurably shown by the difference in effect between a certain dose of morphine or other alkaloid given by the mouth and the same dose given by subcutaneous injection. Such poisons as finally enter the circulation will exert their physiological effect upon the entire organism, subject, it is fair to assume, to much the same antagonistic and destructive influences as have already been referred to in speaking of leucomaines.

After passing through the circulation, with such transformation and modification as the defensive machinery of the organism can produce, these poisons, from whatever source, are hurried to the kidneys and rapidly eliminated from the system. This process is going on constantly, and with active kidneys and plenty of fluid tends to keep, and under normal conditions does keep, the accumulation of poisons from whatever source from reaching the disease limit. For it must be remembered that they are constantly formed in the physiological processes of the body, and that every organism would quickly die from auto-intoxication, in spite of all defensive measures, if elimination was sufficiently impaired.

Such, then, rapidly outlined, are the main reasons, as they appear to me, why we continue to exist in spite of varying grades of auto-intoxication.

Let us now hastily glance at the nature of the poisons under discussion. Our present knowledge does not permit a classification, except in the most general manner. Only a small number of them have been isolated. Their division in part into leucomaines and ptomaines has already been indicated. But this is only partial. The leucomaines and ptomaines are analogous basic principles derived from proteids. The leucomaines include all such bodies formed in the tissues, either as a result of retrograde metamorphosis or of morbid processes not bacterial in character. The ptomaines result exclusively from bacterial growth. But they do not include all of the products of bacterial growth. For instance, the diphtheria bacillus does not produce any poisonous ptomaine; and yet it does produce chemical poisons of extreme virulence. The infectious diseases are probably produced by bacterial poisons that are not ptomaines. To these poisons, largely indeterminate in character, the term toxines is technically applied. Here the etymology of the word and, more unfortunately still, its current use, are much broader than this restricted application. They have been called toxalbumins, which is entirely unpermissible if, as is now generally accepted, they are not albuminoid bodies at all. They are by far the most virulent poisons known, and merit the designation of toxines *par excellence.* A toxine has been isolated from cultures of the tetanus bacillus of which 0.000000005 of a gramme kills mice. Figuring on an approximate comparison of weight, I estimate that the fatal dose of this toxine for an adult person weighing a hundred and fifty pounds would be one three-hundred-and-fiftieth of a grain. Let us endeavor to realize the bearing and significance of such an incredible virulence. In the first place, it stands as an apparent bar to the clinical recognition of such toxines except by physiological methods. Taking into account the large number of these poisons with only a few of which we are acquainted, together with their strong similarity of chemical constitution, we can scarcely hope to distinguish them in either the physiological fluids or excretions by means of analytical reaction. This might be true even if the quantity was sufficiently large for successful manipulations. But when we are dealing with agents with even a tithe of the virulence of tetanus toxines, and there is no doubt in my mind that we do have such to deal with clinically, the difficulties are manifestly great, if not insurmountable. The dialyzation method of Hankin, and the methods of Stas Otto, and Brieger with further modification may at least put us on the track of physiological determination upon lower animals. These processes, however, are too complicated and tedious for routine clinical work, but would be available for cases of unusual obscurity.

Aside from the ptomaines which are caused by the splitting up of proteids by bacterial growth, and the bacterial toxines, the exact nature and derivation of which is still somewhat obscure, we have to deal with another set of chemical poisons of far-reaching importance. I refer to the interstitial fluids of the germ body; for it should be remembered that the body of the germ is a complex of solids and fluids like other organic bodies. So long as the germ is alive the fluids remain within the cell; but if the cell undergoes decomposition these fluids are liberated, and the researches of Cantanni and others have shown that they are, in many cases, intensely virulent. The extract which he thus obtained from sterilized cultures he terms *pyrotoxina bacterica.* This substance, which does not appear to be a proteid, as it does not respond to the biuret, xanthoproteic, or Millon's tests, produces, when injected into animals, the entire symptom-complex of fever. A single large dose will sometimes produce progressive fatal marasmus. The importance of this discovery to the practical clinician it would be hard to overestimate. In rich culture fluids, like the intestinal contents, germ disintegration must proceed by the millions; pyrotoxine would thus be probably liberated and absorbed, with the consequent production of its morbid effects. It appears to me quite probable that many cases of auto-intoxication may be thus explained. I can not enter into details further than to add that it is most abundant in certain non-pathogenic germs, and appears to be in no way connected with the pathogenic products of the living germ.

The existence of pyogenetic proteids has been demonstrated by Buchner. These are probably the immediate causes of the suppurative processes, and when injected in the blood of animals have been experimentally shown to produce a tremendous increase in the number of white cells. We are familiar with the leucocytosis of certain infectious states. A very instructive case along these lines was recently referred to me by a colleague, under the belief that it was pernicious anæmia. The anæmia was profound and sufficiently pernicious, but a careful study of the blood forced upon me the conclusion that it was not due to a primary disease of the hæmatogenic function. There were scarcely any nucleated red cells and no typical megalocytes; there were no myelocytes; but there was a tremendous increase in the number of white cells. The red cells were reduced to a little over a million, the count being verified by Dr. L. P. Drayer. The white bore the ratio to the red of 1 : 9, according to his count, and 1 : 12, according to mine, the two counts being made three or four days apart. But neutrophiles and small and large lymphocytes existed in about normal proportions. It was, in short, a remarkable leucocytosis.

In searching for the cause of the anæmia I found symptoms of a chronic intestinal disorder; and a thorough microscopical study of the fæces and colon washings revealed literally millions of a microscopical tænia, which I have been unable to identify—much smaller than *Tænia nana.*

There was at the same time the most intense bacterial infection, the colon bacillus predominating. I expressed the opinion that the anæmia and the leucocytosis were the result of intestinal auto-intoxication; and the case being left under my care, I set about securing intestinal disinfection, which was fairly well accomplished in about three weeks. At the end of this time the count of red cells was about two million and the white cells were entirely normal in proportion. The leucocytosis had disappeared. There is only one explanation of the phenomena above recited. The pyogenetic or chemotactic proteids of Buchner, or other similar bacterial products, were absorbed from the intestine, producing the leucocytosis, which disappeared with them; the remarkable regeneration of red cells furthermore demonstrates the destructive influence that these or associated poisons had exerted upon the hæmatogenetic function. The case is still under observation.

Aside from the bacterial and metabolic poisons already referred to, I can only take time to briefly mention the fatty acids, butyric, lactic, etc., acetone, and similar compounds, which are produced in such large quantities in many cases of impaired digestion. Many of these agents have been experimentally shown to produce vascular and cirrhotic changes in the liver; and similar irritative phenomena will undoubtedly occur in other organs and tissues beyond the liver.

In regard to the clinical recognition of the toxæmias resulting from the poisons already considered and others, time will only permit the briefest reference. The symptomatology is most diverse. Muscular weakness and twitchings, general malaise, progressive emaciation, headache, neuralgia, neuritis, pruritus, somnolence, and insomnia are among the protean manifestations of these multiform poisons. Their chemical recognition, and especially their differentiation, is still impracticable; and yet in the urine, through the medium of which they are mainly eliminated, they sometimes present reactions which are helpful. I have for some months been making extensive clinical observation with Tanret's reagent, chloride of gold, tannic acid, phosphomolybdic acid, etc., in a considerable variety of gastro-intestinal and neurological cases, but am not yet ready to epitomize the results. I can only say that in many cases reactions of the greatest interest, and such as can scarcely be due to anything else than ptomaines and leucomaines, are obtained. I have again and again witnessed these reactions disappear and reappear with disappearing and reappearing symptoms of auto-intoxications, and I believe that much of clinical value will be revealed along these lines.

Let me briefly outline a few cases of interest in this connection:

Case I.—A case of chronic gastritis, with consecutive entero-colitis. There was little or no stomach distress, the local disturbance being largely manifested by troublesome diarrhœa alternating with constipation. There was marked debility, with various forms of nervous disturbance, the principal one being paroxysmal attacks of dyspnœa. Several of these occurred in my office, and were really quite distressing.

The conventional Ewald test breakfast was given and removed in an hour. The contents were of a bright yellow color, which was at first supposed to be due to bile, but there was no response to the usual tests for bile.

Bacteriological investigations showed that the color was due to the growth of the *Bacillus pyocyaneus*, of which the gastric contents were almost a pure culture. In a stab culture in a tube of agar-agar the pigment was yellow in the lower part of the tube and green on top, the green pigment consisting of the feebly toxic ptomaine pyocyaneum, being soluble in chloroform and crystallizing in needle-shaped crystals. The toxic character of some of the ptomaines or toxines produced by the *Bacillus pyocyaneus* is well established, several deaths having been reported from this cause. In my patient the intoxication had been gradual, and the infection had shown itself in gradually developed nervous and nutritional disturbances. I should have stated that in this case there was no free HCl, and only about 0.07 per cent. of combined HCl.

Thorough disinfection of the stomach, with other proper treatment, caused both the disappearance of this germ from the stomach contents, as shown by subsequent examinations, and a very great improvement of symptoms.

Case II.—In another case a condition of profound chronic toxæmia was found, with symptoms of extreme prostration, persistent severe headache, anorexia, insomnia, and some dyspnœa. There was obstinate constipation, and a feeble gastric digestion; also albuminuria, ranging from ten to seventeen per cent. of volume, by the centrifugal method. There was also a severe mucomembranous colitis, the contents of the colon being a very rich culture of the *Bacillus coli communis.*

My opinion at the time was that the albuminuria, in common with the general symptoms, was the result of auto-infection from the colon, and possibly also higher up in the digestive tract. The integrity of the kidneys was indicated by an excretion of urea, chlorides, phosphates, etc., clearly within the normal range. Although the most painstaking search by the aid of the centrifuge and fresh specimens was repeatedly made, not a single cast could be discovered.

The evidence of albuminous putrefaction was further strengthened by the fact that there was a daily excretion of nearly two hundred milligrammes of indican. The patient was placed upon suitable eliminative and local treatment, with temporarily gratifying results. The albumin gradually fell to four per cent., and the headache and general weakness became less and less.

Some three months have now elapsed, the patient visiting me rather infrequently from a neighboring town. The albuminuria has not disappeared, nor have the intestinal infection and catarrh been more than palliated.

But in the face of all this improvement a few casts have recently appeared in the urine. The nutrition of the renal epithelium has suffered by the constant transudation of albumin and toxines; and it is to be feared that the patient may ultimately succumb to a chronic nephritis caused by an albuminuria itself the product of an auto-infection.

In a recent number of the London *Lancet* a very interesting case of suppurative mastitis, associated with both acute nephritis and hepatitis, is reported. The albumin equaled a third the bulk of urine. Ten days after evacuating a pint of pus the albumin had diminished to a tenth, and in twenty-four days had disappeared. The albuminuria was the only evidence of nephritis, and the case was probably, like my own, one of toxic albuminuria. The difference lay in the circumstance that it was acute instead of chronic, and, further, in that the cause of the toxæmia disappeared with the abscess, while in my case the cause lay in a deep-seated and intractable chronic process.

If time permitted I should like to present synopses of numerous cases bearing upon the question which I have been discussing. The greatest advances in clinical medicine at the present day are made in the clinical laboratory; and it is to the clinical laboratory and to the practical clinicians that we must look in the immediate future for the strongest light upon the intricate problems of disease. The issues mainly lie in the battlefields of microchemistry, and if the verities of life and the vagaries of disease are ever to be "tented to the quick," there is where it must be done.

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THE TRANSMISSION OF DISEASE BY CERTAIN INSECTS: TICKS, BEDBUGS, ANTS, ETC.

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In a previous paper * I have discussed the transmission of certain diseases by the mosquito, and this contribution is intended as a continuation of that paper, the subject of the transmission of disease by ticks, bedbugs, and ants being here considered. In neither this nor the preceding paper has the author any claim to originality, it being his object to place before the profession the data concerning what he believes to be a most important problem in the ætiology of infectious diseases. In order to do this he has been compelled to refer to, and quote largely from, the writings of others. While the original matter in these papers is but small, in a forthcoming paper, regarding the transmission of disease by flies, the author will give the results of certain original investigations into the question of the liability of flies to carry about and distribute certain disease bacteria. From his experiments, which are as yet incomplete, he has reason to believe that the rôle played by insects in the transmission of disease is of far greater importance than has been generally supposed, and it is one of the surprising facts in medicine that more study has not been devoted to this subject than there has been. When we consider the structure, habits, and almost universal distribution of certain insects, the opportunities afforded them of infection from dejecta and the sick room, the attraction which articles of food and liquids, especially milk, have for them, it must needs be that they are responsible for a considerable number of cases of infectious disease. The well-known fact, also, that certain disease organisms select certain insects in which to spend a portion of their life cycle, thus making them their hosts, points conclusively to the ætiological importance of insect life. It is the purpose of the author in this paper to consider the part played by ticks, bedbugs, and ants in the transmission of disease. In order to do the subject justice, it will be necessary to quote liberally from the original investigations of others, but he has tried in all instances to give proper credit to the author referred to, or quoted from.

The Cattle Tick and Texas Fever.—One of the most interesting and remarkable contributions to the ætiology of disease is the special report upon Texas fever, published by the United States government, in which are contained the investigations of Theobald Smith and F. L. Kilborne into the nature, causation, and prevention of southern cattle fever, or Texas fever. The annals of medicine contain no more scientific a record of obstacles overcome, careful interpretation of phenomena observed, and the solving of a most mysterious problem, than does this splendid study of the relation of the cattle tick to Texas fever.

Texas fever is a disease occurring among cattle, and the infected cattle come from a well-defined territory, lying, as a general rule, south of the thirty-seventh parallel of latitude. This parallel, as determined by Salmon, marks the limit from which cattle may carry the infection north, and also the beginning of the infected territory in which northern cattle going south may contract the disease. The cattle from the South bearing the infection are generally free from signs of disease, but the most remarkable feature in the spread of the disease is the fact that the infection is not conveyed from animal to animal, but that the ground passed over by the southern cattle becomes infected, and the infection is conveyed thence to other animals.

I would say here that all my data concerning this subject are drawn from the report of Dr. Smith and Dr. Kilborne.

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* *New York Medical Journal*, March 19 and April 2, 1898.

In 1889 it was shown by experiment that in some way or other the transmission of the disease depended upon the little tick infesting cattle and known as the cattle tick. At the same time careful examinations of blood from infected animals showed the presence of certain peculiar organisms within the red blood-corpuscles.

Texas fever is characterized clinically by fever, rapid pulse and respiration, hæmoglobinuria, loss of appetite, and occasionally symptoms indicating spinal and brain irritation. The blood-red color of the urine has given the name "red-water fever" to the disease. Besides the acute type of fever just mentioned, there is a more chronic form sometimes seen. The acute form may prove fatal in a few days, or recovery take place very slowly, requiring weeks and months often.

The most important pathological changes are found in the spleen, the liver, the kidneys, and the blood. The spleen is enlarged and engorged with red blood-corpuscles; the liver is enlarged and congested, the biliary canaliculi occluded, and there is extensive fatty degeneration of the liver cells, and necrosis of the inner lobular zone; the kidney does not show any lesion of the secreting epithelium, but there are deposits of pigment and fatty infiltration in the epithelium, while the pelvis is filled with blood extravasations. The most important changes, however, are found in the blood, consisting of a great diminution in the number of the red blood-corpuscles, and the presence in the blood of a peculiar micro-organism. "The destruction of red blood-corpuscles," say the authors, "is the essential phenomenon of Texas fever, from which all the various pathological processes take their origin." This destruction is very extensive, often at the rate of 800,000 or 1,000,000 corpuscles to the cubic millimetre a day, and this destruction is wholly due to the development in the blood of a micro-organism belonging to the protozoa, and called by Smith and Kilborne *Pyrosoma bigeminuus,* n. sp. These organisms were first observed within the red blood-corpuscles in variable numbers. Within the corpuscle may be seen two pyramidal-shaped bodies, occupying nearly a fourth of its area; the organisms are rounded at one end, while they taper gradually to a point, the tapering ends being toward and close to each other. Some of the organisms present a bright spot in the larger end, forming a nucleuslike appearance; the organisms in many instances have been seen to change their form, sometimes very rapidly, thus seeming to possess amœboid movement. A certain number of these bodies are not pyriform in shape, but round or irregular, and a single corpuscle often contains but one organism. The corpuscles invaded show degenerative changes, thus showing that the presence of the organism is injurious to it. In the internal organs large numbers of parasites are found in the corpuscles in the capillary blood of congested areas, so that while the number of parasites in the circulating blood may be small, fifty per cent. or more of the corpuscles in the internal organs may be affected. The kidneys usually contain the largest number, sometimes ninety per cent. of the corpuscles being invaded. Free parasites are numerous, also, in the capillary blood of the internal organs. Smith and Kilborne have described the probable life history of the parasite as consisting of: 1. A swarming or motile intraglobular stage. (This stage is, however, hypothetical.) 2. The stage of peripheral coccuslike bodies. 3. The stage of pyriform and spindle-shaped bodies, and, lastly, the stage of free bodies. Concerning the last three stages they say:

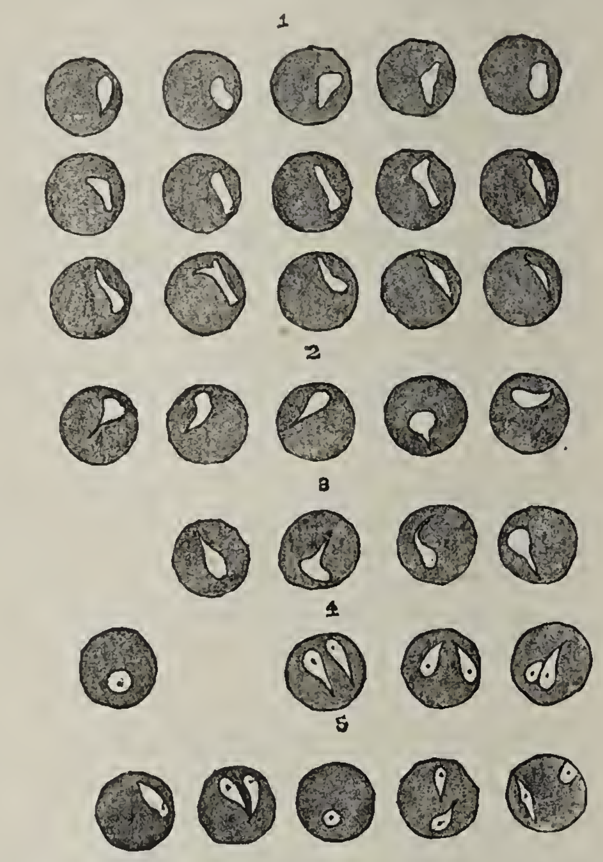

FIG. 1.—Amœboid changes of the micro-organism of Texas fever. 1, fresh preparation from blood, showing changes of form in an intraglobular parasite; 2, an intraglobular parasite in subcutaneous blood; 3, an intraglobular parasite from same source; 4, parasite showing nuclear body from same source; 5, parasites in subcutaneous blood, single and double. (From Smith and Kilborne. Report of Bureau of Animal Industry, 1892, United States Department of Agriculture.)

"*The Stage of the Peripheral Coccuslike Bodies.*—After the (hypothetical) swarm spore has penetrated into the corpuscle it comes to rest, loses its bright, refractive appearance, and attaches itself near the periphery of the corpuscle as a pale body, which is only detected with difficulty in the unstained corpuscle. This body next undergoes division, which is probably incomplete, for in the more advanced stages the two resulting bodies are, as a rule, still attached to each other. These remain close together while the infected corpuscle is circulating in the blood. This stage of the coccuslike body, like the preceding hypothetical stage, must be regarded as recognizable because of a retarded development of the microparasite. It is probable that this retardation of development in susceptible animals is due to meteorological conditions, such as low temperature of the air, and to partial immunity. In acute attacks the enormous multiplication of the parasite in the blood shows how rapid in such cases its development and how ephemeral these intermediate stages must be. The period of retardation may vary in length, but it seems probable that this stage may remain in the circulation at least several days.

"*The Stage of the Larger Forms* (*Pyriform and Spindle-shaped Bodies*).—The two coccuslike bodies resulting from division begin to grow and assume fusiform outlines. It is probable that they remain attached to each other, at least for some time, for in stained preparations a very delicate stained line may occasionally be traced passing from one to the other. In this stage they stain very well in hæmatoxylin and basic aniline dyes. As they continue to enlarge, the two members of the pair remaining always of the same size, a more elongated, pear-shaped outline is assumed, and in the unstained condition a minute dark particle is observed in the broad end of each body. Under conditions not definable a larger or smaller number of the red corpuscles contain but one body. These unpaired forms are found most abundantly in the circulating blood, where they may manifest amœboid changes. . . .

"*Free Bodies.*—These are set free after they have reached the preceding stage by the disintegration of the infected corpuscles. They may be found in capillary blood of the heart muscle in abundance. Their most common location is in the kidneys, however.

"No forms which might be interpreted as reproductive stages have been recognized at any time in the many cases which have been studied. That the organism multiplies very rapidly in the blood of susceptible cattle is demonstrated by the fact that the injection of a small quantity of infected blood gives rise to the disease."

These organisms cause the great destruction of the red blood-corpuscles, the corpuscles breaking up and setting free their hæmoglobin, thus causing the hæmoglobinuria so characteristic of the disease.

Injection of healthy cattle with blood containing these organisms is followed by Texas fever in the animals injected, and the occurrence in their blood of the organisms in all their typical characteristics. Sheep, pigeons, rabbits, and guinea-pigs are not susceptible to the disease, injections of infected blood not producing any result.

And, now, as to the relation of this unique organism to the cattle tick. Before considering this question, a short description of the appearance and habits of the cattle tick will not be without interest. Professor C. V. Riley first described this insect, in 1868, as follows:

"A reddish, coriaceous, flattened species, with the body oblong-oval, contracted just behind the middle, and with two longitudinal impressions above this contraction and three below it, more especially visible in the dried specimen. Head short and broad, not spined behind, with two deep, round pits. Palpi and beak together unusually short, the palpi being slender. Labium short and broad, densely spined beneath. Mandibles smooth above, with terminal hooks. Thoracic shield distinct, one third longer than wide, smooth and polished; convex, with the lyrate medial convexity very distinct. Legs long and slender, pale testaceous red; coxæ not spined.

"Length of body, 0.15 of an inch; width, 0.09 of an inch.

"Missouri collection, C. V. Riley."

The life cycle of this insect has been very thoroughly worked out by Curtice and Smith and Kilborne, and I shall quote from the latter authorities upon this portion of our subject. They say:

"The laying of the eggs may be observed by any one by simply placing full-grown ticks in some vessel from which they can not escape. The tick remains quiet for from two to four and a half days, according to our observations; then a few eggs will be observed on the mouth parts, which gradually increase in number. The period of oviposition varies somewhat. Confined in bottles, for instance, at a temperature of 68° to 78° F., the laying was observed to continue from eight to fifteen days in a lot of twenty-three mature ticks, each one of which was kept in a separate bottle. The number of eggs varies in general with the length of the egg-laying period. Those which took the longest time laid the largest number—a single full-grown tick averages about twenty-one hundred eggs. Ticks do not need to be fully gorged with blood before they are capable of laying eggs. Even such as are half-grown will begin to lay after a few days, but the number is much less than that laid by the large, gorged individual. . . . During the process of oviposition the female slowly shrinks in size, and when it is completed she appears shriveled and not more than one half or one third her

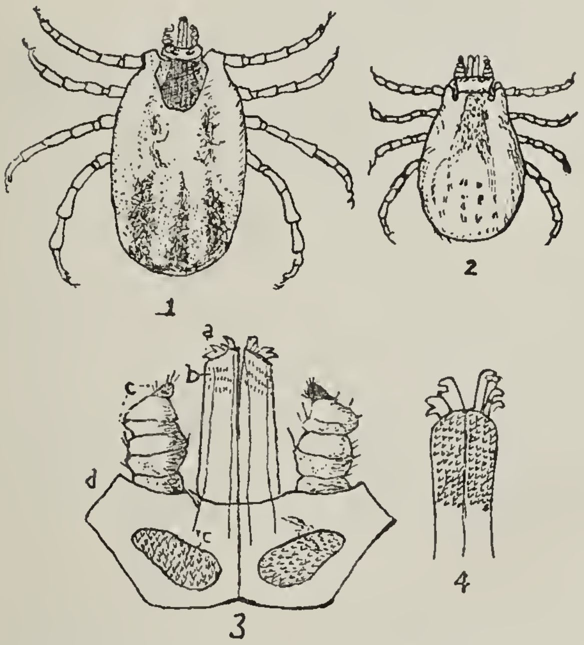

FIG. 2.—The cattle tick (*Boophilus bovis*, Riley). Enlarged. 1, female tick, seen from above; 2, male tick, seen from above; 3, dorsal surface of mouth parts of female: *a*, mandible; *b*, labrum; *c*, palpus; *d*, mouth ring; *e*, spots covered with papillæ; 4, labium and mandibles. (From Osborne, Bulletin No. 5, new series, Division of Entomology, United States Department of Agriculture.)

former size. The eggs appear as dark, brownish-red masses of oval bodies."

They are about one fiftieth of an inch long and one sixty-sixth of an inch broad. The author quoted found that incubation of the eggs took place readily if they were placed in glass dishes with a little soil or leaves and a few drops of water, the dishes being kept closed with glass covers. The time of incubation varies with the temperature, from fifteen days to seven weeks or more, a high temperature being most favorable. Continuing, the authors say:

"There are some changes which the ova undergo during development which are visible to the naked eye. After a variable number of days each ovum presents a white spot. Under the microscope this corresponds to the cloacal opening, and is nothing else than a mass of white powder composed of very minute spherical crystals. It is an excretory product (urates?) of the young tick, the outlines of whose body and limbs are now visible through the shell under a low power of the microscope. The color of the egg itself becomes lighter and of a more opaque, milky character. Toward the end of the period of development it assumes a peculiar metallic lustre. These changes are all caused by the changes going on within the shell.

"The minute six-legged ticks, after emerging from the shell, are at first of a pale, brownish, translucent, waxy color, which soon changes into an opaque brownish hue. They are about 0.67 millimetre in length, including the mouth parts. They move actively about, carrying in their cloacal opening the chalky mass of urates (?) mentioned above.

"The parasitic habit of the tick is probably so complete that no growth and no further development takes place unless the larvæ gain access to cattle. When they have once attached themselves to the beast and begin to get nourishment in the form of blood their growth is assured."

Curtice found that the larval and nymphal stage each occupied about a week, so that the female tick is mature in two weeks and may become fertilized and drop off the animal to lay her eggs, and Smith and Kilborne have found that it takes from twenty-one to twenty-three days for the ticks to mature and drop off. They say:

"The life history of the tick after it has attached itself to cattle is thus easily told. Taking two weeks for the tick to become sexually mature, the fertilization takes place as described by Curtice. An examination of the skin of cattle at this time shows each female provided with a male. After fertilization the female enlarges very slowly until from the nineteenth to the twenty-second day, when she swells up very rapidly, a day or two producing great change in size. When the proper stage is reached she loosens her hold upon the skin and drops to the ground, where the laying of eggs begins in a few days.

"It should be borne in mind that the young, after emerging from the egg, may perhaps live on the fields an indefinite length of time before they gain access to cattle.

"The young ticks attach themselves by preference to the more tender regions of the hide, such as the inner aspect of the thighs, the pubic regions, and around and on the udder. When numerous, they may attach themselves to the neck, the sides of the thorax, the ears, and even the back."

Having considered the structure and life cycle of this interesting insect, let us inquire into the relation which it bears to the disease known as Texas fever. Smith and Kilborne, in an extensive series of experiments, have conclusively demonstrated that the cattle tick acts as the carrier of the organism causing Texas fever, and their conclusions form one of the most remarkable chapters in ætiology. They have proved experimentally the following facts:

1. A field must be infected with the cattle tick before Texas fever can appear among native cattle.

2. If all ticks be removed from southern cattle and they then be allowed to pasture with northern stock, there is no appearance of Texas fever in the native cattle.

3. The cattle tick, and it alone, is all that is necessary to render a field infective.

4. Young ticks, artificially hatched, when placed upon susceptible cattle, produce Texas fever. This proves conclusively that the tick inoculates the susceptible animal with the causative agent of Texas fever.

5. Cattle suffering from Texas fever are not infective unless ticks are present. The period of incubation of Texas fever has always been variable, it being noticed first some forty-five days after native cattle are exposed to southern cattle. Concerning this, Smith and Kilborne say:

"This long period coincides with the time necessary to produce a new generation of ticks. When southern cattle graze on a certain pasture in early summer, say for a day only, a few ripe ticks drop off. They lay their eggs in about seven days. These are hatched in about twenty days, and are at once ready to crawl on cattle. Ten days thereafter the first high temperature usually appears. If we add these figures together we find that the disease may appear about thirty-seven days after the field was first infected. To be sure, these figures are liable to fluctuations which may make this period much longer, or perhaps a little shorter at times."

We see, then, from the data given, that it is not possible to produce Texas fever in cattle without the aid of the cattle tick save by injecting blood containing the organism, but the question now arises: What relation does the cattle tick bear to the micro-organism causing Texas fever? This micro-organism found in the blood has already been described; it has always been found to be present in the blood of infected animals, and only in those suffering from or immune to the disease. We can do no better than quote *verbatim* the hypothesis of Smith and Kilborne regarding this question:

"The hypothesis which seemed most plausible after the experiments of 1889 was that the tick while withdrawing the blood from southern cattle drew out in it the Texas fever parasite, which, entering into some more resistant state, perhaps some spore state, was disseminated over the pastures when the body of the mother tick became disintegrated. These spores were then supposed to enter the alimentary tract with the food, and infect the body from this direction. The later experiments, however, completely demolished this conception. Neither the feeding of adult tick and tick eggs nor the feeding of grass from infected pastures gave any positive results. On the other hand, the unmistakable outcome of the experiments was that the young tick introduced the infection into the body. This fact implies two possibilities: Either the tick is a necessary or a merely accidental bearer of the micro-parasite. If a necessary bearer of the infection, we must assume that the latter undergoes certain migrations and perhaps certain changes of state in the body of the adult tick, and finally becomes lodged in the ovum. Subsequently it may become localized in certain glands of the young tick, and discharged thence into the blood of cattle. This hypothesis assumes a complex symbiosis between the tick and the parasite on the one hand, and the cattle and the tick on the other. According to another simpler hypothesis, the tick would be merely an accidental bearer of the infection. The parasite entering the body of the tick with the blood of the cattle may be already in the spore state or about to enter upon such a state. The young ticks, as they are hatched near the dead body of the female, may become infected from this. This infection, clinging to their mouth parts, is introduced into the blood of the cattle to which they subsequently attach themselves. Further investigations are necessary before the probable truth of one or the other of these hypotheses can be predicated with any degree of certainty."

The contents of the bodies of ticks were examined with great care by Smith, but with a negative result so far as the demonstration of the parasite was concerned. The failure to find the organism was due, we believe, to the obscuring of the microscopic fields by the great number of particles resulting from broken-down blood-corpuscles which had been ingested, and also to the very minute size of the organism, which renders it very difficult of detection.

As a result of their investigations into the nature of Texas fever they conclude as follows regarding the ætiology of the disease:

"1. Texas cattle fever is a disease of the blood, characterized by a destruction of red blood-corpuscles. The symptoms are partly due to the anæmia produced, partly to the large amount of *débris* in the blood, which is excreted with difficulty, and which causes derangement of the organs occupied with its removal.

"2. The destruction of the red blood-corpuscles is due to a micro-organism or micro-parasite which lives within them. It belongs to the protozoa and passes through several distinct phases in the blood.

"3. Cattle from the permanently infected territory, though otherwise healthy, carry the micro-parasite of Texas fever in their blood.

"4. Texas fever may be produced in susceptible cattle by direct inoculation of blood containing the micro-parasite.

"5. Texas fever in Nature is transmitted from cattle which come from the permanently infected territory to cattle outside of this territory by the cattle tick (*Boophilus bovis*).

"6. The infection is carried by the progeny of the ticks which matured on infected cattle, and is inoculated by them directly into the blood of susceptible cattle.

"7. Sick natives may be a source of infection (when ticks are present)."

In the cattle tick we find an insect transmitting a specific disease—a disease apparently depending for its propagation almost entirely upon an insect, and which would soon disappear were the cattle tick to be exterminated. There is no reason to doubt, however, that other suctorial insects may transmit the disease, but the rôle played by them is probably slight.

One can not but compare, in reading the description of the Texas-fever parasite and its transmission by the cattle tick, the similarity of this fact to Manson's theory of the transmission of malaria by the mosquito. In a previous paper the author has briefly sketched this theory, and the facts which tend to support it. In both Texas fever and malaria the cause is a micro-parasite residing in the blood, differing in morphology, to be sure, but similar in pathological action; in Texas fever it is proved that an insect, the cattle tick, plays the chief part in transmitting it; in malaria, while it is far from proved that insects are concerned in its spread, there is good reason for believing that the mosquito is a most important ætiological factor. Reasoning from analogy, this would appear most probable, and the author believes that the researches of Smith and Kilborne upon the relation of the cattle tick to Texas fever offer very strong confirmatory evidence of the scientific truth of Manson's theory of the transmission of malaria by mosquitoes.

Before concluding this portion of our subject, it is interesting to note that the conclusions formed by Smith and Kilborne have recently been fully confirmed by Pound, in Australia, in every particular; and Hunt, who continued the experiments instituted by Pound, claims to have demonstrated the presence of the peculiar amœboid micro-parasite within the young ticks. If this is so, and there is no reason to doubt it, the only link missing in the chain of evidence has been supplied, and the causative relation of the organism to the disease placed beyond all criticism.

Bedbugs and the Transmission of Disease.—The common bedbug (*Acanthia lectularia*) is a suctorial insect, first described by Linnæus as one of the most familiar insect pests. It is an inhabitant of localities frequented by man, living in cracks and joints of household furniture, especially in the filthier portions of our cities, although the palace of the millionaire is not always free from it. It is nocturnal in its habits, attacking man during sleep. Westwood (*Introduction*, vol. ii, p. 475) says regarding its history:

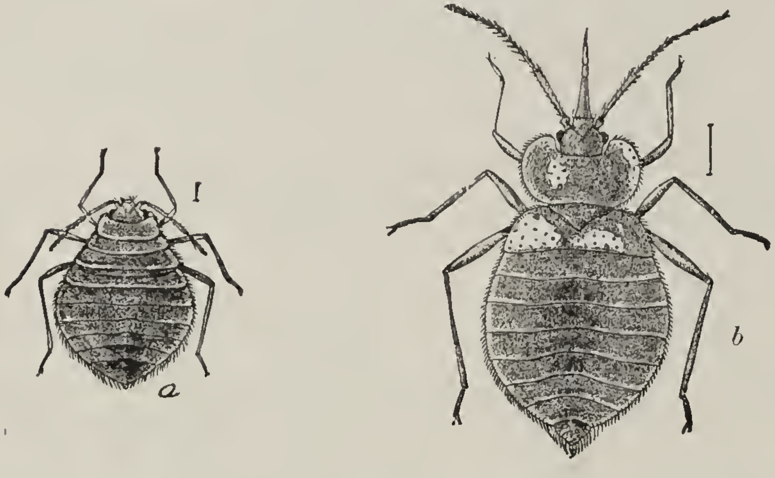

Fig. 3.—The bedbug (*Acanthia lectularia*). *a*, young bedbug; *b*, adult bedbug, enlarged (from Riley). (Osborne, Bulletin No. 5, new series, Division of Entomology, United States Department of Agriculture.)

"Its introduction into this country (England) has been a subject of discussion. It was well known to Pliny (*Hist. N.*, 29, 17), Dioscorides, Aristophanes, and Aristotle (*Hist. An. Ed. Bek.*, p. 148, 12); but it has been generally asserted to have been brought from America to England, whence it passed to the Continent of Europe, and that it was not known here until 1670. Mouffet, however (*Ins. Theatr.*, p. 270), mentions its having been seen in 1503. It has, however, been noticed as a singular fact, and as showing that this disgusting visitant must have been comparatively little known in the days of 'Good Queen Bess,' that, although the word 'bug' occurs five or six different times in Shakespeare's plays, it is in every instance synonymous with bugbear, and does not designate this insect (Patterson's *Shakespeare Letters*, p. 59)."

The eggs of the bedbug are bluish-white in color, oval in shape, one end of the oval being narrowed, and are found in cracks, crevices, joints, and casings, where the bedbug hides. The young bugs are at first whitish in color, but gradually grow darker until they become a dark reddish-brown, the color of the adult bug. Uhler (*Standard Natural History*, vol. ii, p. 205) says: "This species has been distributed over most parts of the world, chiefly by the agency of man, and, as might be expected under such circumstances, is subject to much variation in the relative size, proportions, and forms of most parts of the body. Full-favored gross specimens are often quite coarsely punctured and hairy, while their half-starved brethren have a much thinner outside integument and finer punctures, with less conspicuous pubescence. Some specimens have the wing pads hanging loose as if ready to change into wing covers, but generally these are run together into one piece on the middle line. Thus far no individuals of this insect have been met with fully winged."

It was not until very recently that the possibility of the transmission of certain diseases by this insect was noted, but experimental evidence is now at hand proving that the bedbug is capable of transmitting disease.

Alleger (*American Monthly Microscopical Journal*, October, 1894, p. 295) quotes a case recorded by Denevre of the transmission of tuberculosis by the bedbug. A young man died of the disease and the room was then disinfected. Afterward, a brother, who occupied the same bed, died of tuberculosis, and an investigation revealed the fact that his body was covered with the bites of bedbugs, and that the bed swarmed with the insects. Denevre collected thirty of the bugs and inoculated three guinea-pigs with them. The guinea-pigs died soon afterward of tuberculosis. Sixty per cent. of the bugs were found to be tuberculous. He also instituted a series of experiments in which bedbugs were placed in contact with tuberculous sputum, and found that virulent cultures could be obtained from such insects after several weeks had elapsed.

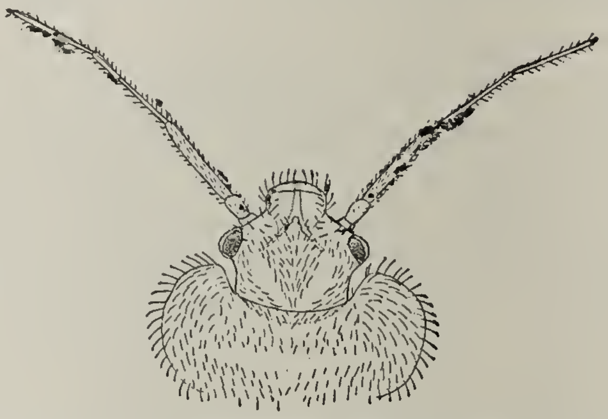

Fig. 4.—*Acanthia lectularia*, head and prothorax, much enlarged, showing form and clothing. (Osborne.) (Osborne, Bulletin No. 5, new series, Division of Entomology, United States Department of Agriculture.)

Bedbugs and Recurrent Fever.—Among the most valuable and interesting observations concerning the transmission of disease by insects are the recent ones by Titkin, of Russia, upon the rôle played by bedbugs in the production of recurrent fever (*Bull. méd.*, February 3, 1897; *Revue scientifique*, January 23, 1897). In Odessa, where the author resided, relapsing fever is of rare occurrence, but an extensive epidemic occurred among the sailors inhabiting the dirty, crowded boarding houses about the harbor. Tiktin visited a number of those suffering from the disease, and was astonished at the immense number of bedbugs, lice, and fleas with which they were covered, and it occurred to him that these insects might have much to do with the spread of the epidemic. "One of these insects, passing from a sick man to a healthy one, might inoculate the latter by its sting, still smeared with blood, or else the sleeper, abrading his skin by scratching, might become infected by crushing the parasite, full of septic blood, over the sore places."

To test the truth of these inferences, Tiktin collected some bedbugs, starved them for several days, and then placed them upon the skin of patients having an attack of relapsing fever. As soon as the insects fell off, being satiated with blood, they were crushed between glass slips, slightly stained with gentian violet, and examined microscopically. In the blood of all the bugs so fed occurred large numbers of spirochetæ, still in motion. He was able to show that their vitality persisted for eighteen hours within the insects. He also allowed some of the starved bugs to suck the blood of a monkey suffering from the disease, crushed them, and collecting the blood from eight bugs, injected it under the skin of a healthy monkey. Spirochetæ were found in the blood of the healthy animal sixty-four hours later, the disease being well established. Bedbugs allowed to suck the blood of diseased monkeys and then placed upon healthy ones were found to almost invariably inoculate the disease.

From the above observations Tiktin is convinced that the bedbug is a factor in the spread of relapsing fever; and if such be the case with this disease, why may not other diseases be so transmitted? Bedbugs flourish most vigorously in filthy surroundings, such as obtain in the overcrowded and dirty portions of our cities, and these are the very hotbeds of disease, the localities whence epidemics arise. Who can say how important a rôle insect pests play in the transmission of disease under such circumstances?

Before concluding this portion of our subject, the experiments of Moran (*Revue scientif.*, 1895, p. 41) upon the relation of bedbugs to carcinoma should be noted. Moran isolated cages of healthy white mice by placing the supports of the cages in a vessel containing spirits of turpentine and camphor. As long as the mice were thus isolated they remained perfectly healthy. He then introduced into these cages of healthy mice some bedbugs from the cages of cancerous mice, and after a few months he found that all the mice infected by these bugs were suffering from cancer. This experimental evidence he considers as proving not only the contagion of cancer, but that it may be propagated by insects in which the contagium may be present.

Ants and the Transmission of Disease.—But little is known as to the rôle played by ants in transmitting disease, but Hankin* has shown that at least one disease, the plague, may be so transmitted. He found that the bodies of rats dead of plague, to which they are very susceptible, swarmed with ants, and investigation showed that the bodies of these ants contained large numbers of the plague bacillus in a virulent condition. The ants are thus able to infect food, water, and clothing.

In concluding this paper, I would call attention particularly to the close analogy existing between the relation of the cattle tick to the organism causing Texas fever, and the relation of the mosquito to the plasmodium of malaria. I believe that further investigation will confirm very largely Manson's theories regarding the transmission of malaria by the mosquito, and also renew interest in the important subject of the transmission of disease by insects.

Therapeutical Notes.

Iodoformagen.—The *Berliner klinische Wochenschrift,* 1898, No. 10 (cited in *Treatment* for September 8th), says that this substance has come into extensive use on the Continent as a substitute for iodoform. It is a compound of iodoform and albumin, and consists of a fine, dry, yellowish powder readily soluble in water. It is quite free from the disagreeable smell of iodoform and very economical in use, its weight being less than one third that of ordinary iodoform; and, owing to its solubility and its practical freedom from smell, it possesses a great advantage over ordinary iodoform. It has been very favorably reported on by leading medical practitioners in Germany.

Eau d'Alibour in the Treatment of Impetigo.—Sabouraud (*Archives de médecine des enfants; Lyon médical,* August 21st) has revived this ancient medicament, at least three hundred years old, and states that it is an antiseptic of the first order. There are many formulæ for its preparation. The author gives the following:

℞ Water	200 parts;
Saturated camphor water	a sufficiency;
Copper sulphate	2 parts;
Zinc sulphate	7 "
Saffron	0.4 part.
M.	

[The author does not state how the compounder is to know when he has added "a sufficiency" of camphor water, or whether the saffron is left to float about in the solution or is separated by filtration at the end of some definite period. Besides, one should be very cautious in the topical use of copper sulphate; in some persons it gives rise to terrible pain.]

To Check the Secretion of Milk.—The *Revue médicale* for September 28th quotes the following from the *Gazette hebdomadaire de médecine et de chirurgie:*

℞ Sulphate of atropine	$\frac{1}{22}$ of a grain;
Sulphate of magnesium	1,350 grains;
Infusion of gentian	3,600 minims.
M.	

A tablespoonful to be taken every two hours.

Therapeutic Use of Castor Oil Externally.—According to the *Massachusetts Medical Journal* for October, Dr. Beloll advises that castor oil be heated and thoroughly applied to the abdomen of the child suffering from constipation. He says this will often move the bowels as effectually as when the oil is given by the mouth.

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* *British Medical Journal,* January 23, 1897, p. 229.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON AND COMPANY.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, OCTOBER 22, 1898.

THE NASHVILLE MEETING OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

JUDGED by the number of members in attendance, the meeting fell noticeably below the average. The defect in numbers is ascribed mainly to the presence of yellow fever in Mississippi and Louisiana. It can hardly be doubted that many of the physicians of those States who would otherwise have been present feared that the health authorities of Tennessee would place obstacles in the way of their being allowed to go to Nashville. Indeed, before the meeting it was even stated, and believed by some persons, that visitors from New York and other eastern places would not be permitted to enter Nashville unless they were able to show a "certificate of health" from their home sanitary authorities. We gave no credence to this statement, and that for several reasons. In the first place, what could the New York board of health certify to in the case of a person going from here, for example? It could hardly certify to the health of the individual or to any statement to the effect that he had not recently come from a region infected with yellow fever. To be sure, it could state authoritatively that there was no yellow fever in New York, and so it did when it was applied to for the certificate alleged to be needed, but this was entirely unnecessary, for the health authorities of Nashville are constantly kept informed of the health of New York and all other large towns. They are intelligent men; they do not require to be assured officially that the sun rises in the east and sets in the west. Moreover, it must be said to the credit of the people of Nashville that they have not set up a quarantine even against the infected districts, and are not expected to do so. Still, the fear of what might happen, and probably would have happened in some hotter-headed town, doubtless led many men in Texas, Louisiana, and Mississippi to stay at home. Then, too, since the disease was with them, though of an extraordinarily mild form, they may be supposed to have felt it to be their duty to remain at their posts. Unfortunately, this situation is likely to recur whenever the association holds its meeting in the South, unless the time is changed so as to fall within the season of immunity from the disease.

But the meeting is not to be rated by the number of members present. Many of the best men of the profession in the West were there—as many as could have been expected if one took account of recent deaths, existing illness, and pressing professional engagements. There was no absenteeism due to indifference. The association is felt to be too important for that. Almost every prominent member who was prevented from attending sent a message specifying the cause of his inability. On the programme there was quite the usual proportion of titles of important papers, and they were read and adequately discussed. Several of them were of uncommon excellence. Nashville is a pleasant town to visit, and on this occasion, as is their custom, its people took pains to make their visitors enjoy themselves. The meeting will be remembered as among the more satisfactory of those that the association has held.

THE ABUSE OF MEDICAL CHARITIES.

IN another column will be found some remarks on this subject by Dr. James C. White, of Boston, who makes a weighty plea for discrimination in the charges of abuse now being leveled against medical charities in general, a plea based on the score of the impossibility of obtaining adequate material for clinical instruction if the hospitals were entirely confined to indigent patients. He points out with a great show of truth that the patient who is willing to submit to the exposure and publicity of his ailment attendant upon being used as a means of clinical instruction for the necessary education of the coming race of practitioners is making a valuable return in kind to the *thesaurus medicorum*. Of the large and important teaching institutions of the country this is, no doubt, to a great extent true. If such a practice was confined to them, but little harm would accrue to the individual practitioner, while the gain to the cause of medical education would be very considerable. It is, however, unfortunate that there are in all countries, and more especially in the United States, a large number of quasi-charitable, scientific, or teaching institutions whose real *raison d'être* lies in the aggrandizement and advancement of the individual practitioners for whose benefit they were called into being. Where a teaching institution of widespread reputation exists, a post upon its medical staff is a coveted honor eagerly striven for by the most reputable and competent men in the profession; and its possession entails a dignity and renown which is the just reward of the scientific attainments whose recognition has led to the selection of the candidate for the post. There are, however, many men of mediocre ability, but high aspirations, who prefer ostentation and notoriety, if they can not attain to dignity and renown, to the obscure but honorable and painstaking toil of a general practitioner; and it is men such as these who swamp the country with institutions that have no real *raison d'être* beyond the advertising of those attached to them, and in whose interests they are conducted. Their students are, as a rule, few in number, or, at least, insignificant in quality, and no adequate return is made by them to the profession, either in the shape of scientific work by the staff, or of adequate clinical instruction to the coming race of practitioners, to compensate for the injury done to the body corporate in its individual members by the withdrawal of fees that would otherwise have come into the pockets of some hard-working and conscientious physician.

It would be well if some limit could be placed to the springing up of these mushroom institutions by the exaction of an indorsement at the hands of the local profession of their necessity on charitable grounds, or of the general professional recognition of the teaching merits of their proposed staff, before the necessary permission for their incorporation could be obtained.

MINOR PARAGRAPHS.

"OH! WAD SOME POWER THE GIFTIE GIE US, TO SEE OURSELVES AS ITHERS SEE US!"

Burns, like his prototype Horace, will ever remain a classic because he is essentially human. The lines which form the heading of this note have a perennial value like the Latin poet's *Odi profanum vulgus et arceo.* We are moved to these remarks by reflections on a paragraph which appeared in a recent issue of one of the "yellow" journals with which this country unfortunately abounds. Speaking of the decadence of the American stage, the journal in question says: "There is no use in appealing to managers or inveighing against them. Managers who deal in this species of foulness are business men who hold themselves justified in supplying the public with what the public demands and will pay for. The conscience of these managers resides wholly in the box office. With no consciousness of duty toward the community, no scruples to restrain them from corrupting youth in return for money, they are altogether impervious to considerations that affect the course of clean and self-respecting men. The club of the law possesses the only suasion that can move them to purify their obscene stages." Now, we may say at once that we perfectly agree with the sentiments expressed by the journal in question on the subject with which it deals. But there is such a thing as the pot reviling the kettle for being black. Our remarks apply not specially to this particular journal, which is neither worse nor better than others of its class, but to yellow journalism in general. There are other forms of immorality besides breaches of the seventh commandment, a fact too generally lost sight of, and not the least of these is one to which we have on several recent occasions had occasion to refer, namely, an unscrupulous pandering to sensationalism by a certain class of newspapers, regardless of truth, justice, or the evil consequences of morbid suggestion on the public and individual mind, our lives being, as has been truly said, but the reflection of the suggestions about us. Leaving the seventh commandment, then, out of special consideration, we might paraphrase the foregoing paragraph thus: "There is no use in appealing to newspaper proprietors (or editors) or inveighing against them. Papers which deal in this species of sensationalism are the property of business men who hold themselves justified in supplying the public with what the public demands and will pay for. The conscience of these papers resides wholly in their circulation. With no consciousness of duty toward the community, no scruples to restrain them from corrupting the public in return for money, they are altogether impervious to considerations that affect the course of clean and self-respecting men. The club of the law possesses the only suasion that can move them to purify their unscrupulous columns." That the increasing obscenity of literature and the drama does harm to the seventh-commandment morality of the coming race no thoughtful person will be disposed to deny; but that the absolute unscrupulousness and epidemic hysteria of sensational journalism were the bane and disgrace of the latter part of the nineteenth century, and are infinitely more injurious to the moral welfare of the human race, in the widest meaning of the term moral, will undoubtedly be the verdict of the century to come.

THE MORTALITY FROM WOUNDS AND FROM DISEASE IN THE CUBAN CAMPAIGN.

According to the *Philadelphia Medical Journal* for October 15th, while the mortality from wounds in the Cuban campaign as compared with that in the civil war was only as 2.3 per cent. to 15.3 per cent., indicating the great progress made in surgery in the interval, that from disease was 88.1 per cent. in the Cuban campaign as against 66.6 per cent. in the civil war, or an increase of nearly twenty-five per cent. While progress in medicine has not been so great, no doubt, as in surgery, still there has been considerable progress, and it would therefore only have been reasonable to look for some improvement in the mortality percentage. But here we are confronted by an increase instead of a decrease, and a considerable one at that. Now, in view of the fact that, as the *Philadelphia Medical Journal* points out, there has undoubtedly been some progress in medicine during the past thirty-three years, the reason for this must be sought in extraprofessional causes. What are these causes? This is a subject that demands the most earnest consideration of the investigating commission, and we trust it will get it. The *Philadelphia Medical Journal* has done a good work in calling attention to this fact.

THE TOXIC PROPERTIES OF THE SALTS OF LITHIUM.

The free use of lithium salts by the laity, especially in the form of lithiated waters, appears not to be without its dangers. Dr. Louis Kolipinski reports in the *Maryland Medical Journal* for October 15th two cases of poisoning by citrate-of-lithium tablets. The symptoms consisted of a state of general prostration with muscular weakness impairing locomotion. A severe tremor of acute onset affected the upper extremities, especially the hands. Coldness of the hands and feet were also observed. The tablets had been taken in one case for irritable bladder with senile hypertrophy of the prostate, and in the other for rheumatism. The symptoms, though not severe, were alarming to the patient's friends. Rest and discontinuance of the drug effected a cure in each case in a few days.

COMPLETE RUPTURE OF THE TRACHEA.

A case of this rare accident is mentioned in the *Lancet* for October 8th. The subject was a man seventy-three years of age, who was struck by an elevator on the back of the head as he was looking down the shaft. He was knocked down and the sternum broken, but survived the accident fourteen days. The rupture of the trachea was discovered at the autopsy. Several cases are on record, the principal symptoms being urgent dyspnœa and much subcutaneous emphysema, and the result usually death. Three cases of recovery are, however, recorded, says the *Lancet*, two by Lany and Wagner without, and one by Lauenstein with, tracheotomy.

"MORE THAN ARMIES TO THE COMMON WEAL."

It is unnecessary to bring up instances to show the importance of the medical man to a community. Nevertheless, it is interesting to note that the people of Guam cheered when they found that Dr. Romanto, their only physician, had been brought back to them by the transport *Pennsylvania.* The *Charleston* had taken him away a prisoner with the garrison at the time of her capture of the island, and the people are said to have suffered seriously from lack of medical services during his absence.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 15, 1898:

DISEASES.	Week ending Oct. 8.		Week ending Oct. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	102	36	117	25
Scarlet fever	55	8	65	4
Cerebro-spinal meningitis	0	1	0	6
Measles	33	3	42	0
Diphtheria	60	14	118	18
Croup	4	8	8	2
Tuberculosis	135	147	177	133

Medical Society of City Hospital Alumni, St. Louis.—At the last regular meeting, on Thursday evening, the 20th inst., the following papers were to be read: Some Cases of Fracture of the Skull, by Dr. H. C. Dalton; Medical Memoranda: (1) Hereditary Human Cryptorchismus; (2) Conjunctival Puncta as an Early Diagnostic Sign of Measles; (3) Passage of a Foreign Body through an Animal's Digestive Tract, by Dr. George Heman; Report of a Case of Laryngeal Carcinoma, with Remarks by Dr. Charles J. Orr; Fatty Metabolism, by Dr. T. Casey Witherspoon; Some Critical Remarks upon Sarcoma of Hand and Carcinoma of Breast, illustrated by Specimens, by Dr. Albert H. Meisenbach; and The Schott Bath Treatment of Chronic Heart Disease, with Report of Cases, by Dr. Elsworth L. Smith.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox and yellow fever were received in the office of the supervising surgeon general of the Marine-Hospital Service during the week ending October 15, 1898:

Yellow Fever—United States.

Alexandria, La	Oct. 6	Yellow fever reported.	
Amite City, La	Oct. 13	Yellow fever reported.	
Baton Rouge, La	To Oct. 8	22 cases,	2 deaths.
Bowie, La	Oct. 6	1 case.	
Delogny, La	Oct. 1	1 "	
Franklin, La	Oct. 6	14 cases.	
Franklin, La	To Oct. 6	375 "	7 "
Franklin, La	Oct. 7	34 "	
Franklin, La	Oct. 8	19 "	1 death.
Franklin, La	Oct. 9	20 "	
Franklin, La	Oct. 10	28 "	
Franklin, La	Oct. 11	20 "	
Franklin, La	Oct. 12	19 "	
Franklin, La	Oct. 13	26 "	
Harvey's Canal, La	To Oct. 6	14 "	3 deaths.
Houma, La	To Oct. 8	8 "	1 death.
Jefferson Parish, La	To Sept. 20	5 "	
Lake Charles, La	Oct. 10	Yellow fever reported.	
Lobdell, La	Oct. 12	Yellow fever reported.	
New Orleans, La	To Oct. 1	33 cases.	
New Orleans, La	To Oct. 8	62 "	
Plaquemine, La	Oct. 1	1 case,	1 death.
Plaquemine, La	To Oct. 8	3 cases.	
St. James's Parish, La	Oct. 2	1 case.	
Wilson, La	To Oct. 1	50 cases,	1 "
Wilson, La	To Oct. 8	247 "	4 deaths.
Bay St. Louis, Miss	Oct. 11	9 "	
Canton, Miss	Oct. 10	4 "	
Clinton, Miss	To Oct. 8	2 "	
Crystal Springs, Miss	Oct. 11	5 "	
Edwards, Miss. (vicinity)	To Oct. 6	6 "	
Edwards, Miss. (vicinity)	Oct. 7	1 case.	
Fayette, Miss	Oct. 6	1 "	
Fayette, Miss	Oct. 7	2 cases.	
Fayette, Miss	Oct. 9	2 "	
Harriston, Miss	Oct. 6	4 "	
Harriston, Miss	Oct. 6	42 "	4 "
Harriston, Miss	Oct. 7	2 "	
Harriston, Miss	Oct. 8	1 case.	
Harriston, Miss	Oct. 9	9 cases.	
Harriston, Miss	Oct. 10	14 "	
Harriston, Miss	Oct. 11	13 "	2 "
Harriston, Miss	Oct. 12	11 "	
Harriston, Miss	Oct. 13	16 "	
Hattiesburg, Miss	Oct. 8	2 "	1 death.
Hattiesburg, Miss	Oct. 9	10 "	
Hattiesburg, Miss	Oct. 10–13	6 "	
Hermanville, Miss	To Oct. 6	2 "	
Hermanville, Miss	Oct. 11	1 case.	
Jackson, Miss	Oct. 6	6 "	
Jackson, Miss	To Oct. 6	41 "	4 deaths.
Jackson, Miss	Oct. 7	6 "	
Jackson, Miss	Oct. 8	10 "	
Jackson, Miss	Oct. 9	6 "	
Jackson, Miss	Oct. 10	3 "	
Jackson, Miss	Oct. 11	11 "	
Jackson, Miss	Oct. 12	11 "	
Jackson, Miss	Oct. 13	14 "	1 death.
Natchez, Miss	Oct. 7	2 "	
Natchez, Miss	Oct. 13	6 "	
Orwood, Miss	To Oct. 6	79 "	4 deaths.
Orwood, Miss	Oct. 10	6 "	1 death.
Oxford, Miss	To Oct. 6	52 "	6 deaths.
Oxford, Miss	Oct. 7		1 death.
Oxford, Miss	Oct. 8	2 "	1 "
Oxford, Miss	Oct. 9	1 case,	1 "
Oxford, Miss	Oct. 10	1 "	
Oxford, Miss	To Oct. 8	470 cases,	36 deaths.
Oxford, Miss	Oct. 11	10 "	
Oxford, Miss	Oct. 12	3 "	1 death.
Oxford, Miss	Oct. 13		1 "
Poplarville, Miss	Oct. 9	2 "	
Poplarville, Miss	Oct. 11	7 "	

Port Gibson, Miss	Oct. 6	1 case.	1 death.
Ridgeland, Miss	Oct. 8	3 cases.	
Ridgeland, Miss	Oct. 10	1 case.	
Ridgeland, Miss	Oct. 11	1 "	
Starkville, Miss	Oct 6	3 cases.	
Starkville, Miss	Oct. 7	1 case.	
Starkville, Miss	Oct. 8	1 "	
Starkville, Miss	Oct. 13	1 "	
Taylor, Miss	Oct. 6	4 cases.	
Taylor, Miss	To Oct. 6	100 "	11 deaths.
Taylor, Miss	Oct. 7	3 "	1 "
Taylor, Miss	Oct. 8	1 case.	
Taylor, Miss	Oct. 12		1 "
Waterford, Miss	To Oct. 6	2 cases.	
Water Valley, Miss	To Oct. 6	10 "	
Waveland, Miss	Oct. 10	8 "	
Waveland, Miss	Oct. 11	9 "	
Waveland, Miss	Oct. 12	2 "	
Waveland, Miss	Oct. 13	2 "	
Woodville, Miss	To Oct. 6	1 case.	

Yellow Fever—Foreign.

Gibara, Cuba	Sept. 1–15	4 cases.	
Tampico, Mexico	Sept. 24–Oct. 2		11 deaths.
Vera Cruz, Mexico	Sept. 22–29		10 "

Small-pox—United States.

Cincinnati, Ohio	Oct. 8	3 cases.	
Dayton, Ohio	Oct. 8	1 case.	
Sandusky, Ohio	Oct. 8	1 "	
St. Mary's, Ohio	Oct. 8	2 cases.	
Uniopolis, Ohio	Oct. 8	1 case.	
New Paris, Ohio	Oct. 8	1 "	
Oberlin, Ohio	Oct. 8	1 "	
Wapokoneta, Ohio	Oct. 8	20 cases.	
Chester County, near Spring City, Pa	Oct. 7	7 "	
Sayre, Bradford County, Pa.	Oct. 7	1 case.	

Small-pox—Foreign.

Bahia, Brazil	Aug. 27–Sept. 3	23 cases,	3 deaths.
Bahia, Brazil	Sept. 3–10	28 "	4 "
Bahia, Brazil	Sept. 10–17	29 "	5 "
London, England	Sept. 10–17	2 "	
Gibraltar	Sept. 10–18	1 case.	
Odessa, Russia	Sept. 17–24	2 cases,	1 death.
Warsaw, Russia	Sept. 10–17		7 deaths.

The Gouverneur Hospital.—We are informed that Dr. Louis J. Ladinski has been appointed visiting surgeon to this institution.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 18th inst., the following paper was to be read: Pathological Effect of Devitalized Teeth, by Dr. W. C. Barrett, D. D. S., Dean of the Dental Department, University of Buffalo.

The New York Academy of Medicine.—At the last regular meeting of the Section in General Medicine, on Tuesday evening, the 18th inst., the following papers were to be read: The Evolution of Scientific Medicine, by Dr. Louis F. Bishop, chairman of the section; and The Relation of Chemistry to Practical Medicine, by Professor R. H. Chittenden, Ph. D., followed by a discussion by Dr. Beverly Robinson, Dr. William H. Thomson, Professor John A. Mandel, and Dr. Morris Manges.

The Southern Surgical and Gynæcological Association.—We learn that the annual meeting of this association, which was fixed to be held in Memphis, Tennessee, on November 8th, 9th, and 10th, has, in consequence of the quarantine regulations in force in some parts of the South, been postponed until December 6th, 7th, and 8th. The Gayoso House has been selected as headquarters for the association.

The Atlantic Medical Weekly.—We learn that the *Atlantic Medical Weekly* has been acquired by our enterprising contemporary the *Philadelphia Medical Journal*, which will continue to supply the journal for the unexpired term of all subscriptions paid to the *Weekly*. In the case of subscribers to both journals, the unexpired term of subscription to the *Weekly* will be added to the subscription already paid for the *Journal*. No one can have reason to be aggrieved by the exchange.

Changes of Address.—Dr. C. Am Ende, to No. 319 West Forty-fifth Street, New York; Dr. William E. Swan, to No. 160 State Street, Albany, New York.

Society Meetings for the Coming Week:

MONDAY, *October 24th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *October 25th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (first day—Birmingham); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Societies of the Counties of Putnam (semiannual), Queens (semiannual—Garden City), and Rockland (semiannual), N. Y.; Richmond Academy of Medicine and Surgery.

WEDNESDAY, *October 26th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Albany, N. Y.; Gloucester, N. J., County Medical Society (quarterly); Berkshire, Massachusetts, District Medical Society (Pittsfield); Middlesex, Massachusetts, North District Medical Society (Lowell); Philadelphia County Medical Society.

THURSDAY, *October 27th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Massachusetts Medical Benevolent Society (annual).

FRIDAY, *October 28th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Answers to Correspondents:

No. 468.—Naphthol is a well-known drug with the formula $C_{10}H_8O$. It exists in two isomeric forms, α-naphthol and β-naphthol. The first consists of needle-like crystals resembling carbolic acid in color, and is soluble in alcohol and ether, and slightly so in hot water. The second is known in colorless tables and crystalline powder. It has a fainter odor than the other, and is easily soluble in cold water to the extent of one in one thousand, and in hot water to one in seventy-five. It is largely used in cutaneous diseases, and internally as an antifermentative. Any druggist should be able to get it for you.

Births, Marriages, and Deaths.

Married.

Schmidt — Mangold.—In Allegheny City, Troy Hill, Pennsylvania, on Wednesday, October 12th, Dr. F. W. Schmidt, of Chicago, Illinois, and Miss Emily Henrietta Mangold.

Letters to the Editor.

EPILEPSY AND DIGESTION.

October 11, 1898.

To the Editor of the New York Medical Journal:

Sir: Permit me, through the medium of your valuable publication, to congratulate Dr. E. J. Spratling, of the Massachusetts Hospital for Epileptics, at Palmer, for having discovered, at one observation, the cause of all nervous derangements to which human flesh is heir.

Writing in the October 1st issue of the *Journal* on Epilepsy and Digestion, Dr. Spratling sees fit to make some rather rigid observations on the influence of maldigestion in the production of epilepsy. He says: "These two conditions are implacable enemies. Perfect digestion is the deadly antagonist of all the functional neuroses; and, of course, that brings epilepsy under its ban."

How does he know that epilepsy and digestion are implacable enemies? He is candid enough, however, to admit that "just how dyspepsia and malassimilation cause the various nervous derangements rests for demonstration in the laboratory within the near future."

It would seem that in spite of the fact that he has determined upon the cause of epilepsy beyond the peradventure of doubt, he is willing to concede that the demonstration of the truth of his assertion is yet to be proved in the future.

I admire his enthusiasm, but I am compelled at the same time to question the value of his logic. As a matter of fact, I do not believe that digestion and epilepsy are, in the first place, implacable enemies, and for this reason: I have seen at the Craig Colony some three hundred cases of epilepsy in which, so far as all ordinary methods of observation and investigation would permit, the digestive function was carried on in an entirely satisfactory manner. I do not say that it was absolutely perfect, but in so far as the physical condition of the patients went to prove the thoroughness of the function, it certainly was thorough.

On the other hand, I am willing to concede that there is much to be gained from the study of the association of malassimilation with epilepsy. I have seen cases in which the faulty character of the former undoubtedly caused epilepsy, because correction cured it, and I have seen other cases in which we were *led to believe* that malassimilation was a factor in its production; but the reasonable observer should not for a moment permit himself to be led into the necessarily wild statement that *all* epilepsy is caused by indigestion.

For thirty centuries science has been searching for the cause of epilepsy, and I trust, Mr. Editor, that Dr. Spratling, having found the cause, will not longer delay the complete elucidation of the subject.

W. P. Spratling, M. D.

Book Notices.

The Surgical Complications and Sequels of Typhoid Fever. By William W. Keen, M. D., LL. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Based upon Tables of Seventeen Hundred Cases compiled by the Author and by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania, etc. With a Chapter on the Ocular Complications of Typhoid Fever. By George E. de Schweinitz, A. M., M. D., Professor of Ophthalmology, Jefferson Medical College, etc., and as an Appendix the Toner Lecture, No. V. Philadelphia: W. B. Saunders, 1898. Pp. 8 to 386. [Price, $3.]

It is seldom that the reviewer is called upon to notice a work altogether so admirable as that now before us, and criticism in this case must perforce be confined to frankly expressed admiration. The character of the book is sufficiently described by its title, and when we realize that its foundation is seventeen hundred reported cases—"nearly all the cases recorded in the last fifty years," as the author states in his introduction—we come to know how eminently practical and valuable the deductions of such a one as Dr. Keen must be. It was in 1876 that Dr. Keen delivered the Toner lecture On the Surgical Complications and Sequels of the Continued Fevers, and this was the first occasion when there were collected and discussed all the surgical conditions which might complicate typhoid fever. That this lecture should never have had wide publication is a misfortune, but one which is mitigated by the appearance of the present work, which twenty-two years of added research and observation have enriched. The difference which these years have made may well be seen by a comparison of the appendix which contains the fifth Toner lecture with the body of the work itself. As all know, the several surgical complications of typhoid fever have received full consideration as individuals and in scattered publications, and every day, indeed, the literature of the subject is added to in piecemeal. This work, however, so far as we know, is the only one wherein are treated the surgical complications of typhoid fever, systematically, completely, and in the light of recent observation. Interesting as is the work throughout, one can not but be struck in particular with the chapter which treats of the surgical treatment of intestinal perforation, and when one realizes that recorded cases show over nineteen per cent. of recoveries, the hitherto hopeless aspect of that complication becomes happily modified. This chapter, indeed, with its full tabulation of eighty-three cases subjected to operation, is the most striking in the work, rather, however, from extrinsic causes than by comparison, for the book is throughout even and satisfying in no ordinary degree. The book is one which all medical men should read, for it concerns all. It is one of those surgical works which concern the surgeon no more than the physician or the specialist, for, unfortunately, no branch of medicine may claim immunity from the complications incident to enteric fever. The necessity for accurate and easily accessible knowledge of subjects so important is self-evident, and we can not conceive how that information could have been more ably imparted than in the work of Dr. Keen.

It would be unjust not to call attention also to the excellent work of the publisher, as shown in the making of the volume. The printed matter is highly creditable to him, and the illustrations are of unusual excellence.

Diabetes Mellitus and its Treatment. By R. T. Williamson, M. D. (Lond.), M. R. C. P., Medical Registrar, Manchester Royal Infirmary, etc. With Eighteen Illustrations (Two Colored). Edinburgh and London: Young J. Pentland, 1898. Pp. xi–417.

This very scholarly work will certainly commend itself to the thoughtful medical reader, for, while it presents little or nothing that is novel in the matter of diabetic disease—for, unfortunately, little advance has of late been made in the knowledge of these obscure disorders—it nevertheless exhausts the subject as we already know it, and presents it in a form which is orderly, clear, and thorough to the last degree.

Chapter I being introductory, the real study of the subject is begun in Chapter II, wherein are presented the various tests for sugar. Physiological considerations, and mainly those which concern the liver, occupy the third chapter, and experimental diabetes the fourth, fifth, and sixth. The seventh chapter details a number of forms of glycosuria, and then follows a highly important and thorough chapter concerning ætiological relations. The symptomatology of glycosuric disorders is next discussed, and in the tenth chapter the symptoms, complications, and pathological changes observed in the several systems of the body. Since diabetic disease is possessed of no constant pathology, this arrangement of pathological matters is to be commended as more closely uniting the body changes with the symptoms they produce, for these changes, as the preface very truly points out, are in most cases secondary and variable. A brief chapter upon pathological anatomy (Chapter XII) supplements this, but is devoted in greater part to the various hypotheses which have been advanced to explain the disorders classed as diabetic. In the eleventh chapter diabetic coma receives thorough consideration, and in the thirteenth the forms of diabetes, their termination, prognosis, and diagnosis. The final chapter is devoted to the treatment of diabetic disease. Appended to each chapter is a well-selected and ample bibliography.

Our reading of the work convinces us of its great excellence, and we are sure that in it the student will find satisfaction concerning matters wherein the text-book of medicine—in most cases unavoidably—is apt to be lacking in detail.

BOOKS, ETC., RECEIVED.

A Manual of Otology. By Gorham Bacon, A. B., M. D., Professor of Otology in Cornell University Medical College, New York, etc. With an Introductory Chapter by Clarence John Blake, M. D., Professor of Otology in Harvard University. New York and Philadelphia: Lea Brothers & Co., 1898. Pp. xii–17 to 398.

The Treatment of Skin Cancers. By W. S. Gottheil, M. D., Professor of Dermatology at the New York School of Clinical Medicine, etc. New York: International Journal of Surgery Company, 1898. Pp. 9 to 67. [Price, $1.]

The Pocket Formulary for the Treatment of Disease in Children. By Ludwig Freyberger, M. D., Vienna, M. R. C. P. Lond., M. R. C. S. Eng., Clinical Assistant, Hospital for Sick Children, Great Ormond Street, etc. London: The Rebman Publishing Company, 1898. Pp. xv–208. [Price, 6*s*. 6*d*.]

Cyclic Law. Its Influence over Man in both Health and Disease, determining the Sex. Its Influence upon Births, Deaths, etc. By Thomas E. Reed, M. D., of Middletown, Ohio, 1898. Pp. viii–9 to 167.

Traité de médecine et de thérapeutique. Publié sous la direction de MM. P. Brouardel, Doyen de la Faculté de médecine de Paris, etc., et A. Gilbert, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome cinquième. Maladies des glandes salivaires, du pancréas, du foie, de la rate, des reins, de la vessie, des organes génitaux de l'homme et de la femme. Par MM. Dupré, Richardière, Carnot, Gilbert, Fournier, Garnier, Surmont, Launois, Jeanselme, Chauffard, Guinon, Siredey. Paris: J.-B. Baillière et fils, 1898. Pp. 995. [Prix, 12 fr.]

Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen. Für practische Aerzte. Von Dr. Hans Herz, in Breslau. Berlin: S. Karger, 1898. Pp. xviii–543. [Preis, Mark 10.]

Wie ist die Fürsorge für Gemüthskranke von Aerzten und Laien zu fördern? Psychiatrische Fragen erörtert von Professor Dr. C. Fürstner, Director der psychiatrischen Klinik der Universität Strassburg i. E. Berlin: S. Karger, 1898. Pp. 2 to 64.

Preliminary Report of the Committee of Inspection appointed by the Executive Committee of the Post-graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-graduate Hospital, New York, July, 1898. [Reprinted from the *Post-graduate.*]

On the Use of the Russell Emulsion in Disease other than Phthisis Pulmonalis, and Methods of Administration. By John F. Russell, M. D. [Reprinted from the *Post-graduate.*]

Semiannual Report of the Loomis Sanitarium for Consumptives, at Liberty, N. Y. By J. Edward Stubbert, M. D., of Liberty, N. Y. [Reprinted from the *Philadelphia Medical Journal.*]

The Pennsylvania Society for the Prevention of Tuberculosis. Report for the Year ending April 13, 1898.

Report of Surgical Operations in the Private Surgical Infirmary of Dr. C. S. Briggs. By J. E. Bell, M. D., of Nashville. [Reprinted from the *Nashville Journal of Medicine and Surgery.*]

A Contribution to the Surgery of Gastroptosis and Enteroptosis. By Byron B. Davis, M. D., of Omaha. [Reprinted from the *Western Medical Review.*]

Preparation of the Patient for Operation. By Byron B. Davis, M. D. [Reprinted from the *Western Medical Review.*]

Miscellany.

Ovarian Cystic Tumors and their Complications.—Dr. M. Goltman (*Memphis Medical Monthly*, October) reports three cases of operation for ovarian cysts embracing the conditions of hæmorrhagic cyst, cyst with dragging of the pedicle, and suppurating cyst, from which cases he formulates the following deductions:

"1. Injuries to the abdomen may give rise to hæmorrhage into cyst cavities, and, although such hæmorrhage is usually announced by symptoms of shock, it is occasionally absent.

"2. With a history of injury in the course of a growing ovarian cyst the possibility of hæmorrhage should not be overlooked, and such hæmorrhage, in spite of the absence of shock, may be evidenced by somewhat sudden anæmia, amenorrhœa, pain, loss of flesh, etc.

"3. With the history of pregnancy in the course of a growing ovarian cyst, dragging of the pedicle is to be expected.

"4. Shock and sapræmia in the course of a growing ovarian cyst during or following gestation, after everything else has been eliminated, are probably the result of twisting or dragging of the pedicle and shutting off of the circulation, and should be treated accordingly.

"5. When a pedicle has been dragged any distance it becomes so thinned out that great care is necessary to avoid rupturing it during an operation.

"6. The removal of ovarian cysts without adhesions is one of the simplest operations in abdominal surgery, but when they have attained a large size and where the history indicates that attacks of peritonitis have occurred, their removal becomes difficult or impossible, according to the extent and density of the adhesions formed.

"7. It is sometimes impossible to remove these cysts, on account of the number and character of the adhesions, without seriously endangering or forfeiting the life of the patient. In such cases it is best to resort to incision and drainage, either vaginal or abdominal, with daily irrigation of the cyst cavity.

"8. Tapping ovarian cysts is to be avoided and is counseled against. It follows from the history of most of these cases that tapping leads to infection and suppuration.

"9. Early diagnosis and early operation are to be commended. *Early operation* in these cases usually means *easy operation.*"

Supposed Malignant Tumor of Breast cured by the Continuous Current.—M. Herigoyen and M. J. Bergonié (*Archives d'électricité médicale,* June 15th ; *Presse médicale,* September 28th) report the case of a woman, fifty years of age, without hereditary taint, in whom, following a blow on the breast, there developed a tumor, ovoid in form, of the size of a pigeon's egg, hard, movable, but almost adherent to the adjacent part of the mammary gland. The menopause had passed, without trouble, for five months, and the last lactation was upward of twenty years since. The patient was submitted without any result to iodine treatment, compression, ointments, and the application of a hemlock plaster. This last application, however, continued for twenty days, produced some revulsion, and seemed to be followed by a diminution in the hardness of the tumor. The surgeons who were consulted counseled immediate operation; but it was desired to make an effort at effecting resolution by electrotherapy. Under the direction of M. Bergonié the continuous current was used. A large electrode about a foot square was placed on the back and connected with the positive pole; a hemispherical electrode, about six inches in diameter and connected with the negative pole, entirely encircled the breast and was molded to it, the nipple and areola being protected by a similar disc of caoutchouc. The patient herself kept this electrode moistened with tepid water and covered with a coating of felt about half an inch thick. The intensity of the current was gradually brought up from zero to forty milliampères, and at later *séances* to forty-three and fifty milliampères. The applications were made daily, and lasted from fifteen to twenty-five minutes. At the end of four or five *séances,* the menses, which had disappeared for five months, reappeared and returned regularly. After the eighteenth application the tumor had sensibly diminished in volume; after the twenty-fourth it was difficult to define, was fragmentary, and divided into two unequal lobes. At the thirtieth *séance* it no longer existed and the breast was entirely normal. This cure has remained permanent for two years. M. Bergonié, entering fully into the question of diagnosis, is obliged to discard chronic mastitis and mammary tuberculosis, and considers the tumor as having been epithelioma, adenosarcoma, or adenofibroma, the last being the one finally credited.

Why Extra-uterine Pregnancy is so Common.—The *Memphis Medical Monthly* for October informs us that Dr. Joseph Eastman remarked before the recent meeting of the American Medical Association, at one of its sessions, that he had only recently heard why extra-uterine pregnancy was so common. The explanation given was this: that the fœtus, even in its smallest form, had become shy and hid away up in the Falloppian tubes to escape having its eyes punched out with crochet needles and septic probes of "quack" doctors.

Epidemic Cerebro-spinal Meningitis. — Dr. A. H. Wentworth, of Harvard (*Lancet,* October 1st), in a paper read at the annual meeting of the Massachusetts Medical Society, thus sums up his conclusions:

"1. There is no constant and definite relation between the severity of the symptoms and the degree of turbidity of the spinal fluid.

"2. There is little or no connection between the number of organisms and the number of cells present in the spinal fluid.

"3. In many cases there appears to be but slight connection between the number of organisms found in the spinal fluid and the severity of the disease.

"4. Unless the subsequent examination of the spinal fluid is carefully performed no deductions as to the presence or absence of meningitis are justifiable.

"PROGNOSIS.—It is impossible to say how long the disease will last or what the termination will be in a given case until the lapse of a considerable interval of time during which the patient is free from symptoms. The length of this interval can not be definitely stated, but in most cases two weeks is a safe estimate. In acute cases it is impossible to say that the disease will not become chronic or intermittent in type later. Furthermore, the disease may be moderately severe at first and increase in severity later and prove fatal. In the intermittent type of the disease the symptoms during exacerbations may be more or less severe than those of the onset. In chronic cases the mortality is estimated to be fully as high as in the acute variety. The patient may die from the results of the lesions produced early in the disease or from complications, such as pneumonia or persistent vomiting. The mortality varies very much in different epidemics. Hirsch estimates it at from twenty to seventy per cent.

"TREATMENT: *Prophylactic.*—Nothing of practical value is known about the method of infection or about predisposing causes. The disease is a primary infection and frequently attacks apparently healthy people; therefore no definite prophylactic treatment can be formulated. Although the disease appears to be but slightly if at all contagious, it can do no harm, in the absence of positive knowledge as to the method of infection, to isolate the patients.

"*Curative.*—There is no known remedy which either checks the disease or shortens its course. In a disease like cerebro-spinal meningitis, in which such marked variations in the severity of the symptoms occur at short intervals and in which so many types are observed, one must be very cautious not to confound apparent therapeutic results with coincidences. No effectual method of treatment has been suggested that the author is aware of. The older methods—consisting of cautery of the spine, cupping, leeching, purging, ice bags, and mercurial treatment—all appear to have been faithfully tried. There is no evidence that any of these procedures accomplished anything more than to increase the patient's discomfort in some instances.

"*Symptomatic.*—Some relief from the nervous symptoms has been obtained by the use of sedatives and analgetics. It is difficult to estimate their value in such a variable disease. Delirious and restless patients are sometimes quieted by the bromides. The pain and tenderness in the head and neck may require some preparation of opium at times. Antipyrine and allied drugs have been used, but have not proved of much value unless large doses were given. The danger to be apprehended from the depressant action of these drugs is well known and it is safer not to use them. Salicylate of sodium has been tried in cases in which joint complications occurred, with some difference of opinion as to its efficacy. In the cases which run a long course the most important indications are to sustain the strength of the patient by feeding and stimulation. It is important to keep a daily estimate of the quantity of food taken by these patients. In the long-continued cases the patients often refuse food for several days at a time, and it is necessary to use a stomach tube in these cases at such times. This is especially the case in children. Complications must be treated as they arise. The convalescent stage is often long and requires careful supervision. The emaciation weakness, and anæmia demand appropriate hygienic, dietetic, and tonic treatment.

In conclusion, the author says, a few words about the therapeutic value of lumbar puncture may not be amiss. The value of this procedure is purely diagnostic. One reads from time to time of recoveries from meningitis following the operation and of other cases in which the symptoms were ameliorated. The author has never seen any such cases, although constantly on the watch for them. A temporary relief, lasting for a few hours, has followed the operation in a few cases, but the same remissions frequently occur without any treatment. The fact that in almost all cases no change of any kind is visible in the patient's condition after the operation is strong evidence against its therapeutic value.

Small Doses of Sulphate of Sodium in Gastric Catarrh.—M. Simon (*Journal de médecine de Paris*, September 25th) treated a number of patients suffering from various forms of catarrh of the stomach with about six ounces and a half of lukewarm water containing from seven grains and a half to fifteen grains of sulphate of sodium, administered in small sips on an empty stomach in the morning. This treatment was continued for from two to three weeks without making any change in the regimen of the patients, but forbidding the use of fatty foods and acids.

In the case of mucous catarrh with hypochlorhydria this medication effected the disappearance at the end of some days of the epigastric pains and nausea, and regulated the stools. According to the *Semaine médicale*, patients affected for years with gastric troubles have been completely relieved and their cure has continued for many months, even after the cessation of treatment. In atrophic gastric catarrh, anachlorhydria symptomatic of tuberculosis or cancer, gastric dilatation and painful gastric peristalsis, and neurotic gastropathy without local lesions, the results were insignificant.

M. Simon considers the good effects due to stimulation of the hydrochloric secretion and the motor functions of the stomach.

The Treatment of Hip-joint Disease.—Dr. Gibney, Dr. Waterman, and Dr. Reynolds (*Annals of Surgery*, October), in an exhaustive paper presented to the American Orthopædic Association, arrive, from an analysis of a hundred and fifty cases, at the following deductions: "1. Hygienic and constitutional measures exert a powerful influence in the control of the disease. 2. The early diagnosis of hip-joint disease represents a very important factor in attaining a successful ultimate result. 3. During the acute stage, rest in bed, associated with the usual mechanical appliances, is preferable to ambulatory treatment. 4. In the first stage it is essential to procure absolute immobilization by fixation and traction (extension), and also to furnish protection to the joint. 5. In the second stage the deformity must be corrected, and operative procedures resorted to if mechanical methods fail after a reasonable length of time—usually six months. 6. Early correction of the deformity is advised, using as little force as is consistent with the individual case. 7. Adduction with flexion is the deformity which most frequently calls for correction. 8. Flexion without adduction rarely requires correction. 9. *Forcible correction*, followed by fixation, should be tried before attempting reposition by femoral osteotomy. 10. Where there is absolute ankylosis or only a few degrees of motion, and all manifestations incident to an acute condition have subsided, the operation of subtrochanteric osteotomy for the correction of the deformity is indicated, supplemented, if necessary, by tenotomy, myotomy, and fasciotomy. 11. The injection of various chemical substances into abscesses and sinuses has not proved beneficial. 12. When an abscess does not disappear after repeated aspirations, radical operative procedures are clearly indicated, to be followed, if necessary, by resection of the joint. 13. When the disease is complicated by pus formation in young children, more especially in the first years of life, there is less need of fearing a poor result than in adults, as the former frequently recover with a movable joint, a condition which may be explained by the fact that the head of the bone at this time is cartilaginous. 14. Long-standing and profuse suppuration retards the process of reparation and gives rise to a grave prognosis; furthermore, the absorption of pus is associated with great danger and frequently results in acute septicæmia and amyloid degeneration. 15. Treatment should be continued not only during the acute and subacute stages, but also during the convalescent period.

An Inebriate Horse.—The *Gazette médicale de Paris* for September 17th is responsible for the following story: A Paris wine merchant was for a long time annoyed by persistent thefts of wine from his cellar. What surprised him was that nothing was taken away, but bottles were broken and the wine drunk on the place. About the same time the merchant noticed that his horse appeared to be failing in health. He had vertigo at times, staggered on his feet, and fell down suddenly without any evident cause.

One morning about five o'clock the wine merchant, entering his stable earlier than usual, was surprised to find it empty. He thought that some one had stolen his horse, when an infernal noise coming from the cellar attracted his attention. Calling his men, he descended, armed with a revolver, expecting to find himself face to face with thieves. To his intense astonishment there was no one in the cellar except the horse, which was lying in the midst of a heap of broken bottles, and kicking violently at the casks within his reach. It was in vain that the merchant tried to get the animal on his feet and to make him remount the stairs. It was necessary to summon aid to have him hoisted back to the stable, where he fell down immediately, showing all the signs of a violent seasickness. The veterinary surgeon who was summoned declared that the animal was simply dead drunk; and maintained, moreover, that he displayed all the signs of chronic alcoholism. Here was the key to the wine merchant's mystery. He remembered that some months previously Pompon, the horse, having been somewhat out of sorts, had been ordered oats steeped in wine as a refresher. The lazy stable boy had found it a simpler matter to give him a drink out of the bottle, as trainers are wont to give champagne to race horses. This was a revelation to Pompon. From that time, the intelligent animal, detaching his halter by night, when every one was asleep, had been in the habit of opening the latch of the cellar with his teeth and descending therein for a clandestine debauch. Unfortunately for him, he had on this occasion overdone it, which proved his undoing.

Treatment of the Morphine Habit.—Dr. Paul Sollier (*La Presse médicale; Canadian Journal of Medicine and Surgery*, October) gives some very instructive views on his method of treating patients who have for many years been addicted to the use of morphine. When regularly injected in a continued manner, morphine causes, after a considerable time, a more or less important diminution of the activity of the nervous system, and a very marked slowing of the processes of glandular secretion. When morphine is rapidly withdrawn, there is frequently a resumption of the glandular functions; but this does not happen immediately in all the organs at the same time, the different phenomena appearing one after the other. Most frequently perspiration and sneezing open the scene, accompanied with yawning. Then diarrhœa appears—at first ordinary fæces, then pure bile, afterward loose motions, half bilious, half fæcal in character; mucous vomiting (gastric juice), then bile, where there is any, appears after the diarrhœa has started and stops before it. Spermatorrhœa appears next, then salivation and muscular cramps. Each glandular apparatus begins operations in its turn, without any determined order in this succession of phenomena, which varies with each person and depends on the different degrees to which the different organs of the body are impregnated with morphine. The mechanism by which the system rids itself of morphine appears to be an epithelial and endothelial desquamation of the impregnated mucous membranes. These processes may be renewed during six or eight weeks after abrupt withdrawal of the drug, and when complete, correspond to a *restitutio ad integrum* of the affected organs. Assuming that these premises are correct, it follows that the stronger the reaction of the organism the more abundant will be the desquamation at first, and the more rapidly will organic regeneration be brought about, the more quickly will the system renew itself in its elements, the more favorable will be the course of convalescence, the more completely will health be restored, and consequently all the more will the chances of a relapse be lessened—just as in the infectious diseases, in which the return to health is more perfect when the disease has pursued a more acute course, on the condition, of course, that the organism is in a suitable condition to react against the infection.

Hence, according to the author, the object that one ought to propose to one's self in treating a patient with the morphine habit is to favor as much as possible the elimination of the altered glandular elements, to provoke the appearance of each secretion, if slow in appearing, or if it slackens its work when begun or stops too soon. To meet these indications it suffices to excite glandular activity by every known method, while at the same time lessening the quantity of morphine. Purgatives, diuretics, and diaphoretics ought to be used concurrently. Under the influence of these medicines, and the rapid diminution of the quantity of morphine, the resumption of glandular activity begins before complete removal of the drug is enforced. The effort of the organism at this time is therefore less intense, the emunctories being already prepared. Hence it results that the heart is not forced to perform excessive work, and the pain provoked by the reaction of the organism, striving to free itself of its altered elements, is reduced as much as possible.

Dr. Sollier, since using this method, has not observed, even in patients with diseased hearts, any signs of heart failure or syncope, and still less has he been confronted with the collapse which frightens so many morphine-takers when trying to get cured, and physicians who have not had any experience in such cases. When the morphine-taker is thus prepared for weaning, not only is there no serious accident to dread, but it is useless to give him any heart tonic, such as sparteine or caffeine, for heart failure need not be apprehended. When, on the other hand, weaning from morphine is begun without having taken previous precautions to prepare for glandular elimination, one is exposed to what may be called a false elimination of morphine.

Dr. Sollier explains this as follows: Weaning from morphine should not be confounded with elimination of the drug from the system. Weaning may be put in force, but elimination may not follow. Should this occur, convalescence does not take place, or else comes on in a slow, torpid manner, and besides even fatal results may happen.

Dr. Sollier is opposed to the use of other hypnotics when treating a morphine-taker, and does not, therefore, use napelline or phosphate of codeine. Adjuvants, such as sparteine and caffeine, are sometimes used if the heart is weak. Antipyrine and bromide of potassium are used when there is a tendency to cerebral congestion. He is totally opposed to the use of sulphonal, bromidia, chloral, etc., and thinks that sulphonal is the most dangerous drug in this category.

The rational treatment of morphinomania, therefore, according to Sollier, consists in provoking and favoring as much as possible the secretions of all the glands, in depriving the patient of the drug as soon as possible, in avoiding subsequent interference except to keep up elimination, and observing the patient through all the period necessary for glandular regeneration.

Treatment of Infantile Broncho-pneumonia by Hot Mustard Baths.—Dr. Desmons (*Nord médical*, December 15, 1897; *Archives de médecine des enfants*, September, 1898) relates the case of a young girl, aged four years and a half, who was attacked with measles on May 3d. On the evening of the 5th the temperature rose to 102.2° F. and dyspnœa appeared. In the night the thermometer registered 106.8° F., respiration was very rapid, there were cyanosis and delirium; the child refused all nourishment. The first bath was given at a temperature of 95° F. with seven ounces and a half of mustard powder and was prolonged for ten minutes. Slight amelioration followed, then a return of the alarming symptoms. An hour later a similar bath was given; the child seemed better and drank. Two more baths were given at intervals of an hour. After the fourth bath the respiration became slower, the delirium ceased, the child drank freely, and the thermometer only registered 103° F. Baths were then given only every two hours. In the afternoon the thermometer showed 101.4° F., the respiration was easier, and the general condition good. The improvement was maintained and convalescence was established at the end of two days.

Dr. Lemoine, commenting on this case, says: "I would dare to state as almost an axiom that as soon as a child has subcrepitant râles with slight fever, it should be systematically submitted to treatment by hot baths as the best possible means of forestalling an aggravation of the disease."

The Tri-State Medical Society of Alabama, Georgia, and Tennessee.—The tenth annual meeting will be held in Birmingham, on Tuesday, Wednesday, and Thursday, October 25th, 26th, and 27th, under the presidency of Dr. J. A. Goggans, of Alexander City, Alabama. The Modern Treatment of Corneal Opacities, by Dr. M. L. Heffelfinger, of Huntsville, Alabama; Keratitis, by Dr. A. A. Greene, of Anniston, Alabama; The Surgical Treatment of Trachoma, by Dr. S. Kirkpatrick, of Selma, Alabama; Purulent Ophthalmia—a New Method of Treatment, by Dr. Frank Trester Smith, of Chattanooga; Color Blindness, by Dr. H. S. Persons, of Montgomery, Alabama; Eye Affections in General Diseases, by Dr. J. L. Minor, of Memphis; The Treatment of Affections of the Singing Voice, by Dr. Richmond McKinney, of Memphis; Syphilis of the Nose, by Dr. S. L. Ledbetter, of Birmingham; Diphtheria, by Dr. H. L. Appleton, of Cedar Bluff, Alabama; Diphtheria, by Dr. W. D. Travis, of Covington, Georgia; A Case of Addison's Disease treated with Adrenal Extract, by Dr. H. A. Moody, of Bailey Springs, Alabama; Suggestion in the Healing Art, by Dr. E. T. Camp, of Gadsden, Alabama; Chorea, by Dr. S. W. Fain, of Chattanooga; Neurasthenia and its Treatment, by Dr. Charles E. Smith, of Atlanta; Recent Advances in the Treatment of Gonorrhœa, by Dr. F. Goodwin Dubose, of Florence, Alabama; The Treatment of Intestinal Obstruction and Constipation by Electric Injections, by Dr. R. P. Johnson, of Oak Park, Illinois; Perfection of the Aseptic Technics, by Dr. W. F. Westmoreland, of Atlanta; Curettage of the Uterus, by Dr. John G. Clay, of Thompson's Station, Tennessee; Extirpation of the Pancreas, by Dr. H. Berlin, of Chattanooga; A Few Remarks on Bone Surgery, by Dr. M. Goltman, of Memphis; A Simple Operation for Hæmorrhoids without Injections, Ligature, Clamp, Cautery, or Crushing, by Dr. R. R. Kime, of Atlanta; Peritonitis, by Dr. D. S. Middleton, of Rising Fawn, Georgia; Urinary Calculus—Suprapubic Cystotomy, by Dr. James S. White, of Franklin, Tennessee; Supravaginal *versus* Vaginal Hysterectomy, by Dr. Clement Ritter, of Selma, Alabama; Extraperitoneal Shortening of the Round Ligaments in the Correction of Retrodisplacements of the Uterus, by Dr. M. C. McGannon, of Nashville; Acute Anterior Poliomyelitis, by Dr. E. D. Bondurant, of Mobile; The Early Diagnosis of Cancer of the Uterus, by Dr. Thomas S. Cullens, of Baltimore; The Surgery of Typhoid, by Dr. Harvey W. Cushing, of Baltimore; Membranous Colitis, by Dr. Louis W. Johnson, of Tuskegee, Alabama; Organic Disease of the Mitral Valve, by Dr. J. T. Seay, of Fern Bank, Alabama; Lobar Pneumonia, with Treatment, by Dr. J. U. Ray, Jr., of Blocton, Alabama; The Fevers of Alabama, by Dr. Charles McAlpine Watson, of Florence, Alabama; Some Fevers of St. Clair County, Alabama, by Dr. Eugene P. Cason, of Ragland, Alabama; A Fever Indigenous to the Cumberland Plateau, by Dr. N. H. French, of Wartburg, Tennessee; The Continued Malarial Fever of Southeast Alabama, by Dr. William R. Belcher, of Dalcville, Alabama; Malaria, by Dr. W. H. Bell, of Oxford, Alabama; Some Malarial Manifestations, by Dr. J. N. Pearson, of Florence, Alabama; Typhoid Fever, by Dr. E. A. Mathews, of Clanton, Alabama; Typhoid Fever, by Dr. E. Eugene Mitchell, of Oneonto, Alabama; Typhoid Fever, by Dr. S. W. Welch, of Alpine, Alabama; Typhoid Fever, by Dr. C. L. Guice. of Harris, Alabama; The Treatment of Typhoid Fever. by Dr. Julius Jones, of Rockford, Alabama; A Rational Treatment for Typhoid Fever, by Dr. Gaius R. Johnson, of Marion, Alabama; Typhoid Fever, by Dr. G. Manning Ellis, of Chattanooga; Typhoid Fever, by Dr. W. H. Moon, of Goodwater, Alabama; Some Interesting Cases of Laparotomy, by Dr. C. Hamilton, of Rome, Georgia; Laparotomy for Gunshot Wound of the Abdomen, by Dr. R. E. Fort, of Nashville; Puerperal Eclampsia, by Dr. Thomas F. F. Moore, of Linwood, Alabama; Some of the Emergencies of the Lying-in State, by Dr. David A. Morton, of Boaz, Alabama; Puerperal Septicæmia, by Dr. Robert B. Stapleton, of Dotham, Alabama; A Few Remarks on the Treatment of Puerperal Fever, by Dr. J. C. Johnson, of Glen Allen, Alabama; Hypodermic Medication, by Dr. E. P. Nicholson, of Valley Head, Alabama; Communal Hygiene, by Dr. Ernest B. Sangree, of Nashville; Two Cases of Surgery, by Dr. S. W. Purifoy, of Lownsboro, Alabama; Functional Impotence, by Dr. W. H. Mangum, of Georgiana, Alabama; Syphilitis of the Nervous System, by Dr. W. J. Love, of Lafayette, Alabama; Disobedience to the Mandates of Nature is Treachery of a Suicidal Tendency, by Dr. P. G. Trent, Sr., of Roanoke, Alabama; Animal Heat, by Dr. W. S. Edwards, of Gadsden, Alabama; Two Interesting Cases of Sunstroke, by Dr. J. W. Ash, of Springville, Alabama; A Case of Complete Obstruction of the Common Bile Duct by a Floating Gallstone; Operation; Recovery, by Dr. W. H. Hudson, of Lafayette, Alabama; Scarlet Fever and its Sequelæ, by Dr. J. T. Chapman, of Selma, Alabama; Small-pox, by Dr. Frank Prince, of Bessemer, Alabama; Small-pox in Alabama, by Dr. G. B. Wimberly, of Reform, Alabama; The Treatment of Burns on Modern Surgical Principles, by Dr. C. B. Jackson, of Horse Creek, Alabama; The Treatment of Fractures by Plaster-of-Paris Bandages, by Dr. M. B. Cameron, of Sumpterville, Alabama; Some Suggestions in the Treatment of Typhoid Fever, by Dr. J. C. Legrand, of Birmingham; Typhoid Fever, by Dr. J. D. Gibson, of Birmingham; Ectopic Gestation, by Dr. W. E. B. Davis, of Birmingham; The Management of the Puerperal State, by Dr. C. C. Jones, of Eastlake, Alabama; Fracture of the Spine, by Dr. B. G. Copeland, of Birmingham; Abortion, by Dr. Emmett K. Moon, of Bridgeport, Alabama; Abnormal Cardiac Phenomena; their Differentiation and Significance, by Dr. R. M. Cunningham, of Pratt City, Alabama; and Conservative Gynæcology by Rational Medication, by Dr. R. H. Hayes, of Union Springs, Alabama.

The Abuse of Medical Charities.—Dr. James C. White, of Boston (*Boston Medical and Surgical Journal*, October 13th), in some remarks before the Harvard Medical Alumni Association, at the annual dinner, June, 1898, called attention to a subject which had strongly interested our profession of late—the so-called abuse of medical charities. He referred to the recent widespread agitation of the question, and the efforts which have been made in this country and in Great Britain to correct the evil by legislation and stimulation of public opinion. He felt that something remained to be said from the teachers' point of view, although he was aware that his views might not be those of many. He had been teaching medical students just forty years, and had been in almost daily attendance upon out-patient service since 1850. He might fairly claim then to have founded his opinions upon the subject after experience.

He wished to admit at once the legitimacy of the term "abuse of medical charities" in connection with the administration of hospitals and dispensaries, but it should be applied with discrimination. According to his observation, patients came to free hospitals because they were poor and unable to pay any professional fee; a majority, perhaps, because they expected to find in them a class of physicians whom they regarded as more skillful than those who practised medicine in their humble neighborhoods in city or country round about; because they were foreigners, in great numbers, paupers for generations, and accustomed to depend upon such charity in former homes; because, having obscure diseases, they were sent thither by their physicians' honesty and modesty for the benefit of superior skill; because, in the case of a large superior class, represented by school teachers, students, shop girls, artisans, and domestics, they sought there a class of physicians whose services elsewhere they could not pay for; and lastly, because, in much smaller proportion than was commonly supposed, some did not hesitate to seek there gratis professional advice they were well able to pay for outside.

The number of patients treated at the Massachusetts General Hospital, according to the last published report, was as follows:

Patients in wards	4,304
Out-patients:	
Medical	10,587
Surgical	10,150
Skin	3,309
Throat	2,916
Nervous	1,521
Eye	1,384
Total	29,867

Now, were hospitals founded and conducted for the sole purpose of administering medical charity, he would agree with the most active agitators of the question of so-called reform that no excuse could be found for the existing method of administering them; for he had no doubt that a considerable proportion of the above-mentioned thirty thousand patients were able to pay some fee. But there was another and a great purpose for which hospitals were founded, in addition to the care of the sick, namely, the education of physicians, and in foreign governmental hospitals this object had always been predominant; hence their fame and vast usefulness. Without hospitals and dispensaries devoted in part to this purpose, there could be no medical schools, no such thing as an educated physician, no control of disease. A great school of medicine required unlimited clinical material for the uses of its many departments, and it must be at its complete disposition. Now, to accomplish this high purpose in this prosperous community of ours by means of pauper patients alone would be entirely out of the question.

He instanced requirements of his own department. It was necessary to state that it was impossible to teach dermatology without abundant clinical material. There were more than one hundred diseases of the skin. Having no beds at its command, by means of which alone the natural processes of evolution and involution and the results of treatment could be adequately studied, the department must substitute the brief inspection of patients in illustration of each individual affection; and it required a great number of examples to properly represent all phases of a disease. Indeed, to teach properly the three courses on their schedule—the third year, the fourth year, and the graduates—required a much greater number than the three or four thousand patients at the command of the department. It was true that certain forms of skin disease might be best studied among the pauper class and our foreign population, such as the parasitic diseases and the so-called immigrant dermatoses; but it was even more important that the student should learn to know every type of disease, as it occurred in modified forms in the various occupations and in every class of society. He should have the opportunity of seeing also every possible example of the rarer affections, which were attracted to the clinic through the reputation of the hospital and its staff, which practically constituted the hospital, from all parts of the New England States and the British Provinces. Were such interesting cases treated by the teacher in his private office, he would be the gainer in fees, the student would be the loser of knowledge. The possible three- or five- or ten-dollar patient was just as important to the student for educational purposes as the one-dollar, the fifty-cent, or the pauper patient. Were every patient able to pay something excluded from the clinic because some physician outside should receive this, proper clinical teaching would be no longer possible.

The speaker recognized no higher object than the education of the student of medicine to the highest plane of accomplishment, for this knowledge was later diffused along illimitable paths of humanity and charity. He would use, therefore, every means not immoral or inhumane to this end, if essential. Good medical education was costly. It cost the family, mostly in moderate circumstances, much deprivation, often, to pay for it. The sister or widowed mother toiled for the boy's sake for four long years. The student engaged in the most wearisome, even menial, occupation, to get this much-prized knowledge. The facts which were laid open to the committee on scholarships were often pitiful indeed. But others were helping him—the noble men and women of this community who had contributed so generously in the past and so often in recent years to the funds of the school and hospitals were aiding him; and so was the great body of teachers who worked so faithfully and for so little recompense. Therefore, let not the physician, young or old, who once received these same benefits, complain too loudly if, in turn, necessary and legitimate use was made for the present student's sake of a few patients who might pay him a fee, nor forget that he was once well pleased to receive similar advantages.

Such use of clinical material then, representing all occupations and classes for direct purposes of teaching, was, he maintained, no abuse of hospital charity, no injury or degradation to the person seeking medical advice under such conditions, for recompense was made by every one of them in permitting themselves to be used for these ends. It was no light matter for a patient to go before a class and submit to inspection, more or less extensive; and every patient who granted us this privilege made a positive and valuable contribution to the cause of medical education and humanity. This should be definitely understood by the public and the profession, that those who sought advice at hospitals and dispensaries, where medical instruction was given, on account of the reputation and skill of the teachers upon the staff, did allow themselves, as proper return for such advice, to be used for the purposes of clinical teaching. Objection was rarely made to such treatment by patients of any class; but they should be made to feel that an obligation on their part had been incurred, and had been thus honestly and fitly paid.

The loud outcry against hospital abuse and consequent pecuniary damage to physicians at large would, in his opinion, never have arisen, were it believed that patients were admitted to them for such purposes only. It was one more reason why the medical school should have its own hospital; for its professional staff would consist of its teachers exclusively, and it would be recognized by the public and the profession that every patient admitted to its wards and out-patient departments would be used for clinical instruction. There could, he said, be no longer any question of the motives of its physicians or just ground of complaint of the abuse of medical charity, for all must admit the necessity and legitimacy of such use of clinical material in sufficient amount. This must be determined by the needs and opportunities of each department, not by indiscriminate accusations on the part of the profession at large. The honor of teachers must be trusted to this extent.

New Appointment.—We learn from the *Medical Fortnightly* for October 15th that Dr. Harrison Mettler has been appointed professor of physiology of the nervous system in the College of Physicians and Surgeons of Chicago (medical department of the University of Illinois).

Brain Anatomy and Brain Tumors.—Dr. William C. Krauss, of Buffalo (*Philadelphia Medical Journal*), in a paper read at the ninety-second annual meeting of the Medical Society of the State of New York, Albany, on January 25, 1898, called attention (1) to the difficulty in remembering the gross anatomy of the brain, and (2) to the almost universal presence of optic neuritis in cases of brain tumor.

He attempted to overcome the difficulty in regard to the anatomy of the brain by formulating the following unique and original rules, which are easily remembered:

Rule of Two.—I. The nerve centres are divided into two great divisions, (1) encephalon, (2) myelon. II. The encephalon is subdivided into two, (1) cerebrum, (2) cerebellum. III. The cerebrum, cerebellum, and myelon are divided into two hemispheres each, (1) right, (2) left. IV. The encephalon is indented by two great fissures, (1) longitudinal, (2) transverse. V. Into these two great fissures there dip two folds of the dura, (1) falx cerebri, (2) tentorium cerebelli. VI. There are two varieties of brain matter, (1) white, (2) gray.

Rule of Three.—I. There are three layers of membranes surrounding the brain, (1) dura mater, (2) arachnoid, (3) pia mater. II. Each hemisphere is indented by three major fissures, (1) Sylvian, (2) Rolandic or central, (3) parieto-occipital. III. Three lobes, frontal, temporal, and occipital, on their convex surface are divided into three convolutions each, the superior, middle, and inferior, or first, second, and third. IV. There are three pairs of basal ganglia, (1) corpora striata, (2) optic thalami, (3) corpora quadrigemina. V. The hemispheres of the brain are connected by three commissures, (1) anterior, (2) median, (3) posterior commissure. VI. The cerebellum consists of three portions, (1) right hemisphere, (2) left hemisphere, (3) vermis. VII. There are three pairs of cerebellar peduncles, (1) superior, (2) middle, (3) inferior. VIII. The number of pairs of cranial nerves, in the classifications of Willis and Sommering, can be determined by adding 3 to the number of letters in each name, that of Willis making 9, and that of Sommering making 12 (or the name containing the more letters has the larger number of pairs of nerves, and *vice versa*). IX. The cortex of the cerebellum is divided into three layers of cells, (1) granular, (2) Purkinje's cells, (3) a molecular layer.

Rule of Five.—I. Each hemisphere is divided externally into five lobes, of which four are visible, (1) frontal, (2) parietal, (3) temporal, (4) occipital; and one invisible, (5) insula (Isle of Reil). Roughly speaking, the visible lobes correspond to the bones of the cranium—that is, the frontal lobe is underneath the frontal bone, the parietal lobe beneath the parietal bone, etc. II. The brain contains five ventricles, of which four are visible—the right and left, or first and second, the third and the fourth; and one invisible—the fifth or pseudoventricle. III. The cortex of the brain contains five distinct layers of ganglion cells.

Studying carefully a hundred cases of brain tumor in which an ophthalmoscopic examination had been made for the presence or absence of choked disc (optic neuritis), Dr. Krauss announced the following conclusions:

1. Optic neuritis is present in about ninety per cent. of all cases of brain tumor.
2. It is more often present in cerebral than in cerebellar cases.
3. The location of the tumor exerts little influence over the appearance of the papillitis.
4. The size and nature of the tumor exert but little influence over the production of the papillitis.
5. Tumors of slow growth are less liable to be accompanied with optic neuritis than those of rapid growth.
6. It is probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved.
7. It is doubtful whether increased intracranial pressure is solely and alone responsible for the production of an optic neuritis in cases of brain tumor.

The American Microscopical Society, at its recent annual session, elected the following officers for the ensuing year: President, Dr. William C. Krauss, of Buffalo; first vice-president, Professor A. M. Bleile, of Columbus, Ohio; second vice-president, Dr. G. C. Huber, of Ann Arbor, Michigan; secretary, Professor Henry D. Ward, of Lincoln, Nebraska; treasurer, Magnus Pflaum, of Pittsburgh; executive committee, Professor S. H. Gage, of Ithaca; Dr. A. Clifford Mercer, of Syracuse, and Dr. V. A. Moore, of Ithaca.

Annual Report of the Craig Colony.—We are informed that the annual meeting of the board of managers of this institution was held at the colony on the 11th instant and the following officers of the board were reelected: Frederick Peterson, M. D., president; H. E. Brown, secretary; John F. Connor, treasurer.

The annual report of the medical superintendent, Dr. William P. Spratling, was presented and read. The most gratifying feature of the report was the discharge of seven patients during the year as recovered. It was also reported that marked improvement had taken place in a large majority of all cases admitted to the institution.

The industrial showing for the year was exceedingly gratifying, the value of all articles grown on and manufactured by the colony during the year amounting to $36,889.03. Eighty-six per cent. of all male patients and eighty-three per cent. of all female patients were reported as being engaged in labor calculated to reduce the cost of maintenance.

The medical superintendent called attention to the fact that he had on file on the first day of October applications for the admission of over six hundred patients whom he could not receive for lack of room; and in view of the great and increasing pressure for the admission of patients, the managers decided to ask the coming legislature for a large sum for dormitory construction.

The hope was expressed that in view of the value of this institution and its benefit to mankind, which benefit had already been amply demonstrated, the legislature of this State would see fit to grant any reasonable request that the managers of the institution might make.

Menstruation arrested for Six Years; Vicarious Mammary Symptoms and Obesity; cured by the Intra-Uterine Stem in Four Weeks.—Dr. James R. Wallace, editor of the *Indian Medical Record*, reports to us the following interesting case: The patient was an Anglo-Indian lady, twenty-nine years of age, one of a family of six children, two of whom are obese and three are slightly built. She was one of the stout ones. Her parents were both stout. She began to menstruate at twelve, and was spare of body at that time. She was quite regular in her courses, both as to time and quantity. She married at twenty-three. Her husband stayed with her eight months and then left her on the plea that they were not rightly mated sexually. She was sexually impotent. She did not conceive. She menstruated regularly during the first eight months of her marriage—that is, while her husband lived with her; but with his departure, in 1892, she ceased to menstruate. At each subsequent month for four days, corresponding with her catamenial epoch, both her mammary glands became swollen, hard, painful, and full of milk, which poured away freely from both breasts. It diminished after two days, and quite stopped on the fourth day. She suffered from no pain about the pelvic organs during this period of vicarious "menstruation," and beyond the tenderness produced by this periodical mammary turgescence, her health suffered in no way whatever. This regular change began with the "period" due after her husband's disappearance, and continued up to the time she consulted the author in February, 1898—*i. e.*, for nearly six years! Another marked physical change which was concomitant with the stoppage of the regular menstrual flux was the rapid development of obesity. She weighed ninety-eight pounds at her wedding in 1892, and had reached the tidy figure of two hundred and forty-five pounds in February, 1898, when last weighed. Her appearance at this time was one of perfect health. She presented the picture of a bright, energetic, well-fed, contented woman of thirty, and was perfectly robust and healthy-complexioned. Dr. Wallace was called to see her in February, 1898, for a sudden attack of catarrhal fever. Her temperature had gone up to 106° F., and she was delirious and suffering with much pain and tenderness about the hypogastrium. He heard the history of her life, but did not feel convinced at the time that the febrile disturbance was in any way connected with her strange menstrual experiences. With diaphoretics and sedatives the acute trouble passed off, but the uterine distress continued, and with it, the usual mammary engorgement and lacteal secretion. With such a remarkable and characteristic history of functional generative disturbance, he surmised that the present unusual symptoms were connected with undue exaggeration of uterine efforts to obtain menstrual relief by the natural channel, and therefore suggested the use of an intra-uterine stem, which was introduced on February 25th. This operation was followed in twenty-four hours by a discharge of blood *per vaginam*, which lasted for three days. Four weeks later there was another attack of fever with high temperature, uterine pain, and mammary turgescence, which, however, was much less than usual, and subsided within twenty-four hours. Every month since then, the catamenia had come with perfect regularity with an interval of four weeks, lasting freely for four days, without febrile disturbance. The mammary engorgement had steadily decreased each month, till there was scarcely more than a sense of mere fullness, without tension or pain, and absolutely without the formation of any secretion. Another very remarkable and very welcome change to the patient was the lessening of her bodily weight, for she had lost more than twenty-eight pounds within six months. No medicines had been given, and every beneficial change that had resulted must, he thought, be attributed to the use of the intra-uterine stem, which was kept *in situ* for six weeks only.

The author remarks that this case is remarkable in emphasizing the strange incidence of a pathological arrest of a physiological function, dependent entirely upon the withdrawal of sexual stimulus. Such a pathological phenomenon is all the more remarkable as occurring in a woman in whom the sexual appetite—as gauged by the entire absence of sexual orgasm—was so completely in abeyance.

The Mississippi Valley Medical Association.—At the recent annual meeting, held in Nashville, officers for the ensuing year were elected as follows: President, Dr. Duncan Eve, of Nashville; vice-presidents, Dr. A. J. Ochsner, of Chicago, and Dr. J. C. Morfit, of St. Louis; secretary, Dr. Henry E. Tuley, of Louisville; treasurer, Dr. Dudley S. Reynolds, of Louisville. It was voted to hold the next meeting in Chicago.

Original Communications.

REPORT OF A CASE OF FIBRO-LIPOMA OF THE LARYNX.[*]

By FRANK WHITEHILL HINKEL, A. M., M. D.

MRS. F., aged fifty-five years, consulted me March 22, 1895. She gave a history of excellent general health. During the winter of 1883 she became conscious of a tumor of some kind at the back of the tongue. She consulted Dr. Roswell Park, of Buffalo, who removed a long, slender, cylindrical tumor which, as preserved in alcohol by the patient, was about an inch and three quarters in length by a third of an inch in diameter. She reported that it had been removed with scissors, and had been cut with ease and without pain. After some years there was a gradual return of symptoms, and ten years later, in February, 1893, Dr. Park removed in the same manner a somewhat spherical mass about a third of an inch in diameter. In August, 1894, Dr. Park again removed a tumor of shape and appearance similar to that removed in 1893. The symptoms returned speedily. There was not, when she consulted me in 1895, nor has there been since, any pain, cough, or expectoration. There was no difficulty in swallowing. Speech was normal, but there was impairment of the singing voice. At no time then nor since have there been other symptoms than a sensation of some foreign body in the throat.

Her father had died of "cancer of the face, beginning as a mole under the left eye."

She presented an appearance of good health. There was nothing abnormal about the nose or upper pharynx. From the upper left margin of the epiglottis a pinkish-white tumor of flabby appearance depended into the left pyriform sinus, resting upon and concealing the ary-epiglottic fold and arytænoid. It was soft and doughy under the probe. There was some varicosity of the root of the tongue. The tumor was readily engaged in the loop of a light snare. To my surprise, despite the soft appearance and feeling of the tumor, I was unable to draw the loop home. Using the snare to drag the tumor within reach, I removed it in three pieces with curved scissors. It cut dense and hard without much pain or bleeding. There remained after healing some fullness of the left half of the glosso-epiglottic fossa, involving slightly the left perpendicular edge of the epiglottis and extending on to the anterior wall of the pyriform sinus. The color of the parts was quite normal.

On March 9, 1898, Mrs. F. again consulted me, reporting that during the past winter she had had some slight discomfort about her throat. Examination revealed a pinkish-white, smooth, elongated tumor broadly attached to the free margin of the epiglottis and depending to the right, producing an appearance as though the right side of the epiglottis were turbaned or folded upon itself vertically. The left ary-epiglottic fold was much thickened, concealing the left arytænoid and a part of the left vocal band, encroaching upon the lumen of the vestibule of the larynx, and partly filling the left pyriform sinus. Color and motility of the vocal bands were normal, and there was no involvement of the ventricular bands. The patient was able to bring a small portion of the epiglottic tumor into view on the back of the tongue, where it presented an appearance much like a polyp. With forceps and scissors it was readily removed. It presented two digitations, and was about three quarters of an inch in length. With a heavy snare and curved cannula I twice engaged the flabby and dependent laryngeal face of the left ary-epiglottic fold. The wire broke each time, showing great density of structure. The epiglottis after the operation presented a curious appearance. The entire glosso-epiglottic fossa was filled almost to the level of the tip of the epiglottis with tissue, presumably similar to the tumor removed. The consequent optical effect was as though the epiglottis had been amputated near the point of its attachment, when, in fact, it was of normal size and appearance on its laryngeal face.

As Mrs. F. suffers from no unpleasant symptoms at present, no further attempt was made to remove the redundance of the left ary-epiglottic fold.

The persistent recurrence of this tumor, and its peculiar and unfamiliar appearance, led me to send the specimens presented herewith to Dr. Jonathan Wright for examination. With his usual kindness and keen interest in all things pertaining to pathology, Dr. Wright has given these specimens careful study and has prepared the exhibits that are the chief value of this report.

From the macroscopic appearance he at once suspected the tumor to be lipoma of the larynx. Later microscopic examination confirmed this opinion.

The following is his report:

"No. 644. Various specimens received at different times from Dr. Hinkel, from the larynx of the same case, show a tendency to take the form of long, fingerlike projections. The one removed in 1883, after remaining fifteen years in alcohol, is forty-five millimetres long and about eight millimetres wide at the broadest point. Other growths are more or less of the same shape, some being tuberous, while some are more sessile. Their shape seems to differ somewhat according to their structure. The following are their microscopic and general characteristics, according to the dates of their removal:

"1883. Is made up principally of fat cells, especially at its distal part, having more fibrous tissue at its base.

"1893 and 1894. These growths, being more sessile, are largely made up of curling elastic fibrous tissue, but here and there some fat cells may be seen.

"1895. A long, tuberous-shaped growth shows a large predominance of fat tissue.

"1898. A more sessile growth is almost exclusively made up of the curling elastic fibres. There are one or two circumscribed areas of round-celled infiltration.

"The surface of all these growths is covered by stratified flat epithelial cells."

In 1895 Dr. Farlow presented before this association the report of a case of lipoma of the larynx removed by Dr. W. F. Knowles, of Boston. According to Gerhardt,[*] but ten cases of lipoma of the larynx have been reported up to 1896.

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[*] Read before the American Laryngological Association at its twentieth annual congress.

[*] Nothnagel's *Pathologie und Therapie.*

My case is interesting not only on account of its rarity, but also on account of the persistent recurrence of the growth and the gradual infiltration of the adjacent tissues. In addition there is an interesting transformation in the character of the growths that have recurred after the removal of the lipomatous tumors. This is well shown by drawings from sections made by Dr. Wright.

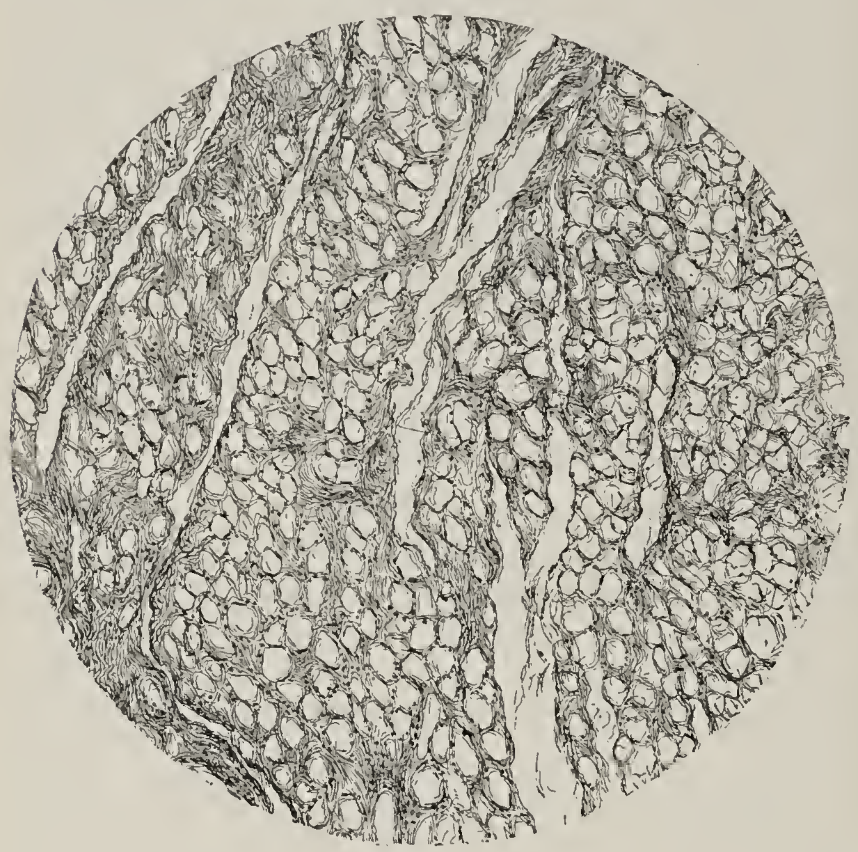
FIG. 1.

Fig. 1 represents a section of the first tumor removed by me in 1895. This tumor was found by Dr. Wright to be entirely analogous in structure to the original growth removed by Dr. Park in 1883. They both present well-marked lipomatous structure.

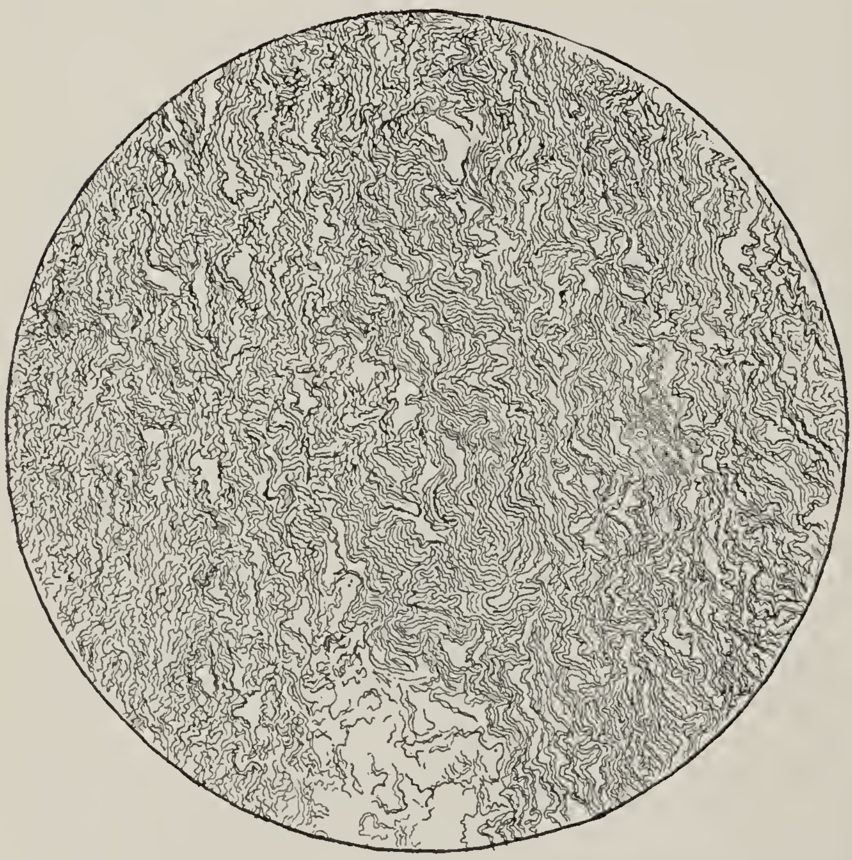
FIG. 2.

Fig. 2 is from the recurrent tumor removed this year, and shows it to be largely fibrous in structure.

For the subjoined references to reports of cases of lipoma of the larynx I am indebted to Dr. Wright.

Farlow. *Transactions of the American Laryngological Association*, 1895, p. 65.

Hohlbeck. Ref. *Centralblatt für Laryng.*, 1892–'93, p. 300.

Aplavin. Ref. *Centralblatt für Laryng.*, 1891–'92, p. 289.

McBride. *Edinburgh Medical Journal*, February, 1889.

Moritz Schmidt. *Die Krankheiten der oberen Luftwege*, edition 1894, p. 504.

Schrötter. *Vorlesungen über die Krankheiten des Kehlkopfes.*

Wagner, Tobold, and von Bruns have made reports of cases.

REPORT OF A DEATH FOLLOWING IMMEDIATELY AN OPERATION FOR NASOPHARYNGEAL ADENOIDS UNDER CHLOROFORM,

WITH

REMARKS ON CHLOROFORM ANÆSTHESIA IN THIS OPERATION.*

BY FRANK WHITEHILL HINKEL, A. M., M. D.

THE operation for the removal of nasopharyngeal adenoids has received in recent years widespread recognition and acceptance as a surgical procedure of high therapeutic and prophylactic value. Its application has been stimulated in England and this country in the past ten years, since its performance under general anæsthesia has been found feasible and satisfactory, and the operation is now performed with great and increasing frequency. Chloroform has been, and for most operators among us still is, the favorite anæsthetic. The ease with which it is taken by children, its quick action, the smallness of the dose required, and its comparative freedom from unpleasant sequences make it apparently admirably adapted to the purpose. There is, besides, a widespread belief, in which I confess I shared until recently, that chloroform, admittedly the most dangerous of the anæsthetics, is relatively safe for children. A rude awakening from this fancied security, and the results of a consequent investigation of the question of anæsthetics in the adenoid operation, lead me to believe that its discussion here may not be without interest and profit. I beg, therefore, to present to this association a report of a death following immediately an adenoid operation performed under chloroform, with some remarks suggested thereby.

The patient, a boy, aged six years, was first examined by me June 12, 1895. He had suffered from recurring earache and deafness since two years of age, but had never had purulent otitis; he had occasional attacks of hacking cough; was not a mouth breather or snorer, and had not the usual expression or voice of a sufferer from nasopharyngeal adenoids. There was a moderate amount of lymphoid tissue in the vault of the pharynx.

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* **Read before the American Laryngological Association at its twentieth annual congress.**

This patient had several attacks of deafness in the two years following my first examination, and there was a gradual increase in the amount of lymphoid tissue. In November, 1896, when he was about eight years of age, it was decided, after a severe catarrhal otitis, to perform the operation for nasopharyngeal adenoids. On December 2d, at 11.45 A. M., chloroform was administered by my friend Dr. Sherman, an anæsthetist of experience, who has made a particular study of children's diseases. Dr. Sherman had frequently administered chloroform for me and was familiar with the difficulties attending the administration of an anæsthetic in these cases. He was accustomed to apply the mask dry and then administer the chloroform a few drops at a time; in this way a very small amount usually sufficed. When the child was brought on the table under the anæsthetic Dr. Sherman reported that he had found a very slight cardiac systolic murmur, loudest at the base, with the apex beat in normal position. This, in view of the normal size and position of the heart, he regarded as very probably not due to organic lesion, its presence being not uncommon in debilitated children. We were much delayed by vomiting of undigested food that had been taken at a light breakfast nearly five hours before. Respiration was interrupted a number of times by spasm of the glottis, partial recovery from anæsthesia occurred, and quite a length of time elapsed before the patient was sufficiently relaxed for the operation. On account of the vomiting and incidental delays about one fluid ounce of chloroform was administered in all. The lymphoid tissue was found to be quite firm and bled freely on curettement. Wishing to clear the fossæ of Rosenmüller carefully, I tied the palate forward, and, after a renewed administration of chloroform, with finger nail and small forceps I entered the nasopharynx several times. Careful watch had been kept on pulse and respiration by Dr. Sherman, and on removal of the chloroform to make way for the operation he, as is his custom, noted the temporal pulse. It was good. I declared the operation completed and turned for my scissors to cut the tape that retracted the palate, when suddenly the boy gave a few hurried shallow gasps and respiration ceased. The pulse had disappeared and no cardiac impulse could be felt or heard; the pupils were dilated. Hypodermics of digitalis and strychnine, which lay prepared, were immediately injected; the patient was inverted and artificial respiration begun. Further hypodermic injections of ether, atropine, digitalis, and strychnine were given; the sphincters were dilated; hot water injections and cold affusions were used; the body was kept warm by hot blankets and water bags. Artificial respiration was kept up unceasingly for two hours, but was never rewarded by a sign of life. No post-mortem was obtained.

You will note that the total amount of chloroform administered was about a fluid ounce, that the chloroform had been removed for two or three minutes at least before the fatal collapse, and that death occurred without warning and with almost simultaneous failure of pulse and respiration. It has been suggested to me that death occurred from the formation of heart clot, which may have begun to form during the glottic spasm and vomiting; but, as no evidence of serious circulatory disturbance was observed before the final collapse, I incline to the view that death occurred from central nervous disturbance. Dr. Lauder Brunton,* in commenting upon the reports of the Hyderabad and *Lancet* commissions, assigns "neuro-paralysis" as the cause of death in many cases under chloroform. He says: "In [this] class of cases not only respiration and circulation, but all the functions of the nervous system, fail together; the breathing stops, the pulse stops, and the person dies instantaneously and quite quietly without convulsions." Professor H. C. Wood † says: "All observers, clinical and experimental, are in accord in acknowledging that when chloroform paralyzes the respiration it does so by a direct action upon the respiratory centre." However, as no post-mortem was held, this question remains a matter of conjecture.

In 1893 several brief communications appeared in the medical press of Great Britain calling attention to an alarming mortality in the adenoid operation and tonsillotomy performed under chloroform. These communications have received surprisingly little notice. In 1896 Dr. W. G. Holloway,‡ registrar of the Central London Throat and Ear Hospital, tabulated fourteen deaths under chloroform in nose and throat operations that had been reported in England up to April, 1895. Of these fourteen deaths under chloroform eleven were in operations on the tonsils and nasopharyngeal adenoids reported since 1892. At the meeting of the British Laryngological Association in 1897, in a discussion on the operation for postnasal adenoids, Wyatt Wingrave # and Dundas Grant deprecated the general use of chloroform in this operation, and alluded to the high mortality under its use. Their position was not strongly supported, however, in the discussion. The subject has received very little consideration in Germany. This is in part accounted for by the infrequent use there of general anæsthesia in this operation.

I have supplemented the available records of deaths during or after the adenoid operation under general anæsthesia by letters of inquiry to a number of throat surgeons in this country and abroad. For the kindness of many of them in replying promptly and fully I beg now to express my thanks.

Including my own case, I am able to record eighteen cases of death following the administration of chloroform for the removal of nasopharyngeal adenoids, hypertrophied tonsils, or both. Eleven of these are found in Holloway's tabulated report already mentioned.‖ I have verified almost all of his references. He includes in his list the only case contained in the *Lancet* commission's report. Six of the operations were for adenoids alone, three for adenoids and hypertrophied tonsils, two for hypertrophied tonsils alone. In two cases, both of adenoids alone, death occurred before the operation was begun. To this list of eleven fatalities I append the following:

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* *Lancet*, July 6, 1895.

† Dennis's *System of Surgery*, vol. i, p. 648.

‡ *Medical Magazine*, London, 1896, vol. v, p. 598.

# *Journal of Laryngology*, June, 1897.

‖ *Loc. cit.*

12. Reported to me by Dr. W. E. Casselberry in a personal communication. Child, age unknown, died an hour after an adenoid operation, having failed to revive wholly from chloroform anæsthesia. This case occurred about five years ago in the practice of Dr. Dunn, of Chicago. Owing to the death of Dr. Dunn I have been unable to obtain more complete details.

13. *Archives of Pœdiatrics,* March, 1895. Edmund Owen mentions the death under chloroform "of a girl of seven years who was being operated on for postnasal growths."

14. *British Medical Journal,* 1895, vol. i, p. 949. Boy, aged ten years, operated on for adenoids under chloroform, April 16, 1895, at the Fulham Infirmary, England. Chloroform taken well; before operation was begun respiration suddenly ceased.

15. *Lancet,* January 4, 1896. At Grey's (Inn Road?) Hospital, London, woman, aged twenty, operated on for hypertrophied tonsils; death early in operation.

16. *British Medical Journal,* February 27, 1897. Boy, aged nine, operated on for hypertrophied tonsils; considerable delay caused by vomiting, and there was partial return to consciousness; sudden death before the operation was begun.

17. *British Medical Journal,* July 10, 1897. Operation for adenoids at St. Thomas's Hospital, April 22, 1897. Boy, aged sixteen, tall and rather pale; member of a troupe of gymnasts and of more than average muscular development; some vomiting during the administration of the chloroform. In ten minutes operation was begun; completed in a few moments; no administration of chloroform after operation was begun. A few minutes after completion pulse became feeble and rapid, respiratory acts shallow and irregular. In spite of all efforts at resuscitation, cardiac and respiratory movements ceased. Seven or eight minutes elapsed between the cessation of chloroform and the onset of dangerous symptoms. Post-mortem showed heart good, and, "in fact, nothing to account for the sudden collapse." This accident has so many points of resemblance to my own that I have extracted the report in some detail.

18. My own case already reported *in extenso.*

In four of these eighteen cases death occurred before the operation was begun; in three, from a few moments to an hour after the operation was completed.

We have here an alarming mortality in this operation from the administration of chloroform. The proportion of deaths from chloroform in operations of all kinds has been placed at about one in four thousand.* If there is no special susceptibility in the subjects of adenoid operations, this death roll of eighteen would imply that seventy-two thousand of these operations had been performed under chloroform since 1892—a preposterous conclusion. When it is remembered that a large majority of the reported deaths have occurred in England alone, this conclusion is still more untenable; and the inference is plain that the risks from chloroform anæsthesia in these cases are for some reason particularly great. We are fully justified in inferring also that not all deaths under chloroform in this operation have been reported, and that the proportion of fatalities from this cause is greater than the statistics show.

Some observations have been made in recent years in Vienna by Paltauf,* Kolisko,† and others that throw some light upon the causes of the extraordinary mortality under chloroform in this operation. It has been found post mortem in a number of cases of sudden death from slight causes that there was present hypertrophy of the lymphoid tissue throughout the body, including the tonsils, the lymphoid structures at the root of the tongue, and the nasopharyngeal adenoids for which we so frequently operate. The thymus gland was persistent and often very large, and the intestinal follicles were markedly hypertrophied. In addition there were frequently present a dilated heart, not dependent on valvular lesions, and at times a narrowing of the aorta with small size of the peripheral vessels. This condition, which has been called *habitus lymphaticus,* was found among others in a number of cases of death during chloroform administration. People so constituted seem to have little power of resistance to comparatively slight shocks. Nevertheless, they may be of robust physique, though usually there are evidences of developmental retardation.

Continuing these observations, Picqué ‡ has reported the death under chloroform of a child eleven years of age during a blepharoplastic operation by Professor Bayer, of Prague, in 1894. In his comments Picqué cites a number of cases of sudden death in young children in which this enlargement of the thymus and other lymphoid structures was present. In all these cases the death was very sudden. According to A. Paltauf, as quoted by Picqué, the cause of death should be sought in a constitutional dystrophy. The exaggerated development of the thymus, or its abnormal persistence, constitutes a concomitant symptom, as does also the hypertrophy of the lymphatic ganglions or tonsils. In 1894 R. Paltauf reported a number of deaths under anæsthesia where the thymus and other lymphoid structures were found enlarged. He concludes that a result of this condition is an increased vulnerability of the individual and a particular predisposition to cardiac syncope.

Without entering into the theoretical explanations made by Paltauf and others, we have here assigned as a cause of death under chloroform narcosis the very constitutional condition one of whose manifestations is the hypertrophied nasopharyngeal lymphoid tissue for which we so frequently operate. That the cases which have suggested the conclusions of the Vienna pathologists do not include any deaths during the adenoid operation is explained by the infrequency with which this operation is done in Germany under general anæsthesia.

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* Dennis's *System of Surgery,* vol. i, p. 646.

* *Medical News,* August 7, 1897.

† Foster's *Therapeutics,* vol. i, p. 398.

‡ *Bull. et mém. de la Société de chir. de Paris,* N. S., vol. xxi, 1895.

There are other causes besides possible constitutional tendency to heart failure that add unusual elements of danger to chloroform anæsthesia in adenoid cases. We have all observed the frequency with which spasm of the glottis and temporary cessation of respiration occur in the administration of an anæsthetic for this operation. This will occur with careful and proper administration. Lauder Brunton * points out that spasm of the glottis is occasionally a cause of death in chloroform narcosis and mentions cases in point. The glottic spasm may, perhaps, act by reflex inhibition of the heart. In my own case these spasms were quite severe and prolonged. Again, with adenoids, as in other operations on the upper air tract, if for any cause the operation is prolonged, the anæsthesia must be interrupted and partial recovery from it occur. This rising and falling of the depth of anæsthesia is well recognized as adding to the dangers of chloroform.

The thesis that chloroform anæsthesia presents unusual dangers in the adenoid operation receives additional confirmation when we consider the very few deaths due to the tonsil and adenoid operation itself in comparison with the number of deaths from chloroform administered for the performance of this operation. I have been able to collect only six authentic cases of death attributable to the adenoid operation—all from hæmorrhage, usually secondary, and in the greater number occurring in "bleeders." For the subjoined list I am under obligation to Dr. J. E. Newcomb, who has kindly placed his collected references at my disposal:

1. Hooper. *Transactions of the American Laryngological Association*, 1889, p. 56.
2. Delavan. *Transactions of the American Laryngological Association*, 1892, p. 8.
3. Newcomb. *American Journal of the Medical Sciences*, November, 1893.
4. Barkan. *Occidental Medical Times*, vol. viii, 1894.
5. Schmiegelow. *Monatsschrift für Ohrenheilkunde*, vol. xxxi, 1897.
6. Kenefick's case, reported by Knight. *The Laryngoscope*, April, 1898.

Of deaths following the much longer practised operation of tonsillotomy I have no statistics, but it is well known that such fatalities are of extreme rarity. We have, then, operations whose mortality is insignificant, showing in less than five years eighteen deaths directly attributable to chloroform administered for their performance. Brickner,† commenting on Kolisko's report of the *habitus lymphaticus*, writes: "It would seem therefore, that in anæsthetizing patients of the lymphatic temperament, or in whom lymphatic enlargement or adenoid vegetations exist, *chloroform should be rigidly excluded.*"

Both by statistical data and pathological induction this opinion is confirmed, and the conclusion seems inevitable that chloroform anæsthesia for the removal of hypertrophied pharyngeal and faucial adenoid tissue is attended by grave risks, and that chloroform should be used for this purpose only under peculiar circumstances and after careful consideration.

If general anæsthesia is desired, there is no valid reason to insist upon the use of chloroform, since the indications for the brief anæsthesia usually required for the adenoid operation are met in the practice of many surgeons by nitrous oxide or ethyl bromide, and where a longer period of anæsthesia is desired than these minor anæsthetics afford, we can use ether, despite its recognized disadvantages as an anæsthetic in operations upon the mouth or pharynx.

As Professor Wood has well said: "In the selection of an anæsthetic the question of safety is paramount." Ether is known to be a much safer anæsthetic than chloroform, and but one death is recorded from its use in the operation under consideration—a tonsillotomy reported by the *Lancet* commission; no details given. No deaths have been reported in this connection from nitrous oxide or ethyl bromide.

In conclusion, I would submit for your discussion the following affirmations:

1. Statistics show an exceptionally high mortality from chloroform anæsthesia in the operation for the removal of lymphoid hypertrophies of the pharynx.

2. The observations of the Vienna pathologists show that sufferers from "adenoids" frequently belong to an abnormal constitutional type that has been found peculiarly susceptible to chloroform narcosis.

3. In view of the statistical and pathological data presented, the general use of chloroform in the operation for hypertrophied tonsils or nasopharyngeal adenoids is inadmissible.

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* *British Medical Journal*, July 13, 1895.

† Foster's *Therapeutics*, vol. i, p. 398.

THE RECURRENCE OF

NASOPHARYNGEAL ADENOIDS AFTER OPERATIONS FOR EXCISION.*

By ARTHUR AMES BLISS, A. M., M. D.

When an operation for the removal of hypertrophied lymphoid tissue in the nasopharynx is proposed, it is not unusual for the friends of the patient to inquire regarding the chances of a regrowth of the obstructing mass. The elementary or nonmalignant character of the tissue leads us to believe that such recurrence is hardly to be expected. Clinical experience is also strongly in favor of nonrecurrence and a favorable prognosis.

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* Read before the American Laryngological Association at its twentieth annual congress.

Yet, among the great number of children upon whom excision of the nasopharyngeal adenoid has been performed, instances have occurred where a return of the original symptoms is clearly manifested.

During the last few years I have met nine cases where an excision operation had been performed, and yet, after a brief period of relief, the symptoms of obstruction in the nasopharynx had returned. Examination of these cases has shown me that the nasopharyngeal space was partly filled again with an overgrowth of adenoid tissue. These children and young adults had, in most instances, been operated upon by laryngologists whose skill is unquestioned.

Three cases of this apparent recurrence were in patients of my own, seen in one case four years, in another two years, and in the third one year, after the original operation. In two of these instances I did a second operation, removing a very much smaller amount of tissue than at the time of the first operation, and in both cases chiefly from the region about the wings of the vomer.

The structure of the pharyngeal tonsil is very nearly similar to that of the faucial and lingual tonsils, and, indeed, it is now regarded as the upper segment of the lymphoid ring which surrounds the entrance to the digestive and respiratory tracts. This idea is not wholly correct, as the embryology of the pharyngeal tonsil exhibits a development distinct from that of the faucial tonsils and more or less intimately connected with the development of the hypophysis cerebri or pituitary body. Indeed, it is quite probable that this relationship in growth between the nasopharyngeal adenoid tissue and the base of the cerebrum immediately above it may be of much clinical importance in the development of pathological states within these areas. As the elongated diverticulum enlarges to form the developed pituitary body, within what will be, when completed, the sella turcica of the sphenoid bone, the narrowing pedicle formed by its development, and connecting it with the pharyngeal cavity, is supposed to be obliterated; yet Lanzert has shown that in ten children out of one hundred examined a trace of this passage remained at birth, called by him the canalis cranio-pharyngeus. It is quite probable that a larger number of examinations would show a corresponding percentage of cases in which this passage remains open, while the cases may not be very rare in which traces of it may persist in childhood or adult life. The much-discussed bursa pharyngea may be a phase of such persistence in this passage. We know that as the hypophysis cerebri develops, its anterior portion becomes highly vascularized, and it is quite probable that numerous blood channels from this area lead to the adenoid tissue of the pharyngeal vault and to the circulation at the base of the cerebrum. Dr. Harrison Allen, in his *Clinical Study of the Skull,* has demonstrated from a large number of crania of all races that great variation in structure exists in the region of the vault, at the articulation of the vomer with the vaginal process of the sphenoid and sphenoidal processes of the palate bones. These variations are characterized by failure in complete union of the parts named, the open areas between showing evidence of having been filled during life with vascular tissue.

Allen terms these openings and passages *canales basis vomeris.* In many instances the wings of the vomer, he states, are quite free from the sphenoidal and vaginal processes, and are not in close articulation with the body of the sphenoid, numerous free openings leading in between the articulating surfaces.

Is it not possible, considering the close relation during development between the future pharyngeal vault and the hypophysis cerebri, that in the living subject such open areas may not only contain blood-vessels connecting these areas, but even extensions upward of the adenoid tissue in the nasopharynx? These brief reminders of a few anatomical points are merely suggestions that in dealing with an overgrown nasopharyngeal adenoid we may have, in some instances, conditions, not only in its histological formation but in the relations of surrounding parts, that will influence the results of operative interference.

A matter of interest also in the subject of possible recurrence of nasopharyngeal "adenoids" is the variations in the character of this lymphoid mass in different individuals. The faucial tonsils show similar variations. There is a very decided difference between the soft, friable variety of lymphoid tissue and that which is infiltrated by fibrous bands shown, macroscopically, by trabeculæ which lace through the growth, projecting inward from a more or less completely developed capsule. In such cases the lymphoid structure is thus divided into cell-like groupings, more or less completely cut off from similar and neighboring areas. We frequently meet this condition in the faucial tonsil, and I believe that an analogous state is not uncommon in the nasopharyngeal tonsil. In both lymphoid structures this condition appears to be the result of inflammatory processes.

My series of cases in which an apparent recurrence of "adenoids" was noted may be too small for generalizations; yet certain conditions were found in common in these cases which, in the light of what has been referred to above, may be suggestive.

1. These patients all showed a certain under-development of the entire nasofaucial region. The nares were small. The hard palate in the older cases was Gothic-arched. The nasopharyngeal space was very narrow, with, as a rule, a low, flat vault, suggesting the horizontal position of the basilar process of the occipital bone common to early infancy. Indeed, the whole general structure of the nasofaucial area was infantile. An

exception to this was found in two instances, young adults, where, instead of the horizontal basilar process, the latter ascended sharply in an oblique direction, and appeared to articulate with the sphenoid considerably above the vomero-sphenoidal articulation. In the recess thus formed a large amount of adenoid tissue was packed.

This approach toward acuteness in the basi-cranial angle, although not infantile, is still so abnormal as to be an undoubted phase of irregular or asymmetric development between different parts of the nasofaucial tract.

2. Another feature of these cases was the excessive vascularity of the hypertrophied lymphoid tissue.

3. In a few instances where, in guiding the instrument used for extraction, I scraped deeply with my finger nail, I noticed fine, friable spicules of bone about the articulation of the vomerine wings and sphenoid, in the roof of that area which Harrison Allen has termed "the posterula."

4. In each case presented, the whole appearance of the child or young adult has corresponded to the condition termed strumous, an apparent failure in those vital processes which tend to complete development in the body structures and to the maintenance of the integrity of tissue.

Now from this experience, and influenced by the ideas I have briefly suggested, it seems to me probable that these cases of apparent recurrence were not examples of a true regrowth of the adenoid tissue, but, on the contrary, have been the result of an incomplete removal of the growths at the original operations. Under ordinary conditions, such incomplete removal would not have resulted in a return of symptoms. In cases, however, where we may have deep infiltration of the lymphoid tissue into fissures about the vomero-sphenoidal articulation; where we have an abnormally rich vascular supply distributed amid this tissue and through this area; where we have the tissue itself mapped off into cells or small areas distinct from one another, it appears to me that we have possibilities for a recurrence of symptoms after an operation which has failed to remove very completely the whole mass of diseased tissue. Such return of symptoms is not due to a recurrence of the original growth, but may be caused by an inflammatory process arising in, or continuing in, parts which have remained. In course of time, these portions gradually enlarge and cause symptoms of obstruction, pressure, or irritation. To avoid such return of these conditions, I would advocate a very complete removal of the hypertrophied adenoid mass in all cases, especially of those portions of it which lie well forward about the vomero-sphenoidal articulation or roof of the posterula, and of those parts which lie in the lateral regions of the nasopharynx, above the upper border of the Eustachian openings and in Rosenmüller's fossa. In the nine cases I have referred to, there was no appearance of regrowth in the posterior and lower wall of the nasopharynx—the posterior basilar portion. Here, where the adenoid mass is very commonly found, it is also most readily and completely removable. The idea has prevailed that even after a partial removal or trimming away of the nasofaucial lymphoid tissue, a process of contraction or cicatrization will occur which will result in the further obliteration of these masses. In the fairly normal subject this may be the case, possibly, yet I question if it is wise to trust that Nature will thus complete our operation for us. In the class of subjects to which reference has been made in this paper, I feel convinced that incomplete removal at the time of operation will, as a rule, result in a return of symptoms—not a true recurrence, but suggestive of a recurrence of the original growth.

May 14, 1898.

PRESENT METHODS FOR THE OPERATIVE TREATMENT OF PHARYNGEAL ADENOIDS.*

By D. BRYSON DELAVAN, M. D.

Just thirty years ago there appeared in the *Hospitals Tidende* of Denmark that epoch-making contribution to medical science, of which it is safe to say that no thesis relating to the department which we represent has ever been more thoroughly appreciated or more widely known.

Since their original appearance the teachings of Professor Wilhelm Meyer have been adopted throughout the world, and the literature of the subject has become so abundant and so widely disseminated that even the laity are familiar with it.

As we study the advancement made meanwhile, we must be more and more impressed with the remarkable comprehensiveness and accuracy of Dr. Meyer's work. Even at the present time but few of his statements could be taken exception to, and in its essential details his contribution is complete. It would be strange, however, if in the lapse of nearly the third of a century the labors and observations of the world of medicine should not have resulted in adding something to the excellent knowledge of the subject already acquired.

In the details of the treatment of lymphoid hypertrophy at the vault of the pharynx a vast number of suggestions have been made, methods proposed, and instruments devised. While in other departments of the subject there may remain comparatively little to be said, it is certain that we could not now do better than to enter upon a consideration of the methods by which this condition is at present treated, with special reference to its removal by surgical means. If any apology for the introduction here of such a topic were needed, it would rest upon the facts that at the present time the removal of pharyngeal adenoids is accomplished by a great variety of means; that many operators hold views upon the subject which differ radically from those of other authorities, and that the fundamental principles which should control the simple procedure of the operation seem in danger of being lost sight of or misunderstood.

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* Read before the American Laryngological Association at its twentieth annual congress.

It is now twenty-one years since my own attention was first called to the condition under discussion. Constant and active association with it during that time has forcibly impressed upon me the truth of what would seem to be a self-evident fact—namely, that two grand principles must be kept constantly in view in dealing with these cases. Without their recognition complete success can not possibly be attained and much actual harm may be done. They may be expressed in two simple words: First, *thoroughness;* secondly, *humanity.*

In other words, in operating for the removal of adenoids, the growths must be extirpated as completely as possible, and this must be accomplished with a minimum of discomfort, shock, and injury to the patient.

In the study of this proposition, let us consider, first, the indications necessary to be met; second, the methods at present in popular use for the removal of adenoids; and third, the means which experience and good judgment would suggest as the best for attaining the desired ends.

The principle of thoroughness indicates the most complete possible removal of the lymphoid tissue. As the necessity for this has ocasionally been questioned, it is desirable that the statement should be proved.

It is said by some that a partial removal of an adenoid growth will cause the remnant to atrophy, thus making complete removal unnecessary. No proposition could be more fallacious. Granting that an actual disappearance of the remaining tissue may now and then take place, such cases must in reality be unusual. The tissue left behind is unhealthy tissue, and such it is likely to remain, even although its actual volume may have diminished and its existence have been forgotten. Thus, it may become atrophic and cause lifelong annoyance to the patient and injury to the surrounding parts. On the other hand, during and before early adult life, as much lymphoid tissue as has been left behind at the time of operation is likely to remain, and the chances are almost as much in favor of its increasing as the contrary. Other things being equal, the earlier the age at which the growth has been imperfectly removed the greater the tendency for it to recur. This is particularly the case in the presence of certain inherited diatheses, especially the tuberculous and the specific. In such cases it should be the rule to warn the patient of the possibility that a second operation may be required. In view of this very tendency, however, the argument in favor of thoroughness becomes all the stronger. Half-way measures with these patients are clearly out of place, and the complete removal of every possible centre of recurrence is demanded.

Not only in children, but in adults, there are other good reasons for painstaking work. The bad effects of even small quantities of adenoid tissue in the pharyngeal vault, whether atrophic or soft, are matters of every-day observation. This is especially true of that part of the lateral aspect of the vault immediately above the Eustachian eminences. Nothing is more common than to find very small and apparently insignificant lymphoid masses in this region, causing serious and progressive otic disease, a fact easily proved by the relief afforded when the above-mentioned tissue has been removed. Some benefit may undoubtedly be derived from the removal of any part of a large adenoid sufficient in amount to allow of less obstructed nasal respiration. The full measure of relief required, however, can not be expected through any plan of operation which by reason of haste or carelessness leaves the result incomplete. The statement that partial removal is justifiable is empirical, and seems generally to have been made without sufficient experience or thought.

It can not be questioned that as an authority upon the subject of lymphoid hypertrophy Dr. Wilhelm Meyer was preeminent. A corresponding position among the specialists of this country may also be claimed for our own brilliant colleague, the late Dr. Franklin H. Hooper. It is significant that both of these men not only advised but strenuously insisted upon the necessity for thorough work. Again and again, in his published articles, in discussions, and in private conversation, Dr. Hooper repeated and emphasized his strong convictions upon this point; while Sir Morell Mackenzie, in his work, quotes Meyer as speaking to the same effect.

Of course, the contention here made must not be carried too far. From the nature and distribution of the lymphoid tissue of the pharynx, it is practically impossible to apply it always in an absolutely literal sense. Again, in very young children, the danger of inflicting injury upon the surrounding parts may deter us from operating as radically as would be proper in an older patient. Nevertheless, the fact remains that the successful treatment of these cases demands the greatest possible thoroughness.

The second principle in the management of lymphoid hypertrophy is the use of such methods as shall inflict upon the patient the least amount of pain, shock, and injury.

It is a common thing to hear the statement that the removal of adenoids is not painful. Many operators object to the use of general anæsthetics, and insist that anæsthesia by cocaine or other local means will effectually remove sensation from the parts. Still others, ignoring the question of pain altogether, operate without any attempt at relieving it.

Surely those who hold that the operation as commonly performed is painless can not possibly have noticed the expression of the patient during the operation, nor have listened to his testimony afterward. For many years I have carefully questioned every person, old and young, who has come under my notice after such an operation, whether performed by myself or by others. The almost invariable experience is to the effect that the act of removing the growth has been attended with sharp and very severe pain. Difference in age, temperament, physical strength, and courage should lend a certain amount of variety to the statements which such patients will make. But variety has been conspicuously lacking. The same answer has come from one and all. If the word of the patient were not sufficient, we have another sign in the effect of the operation upon his general condition, which for several days is likely to show indications of the shock which he has suffered. Finally, what reasons, anatomical or physiological, are there to suppose that it should not hurt?

From its situation and nerve supply, the ear is capable of inflicting a higher degree of suffering than any other organ of the body. The nasal cavities are certainly not deficient on their part. The upper pharynx is closely surrounded by the most highly organized sensitive areas in the body, and even if it has the somewhat callous regions of the basilar process above, and of the posterior wall of the pharynx behind, it is in sufficient proximity to the other parts to make it rich in the possibility of pain. Physiologically, there is ample proof of the sensitiveness of this part in the numberless reflex disturbances which are directly traceable to pharyngeal disease.

It is hard to understand how any thoughtful and observant critic can fail to see that the removal of an adenoid by our common methods is attended with pain.

The use of local anæsthesia is without question of decided advantage. By it the resistance and the sensibility of the parts below the growth can be fairly overcome. Owing to the position of the growth itself, however, anæsthetization of its base is practically impossible by the means generally employed, and while the introduction of the instrument is facilitated, the final act of separation is inflicted upon a fully sensitive part. Of course, in the hands of a highly skillful operator, working by the aid of good illumination of the vault, and with steady hand and clear judgment, local anæsthetics can aid in the accomplishment of brilliant results. The excellent method of submucous injection of cocaine, as advocated by Dr. Boylan, of Cincinnati, is also worthy of consideration. I am speaking, however, of the operation as commonly performed. In general terms, therefore, the surgical removal of lymphoid hypertrophies, with or without local anæsthesia, is a painful operation.

Only second to the infliction of pain is the causing of fright and nervous shock. Even in the well-grown and vigorous patient, shock is generally quite apparent. In the child its effects are more profound and lasting. While in these younger subjects the element of fright is one which can not decently be ignored, children of sturdy constitution and phlegmatic temperament may escape without serious harm. It is one of the commonest characteristics of the lymphoid condition, however, that the opposite temperament is the case, the children being nervous, weak-hearted, and highly sensitive to pain. To seize such a child and hold him by main force; to display before him an array of surgical instruments; then to pry open his reluctant jaws; to plunge into a remote and highly organized recess, like the upper pharynx, an instrument possibly too large to enter with ease; there to seize and remove "by a tearing and twisting process" large fragments of tissue, with a sensation described by all patients as being exceedingly painful; or to force into it a sharp curette which may or may not adapt itself to the shape of the cavity, and sweep its blade through more or less of the substance of the growth; to repeat this again and again at one sitting, the child meanwhile being half strangled with blood; or, worse still, to continue it at repeated sittings, is a process which can not be too strongly deprecated, and which may naturally result in terrorizing the child, and in imparting a nervous shock in itself by no means devoid of danger.

It is possible that under some circumstances, as, for instance, the necessities of a large clinic which require that the greatest good should be done to the largest number, and therefore that time should be economized; or the racial peculiarities of some patients who live in certain other parts of the world than ours, operations performed without regard to pain or shock may be admissible. I am firmly of the opinion, however, that the coarse methods of dealing with these cases which we have derived from some of our Continental teachers are radically bad, and that if we will be guided by our own better judgment and by the practice of our English colleagues, to whom, headed by Sir Morell Mackenzie, we owe so much in this matter, we shall find ourselves nearer to the right principles of action.

The more painful and startling the operation is to the patient the greater the difficulty in securing the most desirable results. Thus the opportunities of the operator for entering the pharynx are reduced to a minimum. He is unable to conduct the digital examination of the parts to the best purpose, delicacy of manipulation with the instrument is lost, and the limit to which the operation should be carried is difficult to determine. The complete separation of fragments of tissue is rendered less certain, and the presence of partly detached or still adherent masses is less easy to ascertain.

The danger of separated lymphoid masses falling into the larynx has been alluded to by several writers, and while Gottstein (Heyman's *Handbuch der Laryngologie und Rhinologie*, Lief. 19, p. 529) considers it unworthy of serious thought, it is by no means an impossible risk.

Again, the safety of the surrounding parts is far more likely to be sacrificed when the operation is done hastily upon a struggling child. Thus serious injury has been inflicted upon the posterior edge of the nasal sæptum, the turbinated bodies, and the lateral walls of the pharynx in the neighborhood of the Eustachian orifices. The more humane the method of operating, the more will the work of the operator be facilitated and the best interests of the patient secured. Unfortunately, the use of local applications for the reduction of adenoids has not yet been a success. The attempt to reduce them also by escharotics has never become popular, as both with the ordinary caustics and with the galvano-cautery much difficulty is experienced in making the application and great danger is incurred of injuring important neighboring structures. Hence some form of surgical operation seems in the present state of our knowledge to be unavoidable.

The relative thoroughness and safety with which an operation can be performed will depend somewhat upon the kind of instrument employed. A short consideration of this department will be necessary to a full development of the general subject.

Beginning with the finger nail and Meyer's ring knife, an almost unlimited number and variety of instruments for the removal of lymphoid hypertrophy have been devised. They may be classified into several groups —namely, those made upon the principle of (*a*) the curette, (*b*) the forceps, (*c*) the wire loop, and (*d*) the adenomatome.

(*a*) The curettes may be divided into three kinds: The ring knives of comparatively small size, the sharp spoon, and the Gottstein instrument. To this class may be added the finger nail.

(*b*) The forceps may be said to include those instruments which are constructed with comparatively blunt edges and which are intended to tear away the tissue rather than to cut through it. Of these, the Loewenberg is the best example. Of the modifications of it, those of Gleitsmann and Hooper are among the best.

(*c*) The wire snare or loop has been used by some, either in a simple curved cannula or in an instrument especially designed for the purpose. While it has possibilities of usefulness, it appears that they have not yet been realized.

(*d*) By the name adenomatome is meant an instrument constructed more or less upon the principle of the scissors and intended to make a clean incision through the substance of the growth.

Passing the above in review, we will try to choose from them the best.

Nature's instrument, the finger nail, is undoubtedly useful in completing the work of other implements by the separating of partly detached fragments of tissue and the removal of it from corners difficult for an instrument to reach. Gottstein's opinion in this connection is interesting. He says: "It is clear that with the finger only a very little can be removed, and, moreover, it must be recognized that from the point of view of asepsis the finger nail is a decidedly undesirable instrument." The artificial finger nail is practically never used.

Of the curettes, the small ring knives are valuable for the removal of small areas of tissue, especially those left after operation with larger instruments. They are also very useful for operations upon the adult, where, under local anæsthesia and with the aid of the mirror, limited quantities of tissue can be removed at a time with comparatively little pain and irritation.

The sharp spoon has been justly condemned because of the amount of bleeding which it causes and the difficulty experienced with it in separating the fragments of tissue from the pharyngeal wall.

Of the instruments of this class, Gottstein's knife and its modifications must claim by far the greatest popularity. It is undoubtedly in more extensive use for the removal of adenoids than any other instrument, and there are several things to be said in its favor.

If we could believe that pain is of no account and speed of more importance than thoroughness, and that he is the most skillful operator who passes the largest number of patients through his hands within a given time, then Gottstein's knife would be ideal. The objections to it, however, are very serious, if we must judge it by the standards which we have assumed, for its use is painful, and it must be seldom indeed that the shape of the instrument is so perfectly conformed to the pharynx, the base of the growth so limited in its extent, and the management of the knife so well directed that the necessary thoroughness can be attained. Time and again, and in the hands of many operators, I have found that the Gottstein knife has simply cut through the lower part of the growth, or has removed a certain amount from one side, leaving the other side full, or has fairly cleared the vault, leaving abundant deposits upon the posterior and lateral pharyngeal walls.

In the forceps, modified to suit the size of the pharynx and the location of the growth, we have an instrument by which the lymphoid masses can be seized and, by proper manipulation, torn away, much larger fragments than the part caught in the grasp of the instrument usually being separated at each attempt. In skilled hands the forceps can be turned in all necessary directions and its blades made to grasp everything in their way. The pharynx can thus be very thoroughly cleared, and with the loss of less blood than is common with sharp instruments. The operation, however, is very painful.

It would appear that the prime object of the adenomatome is to enable the operator to remove the whole or as much as possible of the growth at one introduction of the instrument. Many varieties of them are of large size or of improper shape, and are not fit to be inserted into the nasopharynx, while their great strength places any unfortunate object which they may grasp completely at their mercy. Even in experienced hands they are probably the most dangerous of this class of instruments. As to their thoroughness, one glance at the construction of their blades will show that there must be certain parts of the pharynx which they can not possibly reach, while the risk of cutting too deeply or in wrong directions is evident. Such instruments are better suited to adult cases and can hardly be intended to be used upon the child.

In the present stage of its development the snare need not engage our attention.

Turning now to the means at hand for the saving of pain, we have, of course, the anæsthetics suitable for such cases—namely, for local anæsthesia, cocaine and bromide of ethyl; and for general anæsthesia, ether, chloroform, and nitrous-oxide gas. The use of the bromide of ethyl is neither common nor well understood. A better acquaintance with it would possibly add to its popularity. The advantages of cocaine are that it renders the introduction of the instrument into the upper pharynx much easier and diminishes the pain and local spasm otherwise sure to occur. Its disadvantages are the length of time which it takes to produce its effect, the general toxic symptoms which it often causes, and its failure after all to greatly modify the actual pain of the operation.

Of the three general anæsthetics, nitrous-oxide gas is suitable for short and rapid operations, but it is difficult of administration to a patient who is too young to follow the directions of the anæsthetist, and to those in whom the upper air-passages are seriously obstructed. Chloroform is attractive but unquestionably dangerous, and, on the whole, not superior to ether. In the hands of a skillful anæsthetist and properly administered, ether will, as a rule, prove most satisfactory. Under deep anæsthesia the pharynx is completely relaxed and ample time is afforded for all the care and thoroughness necessary, the patient meanwhile being free from pain. In suitable cases the patient can be profoundly anæsthetized within three minutes by the administration of nitrous-oxide gas followed by that of ether, according to a method lately introduced.

Finally, greater caution than is usually employed should be taken in the after care of the patient. He should not be at once dismissed, but should be put to bed, and kept there for at least twenty-four hours. This precaution lessens the possibility of bleeding, prevents infection, guards the patient against taking cold, and greatly reduces the general depression due to the slight shock of the operation. It has been my custom for many years to insist upon it in private practice and, when possible, at my clinic as well.

Studying carefully the statements which have been made in this paper, it would seem fair to draw the following conclusions:

1. To secure the ideal conditions for operation, the patient should be in a state of complete anæsthesia.

2. To secure the most thorough removal of the growth, the blunt forceps is the most effective instrument at our command.

3. Where, for any reason (age or superior strength of the patient, or special contraindication), general anæsthesia is not desirable, and some form of instrument other than the blunt forceps is to be preferred, the principles which have been insisted upon should, so far as it is possible, be carried out. No better method of operating has ever been devised than that so ably and successfully adopted by Dr. Hooper. Ten years' constant use of it and contrast of it with other methods have more and more convinced me of its absolute superiority. Twenty years' experience with imperfect methods cruelly applied has equally impressed me with their wrongfulness. Most important of all, I believe that the operation for the removal of adenoids is not the simple and easy thing that many suppose it to be, but, on the other hand, that its successful performance requires considerable knowledge, experience, and skill. For work of the best class excellent methods are at hand. It is time that they had been recognized, and that others less worthy should give place to them.

THE PREVENTION AND TREATMENT OF TRACHOMA AT THE HOUSE OF REFUGE.

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When I was appointed to the position of ophthalmologist to the House of Refuge, Randall's Island, on April 16, 1897, I found a great epidemic of trachoma (granular eyelids) among the inmates of the institution. The board of health of this city some days before had quarantined the institution and had made a demand to the board of managers that these subjects of contagious eye disease be segregated and kept apart from the other inmates.

On examination of the eyes of the eight hundred inmates, I found that three hundred and twenty-five of them were afflicted with this disease. My diagnosis was confirmed by the experts from the board of health. My predecessor had been treating about forty cases just before resigning office, a week before I was appointed. It seemed strange to me that I should find so many more cases than he had been treating, but the only way I can account for that is, either he did not recognize the disease, or had not examined the eyes of the inmates within a short time.

There were two things for me to do:

1. *To keep the disease from spreading.*

2. *To treat the cases.*

To keep the disease from spreading, it was necessary at once to segregate all the patients and keep them from the other inmates. This had never been done. The chief way in which this disease spreads is by the secretion from an infected eye coming in contact with a non-infected eye. The easiest and most frequent way is by the employment of towels, bed linen, etc., that have been used by a person suffering from trachoma. The only preventive measure taken to stop the spread of the disease was to have these trachoma patients use a certain portion of the washrooms and to have separate towels for them. This was not always carried out, and very often the towels became mixed with those used by the healthy inmates. No doubt this was one of the ways by which the disease spread to this great extent.

Authority was given to me by the board of managers to do anything I saw fit to stop the spread of the disease. The House of Refuge is a reformatory, and to keep all these three hundred and twenty-five subjects of trachoma from the other inmates was to change the discipline of the institution, a serious thing to do, but the only way to keep the disease in check.

In the first place, these patients were placed in separate dormitories at night so far as possible, and when that was not practicable, they were ranged all on one side of the room with the healthy inmates on the other. At meal times they were assigned to separate tables in the dining rooms. Parts of the play rooms and yards were partitioned off, so that these inmates had as much chance to play as the others, and still could not in any way communicate the disease. In the workshops, portions were set aside for these patients. Many of them were sent out to work on what is called "the farm," where all kinds of vegetables are raised for the use of the institution, open-air work being much better for them than indoor. As few as possible were set to work in the knitting shop, as the lint flying around produces an irritating effect on the eyes.

To my mind one of the greatest causes of the spread of the disease had been in what is called the fourth hall, or prison ward. As has been stated before, the institution is a reformatory, and when any of the inmates break the rules they are sent to the fourth hall for confinement as a punishment. The ward is composed of two rows of cells, and the delinquents are kept in them for various lengths of time, from a day upward. Naturally, many who inhabit the cells cry and wipe their eyes on the bedclothes and towels. After they have served their time others who break the rules take their place in the cells. Very often the towels and bedclothes were not changed after having been used some days by one unfortunate, but were used by the next as well. That system was changed. Certain cells were set aside to be used only by those who had trachoma, and strict orders given that after a cell had been used by any person, whether he had eye disease or not, the towels and bed linen were to be changed.

In the washrooms a certain part was partitioned off so that the trachoma patients could not use the part that was used by the other inmates. I recommended that a new washroom be made to be used only by these patients, so that there would be no possible chance for them to wander around. This was done, and the room was opened for use in September, 1897. It gives great satisfaction, and is a great improvement on the old state of things. A clean towel is given them every time they wash, and they wash three times a day. The towels they use are marked with a red border different from the rest, and are never used by any except trachoma patients. The towels and bed linen used by these patients, when soiled, are put in bags and taken to the laundry, where they are washed in a solution of 1 to 5,000 bichloride. After that they are boiled in water.

With these changes made, which took some time to accomplish, many of which seemed to me to be unnecessary, but which were insisted on by the board of health, the quarantine was removed from the institution on June 10, 1897, after having been on for eight weeks. After that persons were admitted and discharged as of old. On admission the eyes of the inmates are examined, and if they are found to have trachoma they are kept with the "eye" squad.

From October 1, 1897, to August 1, 1898, a period of ten months, four hundred and thirty-nine persons were admitted to the house, of which number sixty-seven had trachoma, or about fifteen per cent. The recruits to this institution come from the lowest walks of life, and hence the high percentage of trachoma. Every month the eyes of all the inmates are examined, and if any that were not supposed to have the disease have it, they are at once put in the "eye" squad. It is rare to find a case in this way, and when one is found it is often the relapse of a case that was thought to be cured.

The Treatment of Trachoma.—From my experience I divide trachoma clinically into three forms, or classes:

1. The *mild cases,* where only the lower lids are involved. In these cases the patients are often not aware that they have any trouble with their eyes. On examination one finds a dozen or more granules on the conjunctiva of the lower lid. There is slight lacrymation, but no other symptom.

2. *Ordinary cases,* where both the upper and the lower lids are involved. In these the appearance of the conjunctival surface of the lids is like a nutmeg grater, being studded irregularly with granules. Lacrymation and sticking of the eyelids together in the mornings, besides a rough feeling of the eyes, as if something were in them, are present in these cases.

3. *Chronic Cases.*—Here the granules have broken down, leaving the conjunctiva in appearance red, velvety, and succulent. Lacrymation and photophobia are

marked symptoms. Oftentimes there is a growth of blood-vessels on the cornea.

Of these three hundred and twenty-five cases of trachoma, at least a hundred and fifty were of the first class. Many of them were very mild, the disease having only just been caught. Every night and morning half a dozen drops were instilled into the eyes in this class of cases of the following solution:

℞ Tannic acid .... ʒj;
Glycerin .... ℥j.
M.
S.: Eye drops. Use twice a day.

Three times a week an application of sulphate of copper crystal (blue stone) was used on the everted lids. Often this was replaced for a time by the use of alum crystal (white stone). All of this class did well and soon recovered. Just to show how fast they were discharged cured I append the following statement:

I began treatment on April 16, 1897: On May 19th, 27 were discharged cured; on May 26th, 13; on June 2d, 36; on June 9th, 36; on June 16th, 21; on June 23d, 23; on June 30th, 3; on July 7th, 6; on July 15th, 10; on July 21st, 31; on July 28th, 18; and so on.

It must be remembered that after June 10th new cases of the disease were coming into the house constantly, and, many of these being mild cases, the patients were soon discharged as cured. A large number of those of the second class were operated on, and nearly all did well. While in the first class the indication for operation is not always strong, especially if we have only a dozen or so granules to contend with, in the second class of cases it is strongly indicated. The operation done is the expression of the granules by Knapp's roller forceps. This is assisting Nature, as without operation the granules break down under treatment and are absorbed and a growth of connective tissue takes the place of the conjunctival tissue involved. By the operation all this is done in a short time, whereas without it it takes months.

After the operation an application is made twice a day with a camel's-hair brush to the everted lids of a 1 to 6,000 bichloride solution. This is kept up for three weeks. Three times a week the application of the blue stone is also made. Most of these operative cases are cured in from three to six weeks. Sometimes it is necessary to operate a second time in cases where there are large masses of granules. As a rule, the prognosis in the first and second class of cases is good.

In the third class we have a very different condition from the first two. The cases of this class had been under treatment for years before coming into the institution. In most of these cases a person who knows the disease can make the diagnosis across the room. The patients' appearance is typical. They suffer much from lacrymation and photophobia. None of ours were so bad as to have ptosis or pannus. Of course, the time for operation in these cases has long since passed. Every night and morning instillations were made of the tannic acid and glycerin; three times a week applications of the blue stone, alternating with the white stone, and a two-per-cent. solution of nitrate of silver. For my part I like the blue stone best, as I have obtained the best results from its use, but believe it well to alternate sometimes with something else. The course of these cases is very chronic, and the prognosis is uncertain. Some of the cases seem to be unchanged for months, getting neither better nor worse. In a few cases of this nature I have examined the refraction and have found some hypermetropic astigmatism. After proper glasses were ordered the patients began to improve. These chronic cases are very contagious, and are apt to give more trouble, as the eyes are watering more or less all the time. The patients are compelled to wash their eyes and faces three times a day, which is as often as is possible in an institution. The cleaner the eyes can be kept from secretion the better for the patient.

In conclusion, I might say that it seems impossible with the present precautions taken to have an epidemic of granular lids or trachoma at this institution in the future. During the past four years the managers of the House of Refuge have seen the necessity of having an oculist to look out for cases of this kind and to order glasses for those who need them. Directors of other large institutions, whether there are old or young quartered there, are waking up to the necessity, spurred on by the action of the board of health, of having a trained expert look out for the eyes of their inmates. Of course, one of the chief duties of an oculist to institutions is the ordering of glasses for those who need them, which is particularly true in institutions where the inmates are old. This can not be done by an ordinary physician, but only by one who has had experience in refraction.

24 West Fifty-ninth Street.

A CASE OF OCCUPATION NEUROSIS.

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Alfred B. consulted me two months ago complaining of cramps in the forefinger and thumb of the right hand.

History.—Patient, twenty-eight years of age, is a cigarette roller, and has worked at his trade nine years. About three years ago, while at work, he noticed that his right arm and fingers became weak, "cold, and red." Later, the finger and thumb "got stiff" and he had great difficulty in grasping the cigarettes. Other symptoms, as flexion and adduction, took place, followed by extreme weakness of the arm, accompanied by pain. A year later he was forced to give up his occupation, his employer stating that he could not hold cigarettes, and therefore discharging him.

He then drove a wagon for several months, but he states that there were excessive twitchings of the finger and thumb, and sometimes he could not hold the reins.

When I saw him, two months ago, his condition was as follows:

There were flexion and abduction of finger and thumb. Objects, as a pen, were grasped tightly. Weakness of same. Pain, mostly affecting forefinger. Very little vasomotor disturbances, but slight hyperæsthesia. Taking all these symptoms into consideration with his occupation, I diagnosticated his condition as an occupation neuroses or professional spasms.

Treatment.—As the patient will not leave his trade, and is in such poor circumstances that such treatment as removing the cause (his work) and a good system of massage, gymnastics, with use of galvanic current, could not be carried out, I tried to improve the nutrition of the patient, giving him cod-liver oil and strychnine.

I saw the patient last week, but very slight if any improvement had occurred. According to some authors the course of the disease is chronic, and, as he has told me, his condition is getting worse. Although, I am sorry to state, I can not do much for him, still the case is a very interesting one from the standpoint of diagnosis from other nervous affections.

3 West One Hundred and Fourteenth Street.

INDICATIONS FOR THE APPLICATION OF THE OBSTETRICAL FORCEPS AT THE PELVIC OUTLET.

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The time to apply the obstetrical forceps at the pelvic outlet can not be governed by fixed rules.

This must rest with the operator, and requires a nicety of judgment gained only by careful study of each individual case. In skilled hands the application of the forceps is better made too early, or earlier than is absolutely necessary, than too late, for too late means disaster to mother and child. It is not possible to draw distinct lines for indications, but for convenience of study we may divide them into five groups:

I. The fault lies wholly with the *vis a tergo;* head more or less movable, and there exists no obstruction in front of the head. (*a*) The pains or uterine contractions are inefficient; (*b*) the umbilical cord is short.

II. Cases where the antero-posterior diameter of the head, though presenting, fails to engage in the corresponding diameter of the outlet, the head being more or less movable. Large head with (*a*) occiput anteriorly; (*b*) occiput posteriorly.

III. To produce complete flexion in a partially extended head that can not be flexed by the expulsive forces without undue duration of labor or by the hands of the accoucheur, the head being more or less firmly fixed.

IV. To shorten the second stage of labor for the relief of maternal suffering.

V. For the immediate relief of the child.

I. (*a*) When uterine contractions are inefficient there is a want of expulsive force exerted upon the fœtus. The cause may rest with the uterus itself; it may arise from the delicate muscular and nervous organization of the patient; from impaired health, as in cases of albuminuria, or wasting disease, and from weariness produced by a prolonged first stage.

(*b*) When there is a short cord or a cord shortened by coils about the neck. In this group of cases the head moves forward and recedes without material advancement. The to-and-fro movement of the head is especially marked in cases of short cord. The recession of the head differs in character from recession following relaxation of a uterine contraction or of expulsive efforts. It has more the appearance of being pulled back, and the shorter the cord the more marked is this characteristic, which may be considered diagnostic. The cord shortened by coils about the neck will produce a similar effect. When the conditions under (*a*) and (*b*) exist, the natural rhythm of the pains is soon disturbed or destroyed. The pains become short in duration and "choppy" in character. The expulsive efforts are unsteady and ineffectual.

It is worse than folly to allow these conditions to exist longer than to determine their existence.

In this group of cases the application of the forceps is easy, and extraction should be attended with little or no danger or added suffering to the mother, except in cases of short cord. Here the danger is chiefly to the child. The cord may be torn from the umbilical ring or the placenta may be prematurely loosened. This danger is not light, and may be obviated to a certain extent, if a skilled assistant will use abdominal pressure over the uterus to facilitate its descent with its contents into the pelvis.

II. In this group the difficulty lies in front of the head and not behind it, as in Group I. There exists some disproportion between the head and the birth canal, due to oversize or faulty position of the head or to undersize of the outlet.

The pains are strong and the expulsive efforts are well directed. But all effort meets with defeat because of the opposing diameters of the bony outlet. The sphere of their circumference is filled by the presenting portion of the head when advanced by a contraction. The head fills the space in proportion to the compression it has undergone.

The caput succedaneum extends beyond the tuber ischii and protrudes from the vaginal orifice. Each effort at expulsion will seem to promise delivery of the head, but examination will find the parietal bosses behind the tuber ischii and the inion behind the symphysis pubis. The antero-posterior diameter of the head that is presenting is too long to allow the inion to pass from under the pubic arch or over the perinæum if it is posterior. During the absence of pain the head recedes, freely if the cavity of the pelvis is roomy, and less so if not.

The movement of pseudo-extension observed when the head is pushed down by a contraction, and which so often deceives the inexperienced or careless into believing that the head is advancing, is due to the head revolving slightly upon its transverse diameter in the effort made to pass the outlet. The gradual increase in the size of the caput succedaneum adds to the deceptive promise of delivery made to the disheartened patient.

Vigorous efforts, voluntary and involuntary, will continue according to the strength and endurance of the patient, but they will, sooner or later, assume the characteristic behavior of expulsive efforts that meet with obstruction. If relief is not given the patient begins to show signs of exhaustion. The uterus becomes irritable and sensitive to the touch; pains are excruciatingly painful and "choppy," overthrowing the equipoise of the patient's nervous system. The soft parts become swollen, contused, and œdematous, while the child dies or is born *in extremis.*

No case should be allowed to reach this pitiable and dangerous stage before relief is given. The diagnosis should be made early. The changed character of the pains, and the behavior of the patient while under their influence, should give early warning to the accoucheur of what lies before him. The forceps should be applied and delivery effected before signs of exhaustion begin. Greater traction force is needed here than in Group I, with proportionately greater compression of the head.

The integrity of the perinæum and the lower third of the vagina are greatly endangered, laceration is more than likely to occur, and is inevitable if the inion is situated posteriorly, unless the head is very small.

III. To produce flexion of a partially extended head that is more or less firmly fixed. The conditions that give rise to this form of dystocia usually occur in the cavity of the pelvis.

The cases we would include in this group are those where rotation has taken place or is nearly completed, so that the application of the forceps to the sides of the pelvis applies them to the sides of the head. This form of arrested head usually occurs just within the outlet. It is chiefly due to a hand of the fœtus falling under the chin or some other displacement of an arm that prevents flexion. The fœtus is crowded into the pelvis by the uterine contractions, and by retractions when the fruit-water is spent. The forceps applied, traction is made horizontally until the head reaches the floor of the pelvis and presents well at the outlet.

The advance of the head gives the chin a chance to escape the obstructing hand or arm, when flexion is readily accomplished by lowering the occiput if in front and raising it if posteriorly. After flexion is produced, delivery of the head in anterior positions is easy, with or without the further use of the forceps.

The diagnosis of this difficulty is not easily made, and must be largely presumptive.

In cases where the diagnosis may be reasonably assumed, the inlet is wide and the cavity fairly roomy. The adjustment of the forceps blades points to the difficulty. One blade will slip easily into place, while its fellow will meet with obstruction that prevents it from reaching home. This can be due to the tip of the advancing blade coming in contact with the shoulder of the same side that has been driven into the pelvis and passed the side of the face. The projecting hand fills the groove between the shoulder and the side of the face. It is then difficult to insinuate the tip of the blade between the shoulder and the side of the face, but when this is done the hand or arm is pushed away and the blade slips home. Difficulty in adjusting the tip of one blade, followed by ready flexion and delivery, should point to a displaced hand or arm.

IV. The forceps is indicated for the relief of maternal suffering. The greatest danger from its use for this purpose arises from the resistance of the perinæum terminating in its rupture. Whether the cause lies in the *vis à tergo*, the *vis à fronte*, as supplied by the forceps, or in both combined, the too rapid advancement of the fœtal head endangers the perinæum. In this group of cases the *vis à tergo* is efficient, the patient is in good condition; there is no obstruction offered the advancing head except that of a slowly dilating perinæum. But the patient suffers and frets under the burden of pain laid upon her. To relieve her the forceps is applied; but it must be remembered that traction by means of the forceps lends added power to the force behind. If these combined forces are out of proportion to the dilatability of the soft parts, rupture is inevitable and unnecessary damage is done.

If the time for applying the forceps is rightly chosen, and the forces in hand are well controlled, we may expect the happiest results. We may not only escape a possible rupture from bad use of the forceps, but may prevent a probable rupture if the case had been left to spontaneous delivery.

The period of suffering may be shortened from half an hour to two hours, with absolute safety and comfort to both mother and child. At no time, other things being equal, should this boon be denied the patient.

V. A forceps operation is usually undertaken for the greater safety of the mother and child. In this group we choose to deal with those cases in which the child alone is considered: (*a*) When the child is debilitated and small and is not likely to withstand the vicissitudes of labor, though of average duration; (*b*) when the mother gives the history of having borne children that have died during labor, pending spontaneous delivery or soon after; (*c*) when the head has been upon the perinæum, under pressure long enough to jeopardize, or better, before it jeopardizes the life of the child; (*d*) in cases of hæmorrhage *in partu.* An escape of blood during an intermission of pain and recession of the head points to a premature separation of the placenta, or laceration in some portion of the birth canal. When this occurs, little time should be lost in determining the site of the hæmorrhage. If not found in a laceration, we must act upon the supposition that the hæmorrhage is placental and apply the forceps. The integrity of the perinæum should be of secondary consideration, for a wound well repaired will heal more easily than life can be restored to the child.

BACTERIOLOGY IN THE PROGRESS OF MEDICINE.

A FEW NOTES FROM CURRENT HISTORY.

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It is no longer necessary to emphasize the importance of bacteriology in its relation to practical medicine and surgery. In the later development and great advance of modern medicine it has had and continues to have a place second to none. A distinguished teacher and practical surgeon nearly ten years ago gave the situation in the then near past in substance as follows: "Bacteriology opened a new era for surgical pathology. . . . Recent advances in surgical pathology laid the foundation for the wonderful advancements of modern surgery. . . . During the last fifteen years there have been more real advances made in surgical pathology than during twenty centuries preceding them."* In the time that has elapsed since this observation was made, what has appeared in the progress of this department of science more than justifies all that was then said.

Certain Conditions, Causes, and Effects.—While the material progress in surgery and surgical pathology in the last quarter of a century has been phenomenal, the causes and principal means of this development are not unknown. The history of the coming of bacteriology as a science and of its relations to medicine has had its part in the progress of the times, and has been largely written; more than brief notice of it is here unnecessary. Incident to the changes in methods of study and teaching, which of late have come to our advanced institutions, have been the increase and improvement of laboratories for experimental work, and of the means of clinical observation. The pathological laboratory is now a necessary department, and has a large place in all advanced schools of medical and surgical instruction, and now, with its improved means and appliances, is coming to have a place in the physician's necessary outfit fo daily work. The effect in the schools has been to extend the course, widen the scope, and elevate the standard of college instruction. The student is taught the use of instruments of precision, and how to observe the phenomena of normal and diseased actions in the animal body, and the conditions resulting therefrom. The microscope, the beginning of which was made by Leeuwenhoek in Holland in 1675, after more than two centuries now has its place and time of greater usefulness in the higher work of scientific study and demonstration. The study of biology in its various departments has its important place in the foundation of what has come to be the structure of modern pathology.

In observing the conditions now existing in the progress of scientific medicine, and in considering some of the causes and effects, the following appears: The trend of modern thought and investigation is in the way of realism in science. Systems in medicine, as in other departments of science, based on theory alone, which in different forms have existed from ancient and mediæval times, are passing away, and have ceased to have value in the educated mind of to-day. It has been truly said that we live in an age of independent thought and investigation. No discovery is accepted unchallenged, and all new claims are subjected to the crucial test of criticism based on original research.

In History.—While giving due credit to the contributions of men of recent years in placing bacteriology on the footing of a science, Professor Abbott notices the foundation work done by those of earlier times. Beginning with Leeuwenhoek, the linen draper of Amsterdam, who first ground lenses, and with his rude microscope discovered what were called motile "animalcules" in a drop of rain water, and a little later other microorganisms which now have their place in the rôle of bacteria, he mentions the work of Marcus Antonius Plenciz, of Vienna, who, in 1762, first suggested the causal relations between the micro-organisms discovered by Leeuwenhoek and all infectious diseases. Plenciz is accredited with the belief that the infection of disease was a living substance, and that it was capable of multiplication within the body, and he spoke of the possibility of its transmission through the air. Here, then, was the beginning of what is now established in bacteriology, and is generally regarded as true in scientific discovery.

Shortly before the time of the discoveries of Leeuwenhoek in Holland, and before the work of Plenciz in Austria, Harvey in England had published his discovery of the circulation of the blood; Hermann Boerhaave, who had made Hippocrates and Sydenham his models, was then teaching his eclecticism at Leyden, and medicine was coming to be established upon something of a physical and an anatomical basis. The time, however, of Leeuwenhoek, the inventor of the microscope, and of Plenciz, the Austrian physician, was more than a century too early for their teaching to find a place in the world of science; and it remained for Pasteur, Polender, Davaine, Henle, and a few others, as late as the year 1857 and in the few years thereafter, to establish on a permanent basis the principles of modern bacteriology.

Important discoveries, various improvements in the means of investigation, and a general advance in all departments of science had made the way of this great element of progress possible. Pasteur's first discovery which attracted attention was that certain specific agents, forms of bacteria, are the cause of fermentation and putrefaction. Polender and Davaine determined the presence of rod-shaped organisms in the blood of animals dead with splenic fever. Henle explained and taught the doctrine of infection.

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* Professor N. Senn, in *Surgical Bacteriology*, p. 17.

In the great development that followed these beginnings and has come to the present time, the discovery and improvement in means and methods, and the utilization of the same in the treatment and prevention of disease, has an immense importance in the present of practical medicine. There is now a large literature of medical bacteriology and an army of laborers in this department, representatives of which are found in all countries where learning and advanced science have any considerable place.

Germany, France, England, and the United States have furnished scientists whose names will remain associated with the most important means of advancing scientific medicine in the nineteenth century. Prominent among these means are the original discoveries and the additions thereto which have been made by the different contributions of such observers and scientists as Schwann (1839), Ehrenberg (1840), Dujardin (1841), Helmholtz (1843), Robin (1853), Schröder and Van Dusch (1854), and Davaine (1859); and by the later advanced work of Pasteur, Cohn, Hoffman, Tyndall, Koch, Polender, Eberth, Klebs, Loeffler, Schultz, and others. Prominent in the recent English literature of bacteriology in its relation to practical medicine are the writings of W. Watson Cheyne, of London. In this country the works of Surgeon-General Sternberg, Abbott, of Philadelphia, and others are important. A mention here of the specific work of any of these contributors may not be attempted. A partial list of recent publications in this department, and a few references to the journal literature of the same, will be given.

Medical Education.—In compliance with the demand for broader education, largely occasioned by the extension of the field of scientific research, the required college course has been largely extended, and additional facilities afforded for experimental work in fields newly discovered and explored. In all of this the science of bacteriology has its important place, and laboratory work in the study of pathology has become a requisite. In this country, as before in different ways in leading European countries, state enactments, now very generally in effect, have not only made requisite a higher standard of medical education, but have demonstrated the advance in the public appreciation of advanced educational culture in the world of medicine.

In Medicine.—Professor Abbott, of the University of Pennsylvania, heads the introductory chapter of his work on the *Principles of Bacteriology* as follows: "The overthrow of the doctrine of spontaneous generation and the future application of the law, *Omne vivum ex vivo.*" The author expresses the truth concerning the importance and relations of the new science as follows: "From the very onset its history is inseparably connected with that of medicine, and, as it now stands, its relation to hygiene and preventive medicine are of the utmost importance. It is, indeed, to a more intimate acquaintance with the biological activities of the unicellular, vegetable micro-organisms that modern hygiene owes much of its value, and our knowledge of infectious diseases has reached the position it now occupies."

In Surgery.—The field of practical surgery has been greatly enlarged and the danger to life from surgical diseases and operative measures has been lessened. An important reason for this advance appears in the following: A practical knowledge of the nature of pathogenic germs, of their ways of entrance, their existence and action in the tissues of the body, and of the means of their destruction and prevention, has come to have its place and advantage in all intelligent and correct surgical practice of the present time. The application of this knowledge in preventing infection by securing asepsis, and this when necessary by antiseptic means, constitutes the sum and substance of the later advances in modern surgery.

Present Outlook.—In this, as it is in most matters where change, whether for the better or worse, is involved, different opinions obtain in the professional world. There are those who, from want of knowledge and the consequent inability to observe and judge rightly, are active in unintelligent opposition. Well-informed, scientific workers, not unmindful of the magnitude and difficulties of their work, are too busy to regard unworthy objections, and are diligent in their efforts to discover and utilize what is valuable. In our present study and outlook the following appears: New terms and new material have found a place in our materia medica, some of which seem to have acquired a permanence. *Immunity and Serum Therapy* is the title of a practical work by Sternberg. The terms are properly applied: the first, to a feature or condition in pathology and physiology now understood; the second, to effective modern therapeutic means for relief and prevention of disease. The question of what constitutes immunity of the body to disease infection, and how it is induced, has long been a subject of study. The knowledge of bacteria, of what may occur in connection with their pathogenic action, their agency and behavior in the different forms of tissue pathology, now seem to promise a satisfactory solution.

Immunity.—It is found that immunity may be natural to the body, may be produced by an attack of the infectious disease, or may be secured by artificial means. The first is seen, for instance, in localities subject to yellow fever, where a certain percentage of the native inhabitants are found to be incapable of contracting the disease. A racial difference in natural immunities is shown by the fact that negroes are not susceptible to the infection of yellow fever, nor the Arabs to that of typhoid fever. Other natural immunities are found in certain animals: the Algerian sheep to the *Bacillus anthracis,* for instance. It is not uncommon during the prevalence of diphtheria among children to find in the throats of attending adults, who have never suffered with the disease, the diphtheria bacillus, which does not produce infection. This would seem to be a natural immunity acquired by change in the tissues incident to the development of maturity.

Speaking of bacteria on the surface of the animal body, Dr. Gradle observes: "They exist, usually in a dried state, on the surface of the skin and hair, and can not be removed entirely by washing. If secretions occur in which they can vegetate, bacterial life and activity are soon manifested." As further illustrative of what is meant by natural immunity, it is observed "that with every breath we take, bacteria are deposited upon the respiratory surfaces." * While it is true that many microbes that are found floating in the air, and thus lodged upon the body or inhaled, may not be pathogenic in nature or may not be in a condition to readily cause infection, it nevertheless appears in this, that immunity, either natural or acquired, constantly exists as the great means of prevention of disease, and that to strengthen this power of resistance by artificial means, action must be taken along these natural lines. Immunity of the second kind is well known as resulting from the attacks of ordinary contagious diseases, and varies in completeness and permanence in different diseases and persons. The immunity obtained by artificial means is what especially concerns our present observation. The following is given as a brief explanation: Pathogenic bacteria affect the animal organism in two principal ways: First, by depriving the cells of different animal tissues of oxygen and nitrogen, appropriating the same to themselves in their multiplication and growth; and, second, by infecting the solids and fluids of the body by certain toxic substances which they secrete. These toxic substances, which in full strength are in a greater or less degree injurious to the tissues and may cause death, may so affect the body as to prevent after-infection by the same or a similar germ. These germs may be isolated and reduced by cultures outside the body. Attenuated cultures may still contain toxines whose virulence has been reduced. The attenuated toxines may be used with greater safety or with less danger to the tissues than would result from the introduction of pathogenic germs while possessed of their original virulence; and yet these attenuated cultures properly introduced may cause the reaction in the tissues which results in immunity. This is illustrated in the use and behavior of the milder virus of the vaccine disease, in securing immunity to the action of the more severe and dangerous germs of variola. An antitoxine is a substance elaborated by the animal tissues in reaction to a toxine. Blood serum, which is in general use for inoculation, contains, or is made to contain, the various immunizing materials or antitoxines which are used to secure immunity. The methods of obtaining from the tissues and of preparing the various antitoxines for therapeutic use are various, and require skillful manipulation by expert hands. The antitoxines when prepared are used by interstitial inoculation.

Thus it is seen that, in the warfare of microbic disease, the antitoxic serum becomes the reenforcement of the army of defense, and in the favorable outcome the resulting condition of the country, immunity, becomes the guarantee of future protection. This may answer for a general description. Different diseases and conditions may require important modifications in management; all in the same general class, however, may be considered as alike in general behavior and results.

In the study of living germs as factors in disease, reasonable answers to many heretofore obscure questions seem to appear. The facts of the self-limitation of disease, of a definite period of incubation to various infections, and the history of development, crises, and natural decline in many diseases are illustrative. The reason for what was known to the ancients as the *vis medicatrix naturæ* is seen in this.

Credit for the discovery that animals may be rendered immune to specific infections by the injection of the products of disease germs is given to Pasteur, who in 1880 experimented with fowls in the disease known as chicken cholera.

The different antitoxine serums have become numerous, but as yet are found to vary to some extent in their effectiveness in securing the desired result. We have serum antidiphtheritic, antipneumonic, antibubonic, antirabic, antisyphilitic, antitubercle, antityphoid, antitetanic, antistreptococcic, antivenomous, etc.

Great and continuous efforts on the part of many able scientists have been required to advance the standard of serum therapy to the stage at which it appears at the present time; but more time will be required before the desired results can be secured in the treatment and prevention of important diseases now under experimental study. It is generally admitted that the antitoxine treatment of diphtheria has afforded better results than have been realized in that of any other disease. A recent estimate is given as follows: "From the most trustworthy statistics that are now available, it appears that the actual mortality from diphtheria (including membranous croup) has been reduced at least one half by the general adoption of the serum treatment." * In this connection comes one thought: that greater results may be expected when physicians generally become more prompt in the application, and are always in possession of a high grade of antitoxine serum. As prophylaxis is better than cure, greater advantage may be made possible by securing immunity in the bodies of those exposed or liable to be exposed to the contagion.

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* Gradle. *Bacteria and the Germ Theory of Disease,* p. 75.

* Jacob Friedman. *Journal of the American Medical Association,* October 9, 1897.

In tetanus and rabies, and now in pneumonia, good results are claimed from the use of the serum treatment. Cases of trismus nascentium are reported as successfully treated by the tetanus antitoxine.

In the matter of the tuberculin treatment of tuberculosis greater difficulties have been experienced than, perhaps, in that attempted in any other disease. Great credit is due to Koch for his continued efforts and valuable discoveries in this important study, which point to a future success. The character of the disease and the varieties and complications found in its various forms are the chief elements of difficulty. Many scientists are still at work in this investigation, and an American physician has recently reported concerning his success as follows: "The scientific gain of my investigation is the preparation of a really antitoxic and bactericidal antiphthisic serum, and with a probability next to a certainty we may expect this serum to become an important factor in the preventive and curative treatment of human tuberculosis." * The use of mallein in the diagnosis of glanders, and the Widal test, or serum diagnosis of typhoid fever, are established procedures of great value in the study and management of these diseases. Because of the extent and importance of typhoid fever, great interest has attended the studies in bacteriology pertaining to its ætiology, pathology, prevention, and treatment. An exhaustive account of laboratory investigation of the bacteriology of this disease, as shown in the serum diagnosis, appears in the *Journal of the American Public Health Association* for April, 1898.†

These diseases and their treatment by serum therapy are mentioned as illustrative rather than as an approach to a summary of the scope of this treatment. It must be borne in mind, however, that other valuable means and methods may not be supplanted by what is contained in this. Discoveries in bacteriological pathology have not only extended the field of therapeutic measures, but have increased our knowledge of the value and the reasons therefor of means and methods long since in use. For instance, in tuberculosis correct climatic influence and supporting treatment, cod-liver oil and hypophosphites, may tend to secure immunity by improving organic action and vitality in the tissues. Creosote and the chloride of gold are found to be valuable remedies. Disinfecting the alimentary canal and judicious elimination in typhoid fever are in opposition to the life and activity of bacteria. Rational practice in medicine will endeavor to accept what has merit in the new, and hold fast to what is valuable in the old.

Because of the importance to the practising physician of laboratory work in diagnosis and in the study of disease, and of the fact that a knowledge of this has become a necessary requirement in medical education and in the better practice of the present time, it is shown that the physician's clinical laboratory should be a part of his required outfit in practice. The microscope and other necessary instruments and appliances for study in chemistry, biology, and pathology are now seen to be as essential in the later practice of medicine and surgery as have been the thermometer and stethoscope.

In this brief mention of what appears in the present general outlook concerning medical bacteriology, in its relation to the medicine and surgery of the present time, no full account has been attempted. What is given may in a measure be illustrative and suggestive as to the present direction of study in science which has already afforded much of value, and now promises still more important and beneficent results and victories in the great arena of practical medicine.

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* Carl Fisch, M. D., St. Louis, Mo. *Journal of the American Medical Association*, October, 1897.

† *The Serum Diagnosis of Typhoid Fever from the Public Health Laboratory Point of View*, by F. F. Wesbrook, M. D., and L. B. Wilson, M. D., and *Typhoid Infection*, by Henry M. Bracken, M. D., of the University of Minnesota. *Diagnosis of Typhoid Fever by Widal's Blood Reaction*, by A. H. Stewart, M. D., Philadelphia.

Eisenberg. *Bacteriological Diagnosis.* Philadelphia: F. A. Davis, 1892.

Miller. *Micro-organisms of the Human Mouth.* Philadelphia: S. S. White Dental Manufacturing Company, 1890.

Salmonsen. *Bacteriological Technique* (English translation).

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Desflocq. *Leçons sur les bactéries pathogènes.* Paris: Masson et Cie., 1897.

Nocard and Leclainche. *Les maladies microbiennes des animaux.* Paris: Masson et Cie., 1896.

Charrin. *Poisons de l'organisme.* Paris: Masson et Cie., 1896.

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Flugge. *Die Mikroorganismen.* Theil I, II, Leipsic: Vogel, 1896.

Migula. *System der Bacterien.* Erster Band. Jena: G. Fischer, 1897.

Fraenkel and Pfeiffer. *Microphotographischer Atlas der Bacterienkunde.* Berlin: Hirschwald, 1896.

Fischer. *Vorlesungen über Bacterien.* Jena: Gustav Fischer, 1897.

Stubenrath. *Das Genus Sarcina.* München: Lehman, 1897.

Levy and Wolf. *Bacteriologisches Notiz und Nachschlagebuch.* Strassburg: Friedrich Bull, 1897.

Busse. *Helen als Krankheitserreger.* Berlin: Hirschwald, 1885.

Brieger. *Weitere Untersuchungen über Ptomaine.* Berlin: Hirschwald, 1885.

Gunther. *Einführung in das Studium der Bacteriologie.*

The following are the principal periodicals devoted especially to bacteriology and allied sciences now published:

Journal of Pathology and Bacteriology. London: Pentland.

Journal of Experimental Medicine. New York: D. Appleton and Company.

Baumgarten. *Jahresbericht über pathogene Mikroorganismen.* Braunschweig: Harold Bruhn.

Centralblatt für Bacteriologie. Jena: Gustav Fischer.

Zeitschrift für Hygiene, etc. Leipsic: Von Voit & Co.

Archiv für Hygiene. München: Oldenbourg.

Annales de l'Institut Pasteur. Paris: Masson et Cie.

In addition to what appears in the foregoing bibliography of bacteriology, an important part of the literature belonging to this department, and much of practical value to the physician, has appeared of late in the leading medical journals of this and other countries.

Changes of Address.—Dr. H. B. Beegle, to One Hundred and Third Street and Vincennes Avenue, Washington Heights, Chicago; Dr. J. Roberts Johnson, to Syracuse, N. Y.; Dr. Joseph Muir, to 41 West Thirty-sixth Street, New York; Dr. W. Henry Wilson, to 4512 Union Avenue, Chicago.

The New York Graduates' Society of McGill University, of Montreal, held its annual dinner on Tuesday evening, October 25th, at the Hotel Majestic.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M.D.

NEW YORK, SATURDAY, OCTOBER 29, 1898.

THE HEALTH OF OUR TROOPS IN THE TROPICS.

The cessation of actual warfare, although confidently expected to prove lasting, detracts only partially from the urgency of looking well to the health of our troops in tropical regions. There will have to be permanent garrisons for Puerto Rico and Hawaii, and there is no knowing how long we shall have to maintain an army of occupation in Cuba. It is to be expected, too, that we shall occupy the Philippines for good. In all these territories the climatic conditions are such as to call for more than ordinary precautions to preserve the health of our men. Early in June, long before the cessation of hostilities, Dr. Charles H. Hughes, of St. Louis, who served as a medical officer in our civil war, read an important paper—one from which many a hint may be taken—before the Loyal Legion of Missouri and Kansas, a body of veteran officers. It is printed in the July number of the *Alienist and Neurologist,* of which Dr. Hughes is the editor.

Dr. Hughes emphasizes properly the paramount importance of sanitation in military operations, but what he says applies with hardly diminished force to garrison work. He deals particularly with the protection of the forces against malaria. Such teachings as that the soldier should sleep on a bed raised sufficiently from the ground, that he should not be set to digging, that he should eat only wholesome food, that he should drink only such water as is known to be above suspicion or has been rendered innocuous by boiling, etc., are, of course, not novelties, but it is well that they should be insisted upon with all the vigor of Dr. Hughes's words. One of his hints appears to be new. It is the suggestion that soldiers, as they go marching along in a malarious region, had better keep their mouths shut than be singing hymns and patriotic songs. His idea is that the nasal mucus, over which the inspired air must pass when a person is breathing through the nose alone, has a more or less pronounced power of destroying the pathogenic activity of the malarial germs. This theory is not new, perhaps, but its practical application to the active movements of troops strikes us as novel.

Dr. Hughes thinks that too little quinine is used among soldiers in malarious districts, especially as a prophylactic, and it is interesting to learn that so long ago as in 1862 he made very satisfactory use of a mixture of quinine, salicin, cinchona, capsicum, and whisky —a mixture analogous, as he remarks, to what he afterward knew as Warburg's tincture, a preparation famous in the British Indian army. His mixture, he says, was richer in quinine than Warburg's tincture. This mixture was ladled out by a sergeant or corporal to the members of each detail as they went on night guard and returned to quarters from guard duty, and was given to all the sick in the block houses. Its employment soon resulted in a gratifying diminution of sickness, so that in the course of a month no soldiers were doing double guard duty because of sick comrades.

Dr. Hughes has a proper appreciation of the importance of making the army and navy medical corps more numerous and of higher rank, so as to attract to them young men of the greatest promise. He would have the surgeon general of the army rank as a major general, and each regiment provided with a surgeon ranking as a major and four assistants ranking from captain down to second lieutenant or even "plain mister." This, of course, is from the regimental standpoint; consequently it does not cover the ground. What we really want, as has repeatedly been said in these columns, is an independent medical corps answering to the fine organization which has at last been attained to in the British service.

THE HYGIENIC TREATMENT OF CONSUMPTION.

The discussion of this subject at the British Medical Association meeting, as recorded in the *British Medical Journal* for October 1st, is full of interesting matter, not a little of it of the iconoclastic order. Papers were read by Dr. Caverhill on the value of sanatoria as a means of carrying out the hygienic treatment, and by Dr. Calwell on that treatment as carried out independently of sanatoria. Dr. Guillemard, from South Africa, described the outdoor treatment of phthisis as practised in that country, while Dr. Bourcart, of Cannes, and Dr. Vivant, of Monte Carlo, gave the result of their observations on the same treatment in the Riviera. Dr. Sydney Jones, of New South Wales, described the class of cases suitable for the open-air treatment in Australia, and Dr. Jane Walker her experience with that treatment in an ordinary farmhouse used as an extempore sanatorium in England. Dr. Johns, of Bournemouth, referred to the difficulty in English sanatoria of insisting on patients submitting to a prescribed diet, as was done in sanatoria abroad. Dr. Frederick Churchill advocated an extensive use at seaside places of verandas fitted with sun blinds for summer and revolving glass casements for winter use. Finally, Dr. Bezley Thorne described the case of a young lady in whom the open-air treatment had been successfully carried out through the winter months, even in murky London. But the keynote of the situation is struck in an original paper published in the same journal, by Dr. Mander Smyth, on the Rational Treatment of Phthisis with Reference to the Nordrach Sanatorium. This contains the iconoclastic propositions upon which the Nordrach treatment, as referred to by Dr. Caverhill, is founded: "At Nordrach, in the Black Forest," we are told by Dr. Caverhill, "thirteen hundred feet high, clothes and boots are seldom changed, even if damp, after the morning walk. Patients of both sexes sit at meals and lie down for the prescribed periods of rest, and only remove their wet garments on going to bed." The "fresh cold," which has hitherto been so dreaded a foe of the phthisical, is said by Dr. Walther, of Nordrach, according to Dr. Mander Smyth, to have no relation to exposure to the weather, but to be always the product of infection, and the chill is due to the depression caused by overexertion rendering the patient susceptible to infection. If overexertion is avoided, the phthisical patient need henceforth have no more fear of inclement or wet weather than his healthier brother. Granting the infection theory of "cold," however, it is yet scarcely placed beyond doubt that overexertion is the only possible depressing influence which can predispose to the disease; and changes of temperature and wet clothing, while not perhaps directly producing "cold," as formerly believed, in the absence of the germ infection, may nevertheless be in themselves depressing, and consequently predisposing, factors through the nervous system.

However, wonderful results are credited both by Dr. Caverhill and by Dr. Mander Smyth to the treatment at Nordrach, where phthisical patients discard wraps of all kinds, pay "no regard to wearing sound boots or keeping the feet or clothes dry," but, on the contrary, often wear sandals "which are soaked through in the first puddle," lie down in damp garments, and pay no attention to the weather, but "spend from seven to eleven hours daily in the open air, in spite of rain, fog, and snow, and a temperature often as low as 12° F. below freezing point."

Dr. Mander Smyth certainly makes a point when he says: "I have, while a patient, worn wet shoes for days together, sat by open windows for hours in draughts when the temperature of the room was at freezing point, waded in ice-cold water, etc., on purpose to test the truth of this infection theory. But, like the schoolboy who also tried similar means to get a bad cold and play truant, I failed entirely, neither did any other evil follow." He adds that "it is in truth certain that no harm need be apprehended from an absolutely fearless exposure of consumptives to any weather, in our country as on the Continent, provided overexertion is avoided."

MINOR PARAGRAPHS.

CHLORINE IN THE TREATMENT OF DIPHTHERIA TESTED IN A BROOKLYN HOSPITAL.

On March 5th this journal published a letter from Dr. P. M. Bracelin, of Iowa, on the value of chlorine, specially prepared, in the treatment of diphtheria. Since that time the board of health has taken the matter up and has made a test of its value. While we have not yet received the official report, we are informed that in the Kingston Avenue Contagious Disease Hospital of Brooklyn, out of twenty-five cases treated by this method there was but one death, and this case had received antitoxine in connection with the chlorine treatment. This one death occurred fifteen days after the treatment, and resulted from cardiac failure. These tests show a death-rate of about four per cent., which is a remarkable reduction from the average.

THE SELECTION OF WINES AND LIQUORS FOR THE SICK.

Dr. B. Franklin Stahl, in an article on this subject in the *University Medical Magazine* for October, gives us some very interesting and some very instructive information on this subject. As specimens of the first class, we may mention that he tells us that the word whisky is derived from the Irish, *usque baugh*, "water of life"—just as the French have *eau de vie*, for brandy. Ale, we are told, is derived from the Anglo-Saxon *ælan*, "to kindle, to inflame," while beer is the Anglo-Saxon bere, "barley." We learn further that "one of our largest hospitals submitted a number of samples of brandy to a competent chemist, and the report as to purity gave first place to American brandy. The purchases were made at reliable places, secured as the best obtainable, and the chemist was not aware of the origin of the varieties submitted." This fact certainly gives weight to Dr. Stahl's recommendation that when brandy is ordered the advisability should be considered of asking for a good Californian brandy rather than for a doctored product shipped back from France. The article contains a detailed description of the methods of and principles involved in the preparation of various liquors, and their essential differences, especially from a therapeutical point of view. The author, after quoting the classical indications of King Chambers for the use of alcohol, summarizes them as follows: "The malt liquors are indicated as fattening agents to stimulate digestion, and as mild tonics and stimulants. The spirituous liquors are required in acute illness, and are beneficial in old age. The wines are most useful in convalescence, and in those cases where we are unable to give the stronger liquors, because of their unacceptability to the stomach. Furthermore, they have a fixed place in our dietetics. Finally, considering some special conditions where selection must be made, it may be said that in anæmia, in conditions included under the term malnutrition, and in convalescence, you will do well to order a good claret, burgundy, or bordeaux wine. The lighter forms of good quality are best for daily consumption for brain workers, who lead sedentary lives, and who need a digestive and stimulant. You will hasten recovery in many by ordering a light luncheon, accompanied with wine, between each meal."

It is noteworthy that in France and Rhineland, where wine is the staple drink, the *vin ordinaire* is of a much lighter quality, markedly reduced in alcoholic strength, than any wines produced in this country. Surely it would be possible for California and our other wine-growing districts to produce a light claret with the tonic and digestive properties and the grateful taste of wine, and yet so little alcoholic as to be only feebly stimulant. It would supply a great desideratum.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 22, 1898:

DISEASES.	Week ending Oct. 15.		Week ending Oct. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	117	25	122	24
Scarlet fever	65	4	84	6
Cerebro-spinal meningitis	0	6	0	0
Measles	42	0	57	4
Diphtheria	118	18	118	28
Croup	8	2	12	5
Tuberculosis	177	133	166	130

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics, on Wednesday, the 26th inst., the following papers were to be read: The Position of the Catholic Church on Obstetric Practice, by the Rev. J. F. Mooney; and Purulent Ophthalmia, by Dr. Lucien Howe, with a discussion by Dr. A. A. Hubbell, Dr. E. G. Starr, and Dr. R. H. Satterlee.

The Tri-State Medical Association of Mississippi, Arkansas, and Tennessee will meet in Memphis, on Tuesday, Wednesday, and Thursday, December 20, 21, and 22, 1898. Physicians attending this meeting are promised a pleasant and profitable time in the "Queen City of the Mississippi Valley." Titles of papers should be sent to Dr. Richmond McKinney, secretary, Continental Building, Memphis, Tennessee.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday, the 25th inst., Dr. J. A. Hodges was to open a discussion on Some Fallacies regarding the Treatment of Cerebrospinal Meningitis.

A Barren Joke.—A certain physician to whom autopsies are, as it were, a daily article of professional pabulum, one day entered an aseptic operative theatre during the course of an operation. Not daring to approach too near, he was craning his neck to catch a view of the proceedings, when a more than ordinarily well-favored nurse approached him with the remark, "Let me give you a sterilized apron, doctor." The doctor, a man of gallantry, replied, "God forbid that I should take anything that would tend to sterilize me—from you." And that nurse is still wondering what he meant.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general of the Marine-Hospital Service during the week ending October 22, 1898:

Yellow Fever—United States.

Alexandria, La	To Oct. 15 (estimated)	200 cases,	2 deaths.
Amite City, La	To Oct. 15	1 case,	1 death.
Baton Rouge, La	To Oct. 15	17 cases,	4 deaths.
Baton Rouge, La., East	Oct. 17	Yellow fever reported.	
Baton Rouge, La., West	Oct. 17	Yellow fever reported.	
Bowie, La	Oct. 6	1 case.	
Cinclare, La	To Oct. 15	11 cases,	1 death.
Delogny, La	Oct. 1	1 case.	
Feliciana, La., East	Oct. 17	Yellow fever reported.	
Feliciana, La., West	Oct. 17	Yellow fever reported.	
Franklin, La	To Oct. 6	375 cases,	7 deaths.
Franklin, La	Oct. 7–13	166 “	1 death.
Franklin, La	Oct. 14	13 “	1 “
Franklin, La	Oct. 15	10 “	
Franklin, La	Oct. 16	22 “	
Franklin, La	Oct. 17	7 “	
Franklin, La	Oct. 18	1 case.	
Franklin, La	Oct. 19	5 cases.	
Harvey's Canal, La	To Oct. 6	14 “	3 deaths.
Houma, La	To Oct. 15	40 “	2 “
Iberville, La	Oct. 17	Yellow fever reported.	
Jackson, La	To Oct. 15	15 cases.	
Jefferson Parish, La	To Sept. 20	5 “	
Lake Charles, La	To Oct. 15	1 case,	1 death.
Lobdell, La	Oct. 12	Yellow fever reported.	
Lutcher, La	To Oct. 15	14 cases,	2 deaths.
New Orleans, La	To Oct. 15	74 “	19 “
Plaquemine, La	To Oct. 15	6 “	1 death.
St. Charles's Parish, La	Oct. 17	Yellow fever reported.	
St. James's Parish, La	Oct. 1	1 case.	
Wilson, La	To Oct. 15	303 cases,	7 deaths.
Bay St. Louis, Miss	Oct. 11	9 “	
Canton, Miss	Oct. 10	4 “	
Canton, Miss	Oct. 17	1 case.	
Canton, Miss	Oct. 19	2 cases.	
Clinton, Miss	To Oct. 15	40 “	
Crystal Springs, Miss	Oct. 11	5 “	
Crystal Springs, Miss	Oct. 19	1 case.	
Edwards, Miss. (vicinity)	To Oct. 6	6 cases.	
Edwards, Miss. (vicinity)	Oct. 7	13 “	1 death.
Edwards, Miss. (vicinity)	Oct. 16	5 “	
Fayette, Miss	Oct. 6–13	5 “	
Harriston, Miss	To Oct. 6	42 “	4 deaths.
Harriston, Miss	Oct. 7	66 “	1 death.
Harriston, Miss	Oct. 14	6 “	
Harriston, Miss	Oct. 16	2 “	
Harriston, Miss	Oct. 17	3 “	
Harriston, Miss	Oct. 18	2 “	
Harriston, Miss	Oct. 19	2 “	1 “
Hattiesburg, Miss	Oct. 8	18 “	
Hattiesburg, Miss	Oct. 14	3 “	1 “
Hattiesburg, Miss	Oct. 15	4 “	
Hattiesburg, Miss	Oct. 17	4 “	1 “
Hattiesburg, Miss	Oct. 18	2 “	1 “
Hermanville, Miss	To Oct. 13	3 “	
Jackson, Miss	To Oct. 6	41 “	4 deaths.
Jackson, Miss	Oct. 7	61 “	1 death.
Jackson, Miss	Oct. 14	10 “	
Jackson, Miss	Oct. 15	7 “	
Jackson, Miss	Oct. 16	8 “	
Jackson, Miss	Oct. 17	16 “	
Jackson, Miss	Oct. 18	4 “	1 “
Jackson, Miss	Oct. 19	6 “	
Madison, Miss	Oct 6	45 “	
Madison, Miss	Oct. 17	1 case,	1 “
Madison, Miss	Oct. 18	2 cases.	
Madison, Miss	Oct. 19	5 “	
Meridian, Miss	Oct. 15	1 case.	
Meridian, Miss	Oct. 17	2 cases.	
Natchez, Miss	Oct. 7–13	8 “	
Natchez, Miss	Oct. 14	4 “	
Natchez, Miss	Oct. 15	3 “	
Natchez, Miss	Oct. 16	3 “	
Natchez, Miss	Oct. 17	2 “	
Natchez, Miss	Oct 18	3 “	
Natchez, Miss	Oct 19	2 “	
Orwood, Miss	To Oct. 6	79 “	4 deaths.
Orwood, Miss	Oct. 7–13	6 cases.	1 death.
Orwood, Miss	Oct. 14	9 “	
Orwood, Miss	Oct. 15	4 “	
Oxford, Miss	To Oct. 10	470 “	36 deaths.
Oxford, Miss	Oct. 11–13	13 “	2 “
Oxford, Miss	Oct. 14	1 case.	
Oxford, Miss	Oct. 15	2 cases.	
Oxford, Miss	Oct. 16	1 case,	1 death.
Oxford, Miss	Oct. 19	4 cases.	
Poplarville, Miss	Oct. 9–13	9 “	
Poplarville, Miss	Oct. 16	7 “	
Poplarville, Miss	Oct. 17	7 “	1 “
Poplarville, Miss	Oct. 18	1 case.	
Port Gibson, Miss	Oct. 6	1 “	1 “
Queen Hill, Miss	Oct. 15	1 “	1 “
Ridgeland, Miss	Oct. 8–13	5 cases.	
Ridgeland, Miss	Oct. 15	1 case.	
Ridgeland, Miss	Oct. 17	1 “	
Starkville, Miss	Oct. 6–13	6 cases.	
Starkville, Miss	Oct. 18	1 case.	
Taylors, Miss	To Oct. 6	100 cases,	11 deaths.
Taylors, Miss	Oct. 7–13	4 “	2 “
Taylors, Miss	Oct. 15	1 case.	
Tougaloo, Miss	Oct. 16	1 “	
Tougaloo, Miss	Oct. 17	1 “	
Waterford, Miss	To Oct. 6	2 cases.	
Waterview, Miss	To Oct. 6	10 “	
Waveland, Miss	To Oct. 10–13	16 “	1 death.
Waveland, Miss	Oct. 14	2 “	
Waveland, Miss	Oct. 17	1 case.	
Waveland, Miss	Oct. 18	1 “	
Woodville, Miss	To Oct. 6	1 “	
Yazoo City, Miss	Oct. 16	6 cases.	
Yazoo City, Miss	Oct. 17	5 “	
Yazoo City, Miss	Oct 18	4 “	
Yazoo City, Miss	Oct. 19	2 “	1 “

Yellow Fever—Foreign.

Jimenez, Mexico	Sept. 28	Yellow fever present.	
Vera Cruz, Mexico	Sept. 22–Oct. 6		6 deaths.

Small-pox—United States.

Wausau, Wis	Oct. 12	1 case.	

Small-pox—Foreign.

Natal, Africa	Sept. 3	Epidemic among natives.	
Pretoria, Africa	Sept. 3	Epidemic chiefly among natives and spreading rapidly.	
Bahia, Brazil	Sept. 17–24	36 cases,	5 deaths.
London, England	Sept. 17–24	1 case.	
Gibraltar	Sept. 18–25	2 cases.	
Calcutta, India	Sept. 3–10		1 death.
Madras, India	Sept. 3–9		1 “
Odessa, Russia	Sept. 24–Oct. 1	4 “	
St. Petersburg, Russia	Sept. 10–17	6 “	1 “
St. Petersburg, Russia	Sept. 17–24	2 “	4 deaths.
Warsaw, Russia	Sept. 17–24		3 “

Cholera—Foreign.

Calcutta, India	Aug 27–Sept. 3		4 deaths.
Calcutta, India	Sept. 3–10		5 “
Madras, India	Sept. 3–10		62 “
Madras, India	Sept. 10–16		41 “
Osaka and Hiogo, Japan	Aug. 27–Sept. 3	2 cases,	1 death.

Plague.

Calcutta, India	Aug. 27–Sept. 3		3 deaths.
Calcutta, India	Sept. 3–10		5 “
Hongkong, China	Aug. 6–13	1 case.	

New York Academy of Medicine.—At the meeting of the Section on Ophthalmology and Otology held on Monday evening, the 17th inst., the following cases were to be presented and papers read: Several Cases of Congenital Distichiasis in the Same Family, by Dr. Carl Koller; Another Case of Symblepharon successfully operated upon by Employment of a Skin Graft (Thiersch), by Dr. W. B. Marple; and other cases. A paper, Congenital Irideremia, by Dr. M. L. Foster, was discussed by Dr. H. Knapp, Dr. D. B. St. John Roosa, Dr. N. J. Hepburn, Dr. W. A. Holden, Dr. F. N. Lewis, and Dr. A. E. Davis. Paper: On the Histology and Ætiology of Lenticonus Posterior (with microscopical specimens), by Dr. R. Denig.

At the meeting of the Section on Medicine held on Tuesday evening, the 18th inst., discussions were to be held on The Relation of Chemistry to Practical Medicine, introduced by Professor R. H. Chittenden and continued by Dr. Beverley Robinson, Dr. W. H. Thomson, Professor John A. Mandel, Dr. Morris Manges, and others.

At the stated meeting of the academy held on Thursday evening, the 20th inst., the Wesley M. Carpenter lecture on Modern Views on Certain Symptoms and Causes of Renal Disease was to be delivered by Dr. Christian A. Herter.

At the clinical meeting of the Section on Orthopædic Surgery held on Friday evening, the 21st inst., the following cases, etc., were to be presented: Patient with Traumatic Spine, shown at the meeting of May 21, 1897, by Dr. J. P. Fiske; A Further Dissection of the Specimen of Congenital Dislocation of the Hip, shown at the meeting of April 22, 1898, by Dr. G. R. Elliott; Photograph of Tabetic Talipes Valgus, by Dr. A. B. Judson; Fracture of the Neck of the Femur in a Boy of Eighteen, by Dr. H. L. Taylor; Congenital Dislocation of Hip Joint treated by the Lorenz Method, by Dr. J. P. Fiske.

In the Section on Laryngology and Rhinology, held on Wednesday evening, the 20th inst., the following presentations were to be made and papers read: Presentation of new instruments and apparatus: Exhibition of cases, including Case of Primary Laryngeal and Pharyngeal Tuberculosis of Over One Year's Duration, by Dr. J. W. Gleitsmann; The Gleason Operation for Deflected Sæptum, illustrated by model, by Dr. M. D. Lederman; A Case of Empyema of the Frontal Sinus with Perforation of the Anterior Wall, and A Case of Chronic Urticaria of the Larynx, by Dr. W. Freudenthal. Papers: True Papilloma of Nasal Sæptum, by Dr. Beaman Douglass; The Abuse of the Electric Cautery in the Nose, by Dr. H. Holbrook Curtis.

At the meeting of the Section on Obstetrics and Gynæcology held on Thursday evening, the 27th inst., the following presentations were to be made and papers read: Presentation of specimens and instruments. Presentation of patients and reports of cases. Papers: Operative Gynæcology, by Dr. E. C. Savidge; The Diagnosis and Treatment of the More Common Bladder Affections in Women by Means of Kelly's Method, by Dr. H. N. Vineberg.

At the meeting of the Section on Neurology and Psychiatry held on Friday evening, the 28th inst., the following presentations were to be made and papers read: Presentation of patients. Papers: The Significance of the Migration of the Nucleus in the Neurone, by Dr. Ira Van Gieson; Some Cases treated by Hypnotic Suggestion, by Dr. R. Osgood Mason.

Colored Lady Doctors.—In reference to a paragraph quoted by us in our issue for October 15th from the *Fort Wayne Medical Journal-Magazine* for September, on the subject of colored lady doctors, Dr. Thomas A. Killion writes to make the following correction: He says that Dr. Anna Jones passed the Virginia State Board and has been practising in Richmond more than five years. Dr. Hall has been practising medicine in Washington, D. C., four years. She holds a diploma from Howard Medical School of Washington, D. C. There are two other colored women in Washington holding medical diplomas, and Dr. Goldman has been practising in Chicago more than six years.

The Medical Society of the County of New York.—At the annual meeting, held on Monday evening, the 24th inst., the following officers were elected: President, Dr. S. Oakley Vander Poel; first vice-president, Dr. Henry C. Coe; second vice-president, Dr. J. Clifton Edgar; secretary, Dr. William E. Bullard; assistant secretary, Dr. John Van D. Young; treasurer, Dr. John S. Warren.

The New York Obstetrical Society.—At the last annual meeting officers for the ensuing year were elected as follows: President, Dr. W. R. Pryor; vice-presidents, Dr. Le Roy Brown and Dr. Edwin B. Cragin; recording secretary, Dr. Joseph Brettauer; assistant recording secretary, Dr. E. E. Lull; corresponding secretary, Dr. George W. Jarman; treasurer, Dr. J. Lee Morrill; pathologist, Dr. George C. Freeborn.

Workhouse and Almshouse Hospitals.—We are informed that Dr. S. Tynberg has been appointed visiting physician to the Workhouse and Almshouse Hospitals by the Correction and Charities Commissioners, respectively.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Twenty-one Days ending October 20, 1898:*

Murray, R. D., Surgeon. To proceed to Meridian, Miss., for special temporary duty. October 5, 1898.

Mead, F. W., Surgeon. Granted leave of absence for two days. October 4, 1898.

Banks, C. E., Surgeon. Granted five days' extension of sick leave. October 1, 1898. To assume temporary command of service at Vineyard Haven, Mass. October 5, 1898.

Glennan, A. H., Surgeon. To proceed to Atlanta, Ga., for special temporary duty. October 10, 1898. To visit Montgomery, Ala., *en route* to Atlanta, Ga. October 11, 1898.

Brooks, S. D., Surgeon. Granted leave of absence for four days. October 4, 1898.

Oakley, J. H., Passed Assistant Surgeon. To proceed to Birmingham, Ala., for special temporary duty. October 13, 1898.

Cofer, L. E., Assistant Surgeon. Granted leave of absence for twenty days. October 10, 1898.

Thomas, A. R., Assistant Surgeon. To report at Bureau for special instructions. October 14, 1898.

Tabb, S. R., Assistant Surgeon. Assigned to duty as sanitary inspector on United States transport *Manitoba.* October 4, 1898.

McMullen, John, Assistant Surgeon. Assigned to duty as sanitary inspector on United States transport *Mississippi.* October 5, 1898.

Russell, H. C., Assistant Surgeon. To rejoin station at Chicago, Ill. October 5, 1898.

Parker, H. B., Assistant Surgeon. To report to medical officer in command of service at Stapleton, N. Y., for duty. October 19, 1898.

Foster, M. H., Assistant Surgeon. Granted leave of absence for thirty days on account of sickness. October 1, 1898.

Anderson, J. F., Assistant Surgeon. Granted leave of absence for thirty days on account of sickness. October 4, 1898.

Society Meetings for the Coming Week:

TUESDAY, *November 1st:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Hampden, Massachusetts, District Medical Society (Springfield); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *November 2d:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *November 3d:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans (annual—Albion), N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, *November 4th:* Practitioners' Society of New York; Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *November 5th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

BOHN—KENNEDY.—In New Orleans, Louisiana, on Saturday, October 15th, Dr. Horatio R. Bohn, of Biloxi, Mississippi, and Miss S. J. Louisa McNeil Kennedy.

MURRAY—MIDGLEY.—In Providence, Rhode Island, on Wednesday, October 19th, Dr. John A. Murray and Miss Julia A. V. Midgley.

Died.

BAKER.—In Malvern, Arkansas, on Sunday, October 9th, Dr. Henry C. Baker, aged forty-nine years.

FOX.—In Lowell, Massachusetts, on Friday, October 7th, Dr. Charles L. Fox, aged twenty-eight years.

GILMAN.—In Mount Pleasant, Iowa, on Sunday, October 9th, Dr. H. A. Gilman, aged fifty-three years.

HOLMES.—In Northampton, Massachusetts, on Friday, October 7th, Dr. C. W. Holmes, aged forty-nine years.

KELLY.—In New Orleans, Louisiana, on Tuesday, October 11th, Clara, eldest daughter of Dr. Hugh Kelly.

LIEBER.—In Fernandina, Florida, on Monday, October 10th, Dr. Francis Lieber.

LINCOLN.—In Washington, D. C., on Monday, October 3d, Dr. Nathan S. Lincoln, aged seventy years.

MILLIKEN.—In Cherryfield, Maine, on Saturday, October 15th, Dr. Charles J. Milliken, aged fifty-five years.

MORGAN.—In Dugansville, Kentucky, on Monday, October 3d, Dr. Calvin Morgan.

MUSSEY.—In Paris, France, on Thursday, September 8th, Dr. William L. Mussey, of Cincinnati, Ohio, aged thirty-seven years.

READ.—In Philadelphia, on Saturday, October 8th, Dr. William P. Read, aged fifty-one years.

STUART.—In Fortville, Indiana, on Friday, October 7th, Dr. John G. Stuart, aged seventy-three years.

Letters to the Editor.

FEES FOR REFERRING PATIENTS TO CONSULTANTS.

150 LOWRY ARCADE, ST. PAUL, MINN., *October 16, 1898.*

To the Editor of the New York Medical Journal:

SIR: In your issue for October 8th you referred editorially to a paper written by a Western man, who advocates the payment by the consultant of a commission to the general practitioner for referred cases. Such a proposition would not ordinarily be deemed worthy of notice, and I am very glad to see that it has in no respect received your editorial approval, though I am somewhat disappointed that it did not meet with the rebuke it so richly deserves. It has been whispered about for some time that certain men were accustomed to bid in this way for practice, but few of us have imagined that any man would be bold enough to openly advocate the introduction of such a shameful commercial method into a profession whose very foundation is the trust and confidence of its patrons.

If this writer's ideas were to be adopted we should behold the edifying spectacle of a thoroughly degraded profession bidding, the one against the other, for reference of cases. The most unscrupulous man with the longest purse would, presumably, command the largest practice. With the advent of any such system the dignity of the profession of medicine would be forever lost. At present, the patient assumes that when his family physician refers him to a specialist he, the family physician, is acting solely for the best good of his patient, and that the man to whom he is referred is selected because he is, in the opinion of the physician, the one best qualified to advise or treat him. This is recognized and appreciated by the patient as an unselfish act, and it is one of the many which serve to bind him closely to his medical adviser. Supposing that a patient knew that his reference was made in return for a substantial fee, can it be assumed for a moment that his regard for his physician would remain the same? Most certainly not. for it is evident that he would have no confidence in the specialist who purchased him, and he would have lost all regard for his family physician who sold him.

The only way in which this delectable arrangement can be carried on is in the sneaking, underhanded way which characterizes it at present; for, in spite of the many evidences of commercialism creeping out from time to time, in spite of the shameful spectacle furnished by one of the leading members of the profession in Germany, who now seeks to fatten upon the proceeds of a patent upon other men's ideas, in spite of the fact that commercialism of the rankest quality pervades our national association, nevertheless the great body of the profession of this country will cling to the old ideals, and its best men will continue to do a practice based upon merit and not upon purchase or advertising.

Behrings may grow rich upon the unclean proceeds of patent rights, but Tyndalls, Faradays, Pasteurs, Listers, and Sims's will always predominate, and their spirit of noble and unselfish generosity will pervade the work of our profession. In short, the great body of the medical profession to-day is clean, and so it desires to remain. CHARLES LYMAN GREENE, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. THOMAS R. FRENCH, of Brooklyn, in the Chair.

(*Continued from page 569.*)

A Report of a Case of Lipoma of the Larynx was read by Dr. F. W. HINKEL, of Buffalo. (See page 613.)

Dr. FARLOW: Dr. Hinkel has referred to a case which I reported in 1895. It was a very curious case. The patient came into my office with his hand to his mouth, holding something in his fingers which I supposed to be a toothpick. He told me that he had a growth which was attached to the back of his mouth, and that he had to hold it to keep it from slipping down his throat. This tumor was pedunculated and had an excursion of several inches from below the vocal cords to externally beyond the lips. When removed with the scissors it reappeared several months later, but after removal with the galvanic cautery there was no recurrence.

Dr. MACCOY: In 1892, in a paper read at the meeting of this society, held in Boston, on Rare Laryngeal Growths, I reported a case of lipoma of the larynx. The growth sprang from the margin of the laryngeal sac. It was removed by forceps and was about the size of a bean.

Report of a Death following immediately on an Operation for Nasopharyngeal Adenoids under Chloroform Anæsthesia, with Remarks on Anæsthetics in these Operations.—Dr. F. W. HINKEL read a paper with this title. (See page 614.)

On the Recurrence of Adenoids after Excision.—Dr. A. A. BLISS, of Philadelphia, read a paper with this title. (See page 617.)

Present Methods for the Operative Treatment of Pharyngeal Adenoids.—Dr. D. BRYSON DELAVAN, of New York, read a paper on this subject. (See page 619.)

Dr. GLEITSMANN: In regard to the frequency of recurrence of adenoids, we had a paper read here a few years ago which came to the conclusion, now generally accepted, that we have about three or four per cent. of recurrence of the adenoid tissue after operations thoroughly and skillfully performed. In this connection it might be mentioned that more than one of us has seen a recurrence in like manner of the faucial tonsils after their removal in the usual way. In a patient who consulted me lately there was a return of the faucial tonsil requiring a second operation within ten months after the first removal. The connection between the development of adenoid tissue in the vault of the pharynx and diseases of the pituitary body I am not in a condition to discuss at present.

With regard to the anæsthetic to be employed, I must say a few words. It has already been brought to the attention of this association by Dr. Roaldes that ethyl bromide is very useful. Since having been in Europe, where it is used extensively, I have employed it more and more in my practice. In proper cases for its administration, where the time required for the operation is short, and also in cases operated upon in my office, I always give ethyl bromide. Of course, in extensive operations upon adenoids and the faucial tonsils at the same time, I give some other anæsthetic and not ethyl bromide. However, I do not use chloroform. I have had no evidence of my own for stopping the use of chloroform altogether; but I was twice on a coroner's jury where two cases of fatal chloroform anæsthesia came up before us, and I know the trouble to which it gives rise when such accidents occur.

With regard to the proper selection of instruments for operating upon the adenoid tissue of the pharynx, Dr. Delavan has been kind enough to refer to my instruments, and, of course, I use them with predilection. In operating I use the forceps preferably and then clear out the pharynx with the curette. I am glad to be able to state that I have never had an accident in twenty-five years of practice.

Dr. CASSELBERRY: For many years I have been in the habit of using ether if a prolonged operation is necessary. For short operations nitrous oxide can be used. I frequently commence with A. C. E. mixture till the patient is just unconscious, when I continue with ether. The disadvantages that have been alleged against ether are largely fanciful. The best time for operation is early in the day, before the patient has had any breakfast whatever; then the danger of vomiting is lessened. I made up my mind a long time ago that I would not subject myself to the liability to accident which belongs to chloroform anæsthesia in making tonsil and adenoid operations.

Dr. WAGNER: I have had in operations for adenoid vegetations no experience with chloroform, as I have used only bromethyl. My assistants and I have utilized it in many cases with only good results. Compared with chloroform, it is much safer, and compared with ether, it acts more quickly. I combine with it the Rosenberg method of spraying the nasal passages before the operation with a one-and-a-half-per-cent. solution of cocaine. Referring to the general method of operating on adenoid vegetations, I have not been satisfied with the results obtained, as one is not always able to remove all of the adenoid tissue. I have therefore operated for the last eight or nine months in older cases with the "hanging head"—that is to say, with the head somewhat supported by the assistant. I use a double palate hook for retracting the soft palate, and with an electric light the whole field is directly illuminated. I am enabled then with special instruments to take out all adenoid tissue. There is very often also an enlargement of the posterior extremities of the inferior turbinated bodies, which can be removed at the same time.

I have never observed any hæmorrhage after the application of the suprarenal-capsule preparation combined with cocaine, neither did any pain follow the operation. Therefore this fully answers Dr. Delavan's requirement with regard to thoroughness of operation and humanity to the patient.

Dr. Thrasher: My experience, I find, is not entirely in agreement with that of the other gentlemen who have preceded me in this discussion upon the subject of the choice of an anæsthetic. I must say something in defense of my favorite anæsthetic, chloroform. I think that some of the dangers that have been mentioned are due not to the agent itself, but to the method of administering it. This remark might also apply to ether. I have seen cases in which the inflamed condition of the mucous membrane of the nose, throat, and bronchial tubes was the cause of death from ether.

I would say that my method of operating is with the head lower than the body. This position is not only favorable for the safety of the patient during the administration of the anæsthetic, but also for the prevention of the inhalation of blood into the larynx during operation.

As regards the possibility of death from spasm of the glottis during the administration of chloroform, I have my doubts. It is a common observation that where spasm of the glottis occurs it disappears before death, owing to relaxation from carbonic-acid poisoning. It is a question whether this condition might not be confounded with the difficulty of breathing caused by a clot of blood in the larynx.

My operating table permits the head to be below the level of the body, which favors free discharge of fluids from the air-passages.

It must be remembered that the lumen of the air-passages in children is very small and may be readily obstructed by secretions. A child may die a week after operation and as a direct result of the ether irritation of the bronchial mucous membrane, and yet this result would not be set down as a death due to ether.

I would not compare the bromide of ethyl with chloroform as an anæsthetic in nose and throat operations. I have used the bromide of ethyl in about twenty cases. To me it seems too much like shooting my patients with a gun; they come under the influence too quickly and recover too quickly. Now, the time of operating under chloroform is very short, and I generally operate in the first stage of anæsthesia. As regards instruments, I may state that I use all instruments except the snare.

Dr. Logan: What I have to say is in regard to the question of the age of the patient in deciding upon the use of an anæsthetic. General anæsthesia is not the only thing to be considered in adults. It is never my practice to give an anæsthetic, as I prefer to operate with the patient in full control of his faculties. I am inclined to agree with Dr. Thrasher in his statement that the dangers of chloroform anæsthesia are greatly exaggerated, and are due to the want of proper care in its administration. I prefer chloroform to ether for the reason that the irritating qualities of the latter make it very objectionable in operating upon the upper air-passages.

Of course, ether is to be used where any possible heart lesion exists. The instruments used by me are the curette, snare, and forceps. I think it advisable to use the finger nail, properly cleansed, for the removal of growths about the Eustachian orifices; this prevents injury to the tubes, doing away with the unfortunate sequelæ—namely, inflammation of the middle ear. The only way to prevent the return of these growths is to properly remove all portions of them. We are very apt to leave that part which is high up in the vault, expecting it to disappear in the healing process. When these growths have been properly removed, I have never known them to return.

Dr. Leland: The valuable papers which have been read by Dr. Hinkel, Dr. Bliss, and Dr. Delavan very strongly demonstrate that the subject of "adenoids" is not so threadbare as might be supposed.

I rise to mention one fatal case from hæmorrhage which occurred in the practice of a gentleman with whom I have been more or less intimately associated for a dozen years, and I might add that he is a very competent man. The patient, a child of eleven years, had had performed upon it the usual operation, seemed to have got along well, and by the end of a week had apparently recovered as far as is usual by that time. A copious hæmorrhage came on on the seventh day while the child was walking out of doors, and recurred once or twice, the last attack on the next day being fatal. I mention this case with the permission of the operator simply to add it to the eight cases collated by Dr. Hinkel. Details will soon be published.*

It seems, therefore, that we who are doing this operation, as it were, by the wholesale, must bear in mind that it is not wholly without danger, but that we must look forward to the possible necessity of meeting some dire contingency.

I am much interested in Dr. Bliss's explanation of hæmorrhage in some cases of this character. As I understand him, this lymphadenoid tissue extends into the clefts and fissures often found between the small laminæ of bone which we find at the junction of the vomer with the sphenoid bone at the very top of the nasopharyngeal vault, and perhaps even deeper into the body or cells of the sphenoid bone itself. This would seem to indicate that if the tumor is removed by a sharp cutting edge, as with the Gottstein curette, a thorough scratching of the surface with the finger nail to roughen up and crush what remains adherent to the surface would diminish the tendency to hæmorrhage. This procedure has been found to be efficacious in practice.

One thing which I did not quite understand in Dr. Bliss's communication is the explanation of the cause of the non-establishment of normal relations. I would like to say a few words explanatory of the principle upon which I have worked the last half-dozen years when dealing with this condition of obstructed nasal respiration. It is recognized that forced respiration through a more or less occluded nose is one of the factors in the production of this hyperplastic growth of adenoid tissue. It seems reasonable, therefore, that free nasal respiration should be determined as possible before this operation for the removal of adenoid vegetations is considered. The removal of an obstructive growth in the nasopharynx, as a rule, does not relieve an obstructed nose, and it has happened in my experience, and perhaps also in that of others, that a thorough removal of this growth has not brought about the result prophesied to the parents, nor the benefit desired for the patient, because of occluding engorgement of the intranasal structures. I have therefore adopted the plan of establishing the possibility of free nasal respiration before interfering with the adenoid growth, and have also been able to determine in cases of recurrence of these growths that the probable reason was, that nasal respiration was not established either by removal of the obstruction in the nose, or by correction of the habit of mouth breathing; and I can not recall at this moment a case of recurrence of the growth since I have worked upon this principle.

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* Secondary Hæmorrhage following the Removal of Adenoid Vegetations. By Wallace Preble, M. D., Cambridge, Mass. *Boston Medical and Surgical Journal*, May 19, 1898.

I have in mind a patient who was sent to me in the spring some half dozen years ago, it being the case in which was impressed upon me the working of the above-mentioned principle. The patient, a boy of about twelve years of age, had a nasopharyngeal adenoidal tumor which rested upon the velum palati, totally occluding the respiratory space; the nose also was stopped up by great thickening of the membranes. It was evident that if the ordinary operation for adenoids was performed, the obstruction in front of them would be in no way relieved. It seemed wise, therefore, to reduce the turbinated hypertrophy first, after which the usual brilliant result of the adenoid operation might be expected. I accordingly treated the intranasal thickening with acids as usual, and was much surprised to have the nasopharynx become absolutely free and clear without the necessity of further operative interference. This case was an eye opener to me, and I have since been able to do by design what was here done by accident.

The question of anæsthesia has also been brought up by Dr. Hinkel. I have not yet found it necessary to use any other anæsthetic than ether. I saw bromide of ethyl used exclusively in Rosenberg's clinic in Berlin for the induction of anæsthesia for the short operation by the Gottstein curette. There were no evil results. But I have been able to produce primary anæsthesia by the use of ether in what seems to be exactly the same manner, and I have not had occasion to desire to change. Chloroform (or even the A. C. E. mixture) seems sometimes to be more easily taken, but I have thought that the recovery is not so rapid—*i. e.,* that the protective faucial reflex is not so quickly efficient after the quick operation, and that for this reason ether is much superior to it.

Dr. Hopkins: The dangers attendant upon the use of chloroform have been forcibly set forth by Dr. Hinkel, and so impressive are the statistics that in spite of its many attractions chloroform must give place to the safer anæsthetic ether. I feel the force of this the more keenly because of a recent personal experience with chloroform, which was administered at the hands of an especially careful anæsthetist. The patient rallied, though for an interval which seemed almost interminable we both thought the child dead.

In reference to the recurrence of adenoids an important point has just been made by Dr. Leland, in insisting upon the necessity of being assured that the nasal passages are themselves free from obstruction. I called attention to this in a paper read before the Section on Laryngology of the New York Academy of Medicine in December, 1894, and further experience has confirmed its importance.

The general condition of the child also calls for attention. The patient is often of bad heredity and under poor hygienic surroundings, and if nothing is done to obviate this, recurrence is the more likely to follow.

As a curiosity, I will mention a case reported in the paper already alluded to. This child I operated upon under ether three times during a period of two years, and, especially after the first operation, effort was made to thoroughly clear the nasopharynx. I have recently been informed by my successor at the Manhattan Hospital that this patient has since been operated upon four times, making seven in all. Repeated microscopical examinations of the tissue removed show it to consist of simple lymphoid hypertrophy.

Dr. Makuen: The question of anæsthesia is certainly most important in these cases. Many times we feel called upon to do the operation when the necessity for it is not quite apparent to the patient or to the parents of the patient. The last case I had was that of the beautiful daughter of a physician, and the only symptom directly referable to the adenoid was a postnasal catarrhal condition, so slight as to give almost no inconvenience whatever; but she was a stammerer, and for this reason more than any other the operation was suggested. The father said it seemed a pity to etherize a child who was so well, and after that it required some courage to do it. I always look for adenoids in stammerers, and I always remove them when found. One child never stammered after the removal of the growth. Even though there be only a granular condition in the vault of the pharynx, great good often comes from curettement.

I am in the habit of giving a general anæsthetic only to children whose cooperation we can not secure. In adults I adopt the following method of cocainizing the vault of the pharynx. The patient is put on his back with the head hanging so that the vault will form a kind of cup with the adenoid in the lowest part. Then the cocaine is applied in the usual way and it will be thoroughly absorbed by the tumor and the adjacent tissue. If this method is pursued the operation may be done without much pain.

Dr. Farlow: With regard to the question of recurrence, I do not consider that statistics are of any great value. When a second operation is necessary, there is no doubt of the recurrence; but there are many cases where the rhinoscopic mirror can not be used and no digital examination is made, and the question of recurrence is determined by the reappearance, to a greater or less degree, of some of the former symptoms, which may or may not be due to a return of the growth. The narrow nose and the deflected sæptum, caused by the disease, remain after its removal, and are responsible for effects which are often erroneously attributed to recurrence. While methods of operation are so numerous, physicians differing so greatly in their thoroughness of operating, with subsequent examinations often not complete, and bearing in mind that it is very natural and probable that cases which recur should seek advice from some other physician than the one who has performed the operation, we are justified in saying that very little accuracy can be attributed to our statistics up to the present time.

The paper of Dr. Bliss is very important as showing in what cases, and why, we may expect recurrence, and also in emphasizing the fact that even a very thorough operation is not necessarily a safeguard against a future growth. I am in the habit of telling patients that recurrence is said to take place in three or four per cent. of cases, but that it is impossible to tell whether it will recur or not in any given case.

As regards methods of operating, I have always considered the finger nail as entirely inadequate to a thorough operation. Several years ago I had two brothers under my care with about equal amounts of adenoid hypertrophy. I operated on one with forceps and curette, and on the other with the finger nail only. The former has not recurred, whereas the latter has required another operation. I took pains to preserve the pieces removed from the two cases and showed the bottles containing them to the Society for Medical Improvement. It was very instructive to see the very large amount removed by instruments, perhaps twenty times as much as by the finger.

Dr. Delavan referred to the adenotomes or instruments which cut with a scissors-like motion, but omitted to speak of the Schütz pharynxtonsillotome, which does not cut like scissors, but is a guillotine, and in my hands has proved of great value in proper cases. It is the instrument which I showed before this society at its meeting in Washington last year.

With regard to the dangers of the operation, I have found it a great safeguard to have my private patients come to a private hospital near my office, where assistants, nurses, and medicines are at hand, where I can operate without hurry or loss of time, and where I can be summoned at a moment's notice in case of need.

Dr. Swain: Without wishing to unnecessarily prolong this discussion, which is very interesting, I would like to bring out two points—one anatomical, one in reference to operation. In the first place, I do not see how we can avoid having occasional recurrences. We remove the adenoid tissue, but we do not remove it all. I recall to your mind a section thrown on the screen yesterday by Dr. Wright, where the lymphoid tissue was shown in the deeper structures of the membrane. It is not like the faucial tonsil which, being circumscribed, can be removed completely, as in Dr. Farlow's specimen which he has shown us. Now, in the case of the pharyngeal tonsil, we have also an adenoid infiltration of the mucous membrane down below the vault. While we direct our efforts against the mass in the roof of the pharynx, we easily overlook the tissue of the same character which may run down to and directly behind the palate. In a recent case of a child five years old, I was pleased with the result of an operation in the vault of the pharynx, which was perfectly cleaned out, but I was far from pleased when some months later I found directly behind the palate a portion which is now enlarged to a marked extent. [Diagram on blackboard.] I do not see why this might not happen in many cases.

Another point that I should like to bring out is that we can not give too much attention to thoroughness in getting the adenoid tissue out, and this should be done as early as possible. This is in connection with Dr. Makuen's question as to when to operate.

I see in my native city a number of young men attending our university from all parts of the country, some of whom have been operated upon by members of this association in different sections of the country, and I am constantly called upon to either clean out what has been left by previous operation, or, more probably, what has developed since. This has always seemed to argue to me that I must be most thorough in my work on children, and this leads inevitably to the conclusion that a prolonged anæsthesia will allow of greater thoroughness. Hence I have always used chloroform as my favorite anæsthetic, rarely giving it very profoundly, and if I find, on inserting my finger, that the adenoid tissue is not all out, I put the patient under the anæsthetic again and again until I am satisfied that I have removed everything removable. I hope by this means to accomplish more than I ever could in a brief anæsthesia or with bromide of ethyl.

Dr. Bryan: There is one word I would say about operating before the patient is under complete anæsthesia. When the patient is only partially anæsthetized cough due to the excited state of the reflex will be an aid to the surgeon by preventing blood and particles of lymphoid tissue being drawn into the larynx and trachea. There is, however, an old theory that operations in the region of the fifth pair of nerves under incomplete anæsthesia are apt to be followed by shock, a theory which in my experience has not been borne out in practice.

Dr. Brown: I recognize fully the dangers of giving a general anæsthetic. I would ask Dr. Delavan if he considers it humane to put a patient in risk of his life by giving a general anæsthetic for a slight operation when other means will suffice. The statement has been made that chloroform is dangerous. When I am asked by the parents of a child as to the risk, I reply that it sometimes happens that there is a death after the operation, but it occurs very much more infrequently than from the anæsthetic. Nitrous-oxide gas I have used for several years for my operations. It is suitable for older children and those who can be controlled, but not for younger children. The nitrous-oxide gas is readily administered by a dentist; its effects are soon over, and it is harmless. I looked up the matter some years ago, and found that there had been in all six deaths, and on looking into the subject more closely, I also found that in all of these cases it had been administered by persons who were unaccustomed to giving the gas. The dentists say that there is no danger in experienced hands. Therefore we see that with a careful administrator there is not a particle of danger. It is an advantage where we wish to do rapid work to use gas; we can thoroughly remove the growth in a few minutes, as I can testify from personal experience. Of course if ether is harmless, we shall hail it with delight and the profession generally will be glad to take it up, but with ether it takes longer to get the patient under the influence. My opinion of ether is that we are likely to have more hæmorrhage with it than we are after chloroform, but I have had no experience and can give no statistics on that point.

As to the frequency of recurrence, I can not state positively in any case that it will not recur. In many cases the patient will return and we can make a satisfactory examination. In many others we can not. In some we may think there is a recurrence when there is not a return of the growth, but simply enlargement of the posterior turbinated bodies. In a number of cases that have been brought back to me by parents with the statement that growths have recurred, I have found either the pharynx quite free, or that an acute rhinitis had occurred a short time before the patient came back. This persisted and the swelling of the turbinal bodies had given rise to the obstruction. Therefore the opinion may be expressed that the growth had returned when it had not.

In one instance where I had removed the adenoids, a few winters ago, the patient returned to me the following winter, and the family physician stated that the adenoids had recurred. I gave the child an anæsthetic, and putting my finger into the pharynx, found it to be perfectly free from adenoids. I followed it with the Gottstein curette, and then explored it with forceps at the request of this gentleman, but found it perfectly clear. No doubt if I could have secured an examination with the mirror, I should have found the vault perfectly free, and that the difficulty existed in the nose.

As regards instruments, no one kind of instrument will entirely remove the growths. I am in the habit of using the Gottstein curette and forceps. I am almost ashamed to confess it, but I have been guilty of modifying the former. I had casts made of the vault of the pharynx in skulls of children, then had a curette adapted to the shape of the vault, and have found it to act perfectly well where I have used it.

Dr. Rice: With regard to the prognosis we should give to the family after operating upon these growths, I would say that we can always place ourselves in a safe position by stating that the child will not at once breathe easily through the nose. There are several reasons why the patient can not breathe immediately through the nose with freedom: First, the operation sometimes produces a catarrhal pharyngitis, and the instruments and ether cause symptoms of a severe cold. In winter time a child may be three or four weeks in recovering after an operation and in securing free nasal respiration.

As regards the results of the operation, one reason why we do not always get good results at once is on account of the narrowing of the width of the spurious maxillary bone, which by its upward pressure causes deflection of the nasal sæptum. Its abnormal relation to the inferior maxilla makes it difficult for the child to keep the mouth closed even though all postnasal adenoid has been removed.

Dr. Hinkel: I was interested in hearing Dr. Wagner's remarks yesterday as to his experience with the bromide of ethyl from the fact that he found the anæsthesia rather too brief. Dr. Roaldes has written me recently that he has given ethyl bromide in private practice and hospital work some twenty-five hundred times with satisfaction and without any accident. Several of our corresponding fellows, Dr. Gougenheim, Dr. Luc, and Dr. Moure, have written me that they have used it in tonsil and adenoid operations many hundreds of times with safety and satisfaction. But Professor H. C. Wood regards this anæsthetic as quite as dangerous as chloroform. It has, however, a much better record in this class of cases than chloroform, but it should be used with care.

Dundas Grant, who introduced the use of nitrous-oxide gas in adenoid operations, has written to me that in very young children he uses chloroform on account of the difficulty in administering successfully the nitrous oxide. There have been no fatal accidents recorded in nose and throat operations under this anæsthetic, and it is the only one of which this can be said. Dr. Walter Freeman, of Philadelphia, uses nitrous oxide quite frequently in adenoid and tonsil operations. He has told me that he has difficulty at times in administering it to timid children. If recovery occurs from the anæsthetic before the operation is complete, he does not hesitate to administer it a second time, though this contingency is to be avoided if possible.

I was rather surprised that Dr. Logan and Dr. Thrasher base their preference for chloroform on the grounds of safety. I think it does not admit of argument that chloroform is the most dangerous of the anæsthetics. It was the object of my paper to show that in adenoid operations it has been found to possess peculiar dangers with more fatalities proportionately than in general surgery. I should like to ask Dr. Thrasher what authority he has for stating that there is an increase in the danger from hæmorrhage after adenoid operations done under ether. I do not know of any statistics to this effect. Dr. Brown has referred to the danger of inflammation of the kidneys after the use of ether. Of course the condition of these organs should be ascertained before operating, and, if found diseased, chloroform could be used after a preparatory course of digitalis and strychnine. There was one death from ether reported by the *Lancet* Commission during tonsillotomy. No details were given. When listening to Dr. Swain's remarks on operating under primary anæsthesia, it occurred to my mind that the greater number of deaths from chloroform have occurred during the primary anæsthesia.

I have seen one case recently like that described by Dr. Swain where there was considerable lymphoid thickening low down on the posterior wall of the pharynx. In this case there was a recurrence of symptoms after an operation. They disappeared after a thorough curettement of this part of the pharynx.

Dr. Logan: I wish to correct one statement made by Dr. Hinkel—viz., that I said that ether would increase the hæmorrhage. What I did say was that the amount of secretion which followed the ether was an element of danger. I do not hesitate to use ether on account of risk of hæmorrhage.

Dr. Delavan: I have listened with great interest to the paper of Dr. Bliss. Instances of recurrence certainly do occur in cases where great care has been exercised in removing all lymphoid tissue from the vault at the time of operation, and where for some time after operation the vault has seemed to be normal. In my own experience, where recurrence has taken place, the tissue has appeared in the locality which Dr. Bliss has described, and not upon the posterior pharyngeal wall.

Dr. Hinkel's paper is very valuable at this time, for while the dangers of chloroform in the adult are becoming generally appreciated, there are many who still use it in the anæsthetization of children, believing it to be safe.

In speaking of anæsthetics here, I refer to their use with children, not with adults. Ten years ago I used chloroform exclusively, administering it in over two hundred cases. Two accidents, fortunately neither of them fatal, and the appearance of the well-known paper of Professor H. C. Wood, caused me to abandon chloroform and to rely exclusively upon ether.

Properly administered, ether is little more irritating than chloroform. Its effect upon the secretions of the throat will depend largely upon whether its administration is hurried at the beginning or not. Incomplete anæsthesia is not satisfactory. With complete anæsthesia the pharyngeal reflexes can be done away with and the complete clearing out of the pharynx thus perfectly accomplished. The administration of ether may involve some loss of time, both before and after the operation. During the operation, however, the conditions for satisfactory operation are perfect. Improvements in the administration of ether are being much discussed. The best of the recent methods is that lately introduced from England by Dr. Bennett, in which nitrous-oxide gas is first used and its effects followed up by the administration of ether. Dr. Thrasher's statement that the administration of ether is followed by pneumonia and œdema of the lungs is certainly not true so far as we are concerned. I have never heard of a case in which a child to whom ether has been given for the removal of adenoids has been attacked by either of these diseases, nor do I believe that others have. Far from being injured by the ether, children operated upon under it are usually remarkably bright and well within a few days afterward, and they continue to make rapid and steady improvement in many ways. I do not believe that ether causes any marked increase in the bleeding. If more blood flows with anæsthesia than without, it is largely because under the former condition more tissue is removed.

I have called attention to the fact referred to by Dr. Makuen—namely, that the removal of lymphoid hypertrophies has a marked effect in the relief of certain defects of speech, due not only to restoration of the normal space of the pharynx as a resonating cavity, but still more to the relief of catarrhal conditions and of the general relaxation of the parts which accompany them.

Dr. Farlow's recommendation as to the value of operating for the removal of adenoids in a private hospital is excellent, and it is the plan pursued by the best of the London surgeons. By it much loss of time and some risk are saved, and the general care of the patient can be conducted in the best manner. In some of the best infirmaries in New York city it is the custom to operate at the infirmary, and not to allow the patient to go home until the following day.

(*To be continued.*)

Book Notices.

BOOKS, ETC., RECEIVED.

The Principles and Practice of Hydrotherapy. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M. D., Visiting Physician to the J. Hood Wright Memorial (formerly Manhattan General) Hospital, etc. With Numerous Illustrations. New York: William Wood and Company, 1898. Pp. vii–435. [Price, $4.]

A Laboratory Guide in Uranalysis and Toxicology. By R. A. Witthaus, A. M., M. D., Professor of Chemistry, Physics, and Toxicology in the Medical Department, Cornell University, etc. Fourth Edition. New York: William Wood and Company, 1898. Pp. vi–111. [Price, $1.]

The Hygiene of the Voice. By Thomas F. Rumbold, M. D., Permanent Member of the American Medical Association, etc. With Twenty-seven Illustrations. St. Louis: Witt Publishing Company, 1898. Pp. 8 to 114.

Die Krankheiten des Mundes. Von J. Mikulicz, Direktor der chirurgischen Universitäts-Klinik, und W. Kümmel, Leiter der Universitäts-Poliklinik für Ohren-, Kehlkopf- und Nasenkrankheiten, in Breslau. Mit Beiträgen von A. Czerny, Direktor der Universitäts-Kinderklinik, und J. Schaeffer, Privatdozent für Dermatologie in Breslau. Mit 2 lithogr. Tafeln und 62 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. ix–253.

Transactions of the Association of American Physicians. Thirteenth Session, held in Washington, D. C., May 3, 4, and 5, 1898. Volume XIII.

Report of the President of the Washington Hospital for Foundlings to the Secretary of the Interior. 1898.

Report of the Freedmen's Hospital to the Secretary of the Interior. 1898.

Report of the President of Howard University to the Secretary of the Interior for the Year ending June 30, 1898.

The Management of Patients Before and After Laparotomy. By Frederick H. Wiggin, M. D. [Reprinted from the *Medical Record.*]

Notes on the Operative Treatment of Complete Vaginal and Uterine Prolapse; with Reports of Two Cases. By Frederick H. Wiggin, M. D. [Reprinted from the *Medical News.*]

Some Remarks concerning Rectal Affections, with Especial Reference to the Physical Exploration of the Rectum. By Lewis H. Adler, Jr., M. D., of Philadelphia. [Reprinted from the *Therapeutic Gazette.*]

The Aseptic Animal Suture; its Place in Surgery. By Henry O. Marcy, M. D., of Boston. [Reprinted from the *Journal of the American Medical Association.*]

Throat and Nose Affections and their Relations to General Medicine. By Walter F. Chappell, M. D. [Reprinted from the *Medical Review of Reviews.*]

Forceps and Curette for the Removal of Adenoids. By Walter F. Chappell, M. D. [Reprinted from the *Medical Record.*]

Endemic Leprosy in Louisiana, with a Logical Argument for the Contagiousness of the Disease. By Isadore Dyer, M. D., of New Orleans. [Reprinted from the *Philadelphia Medical Journal.*]

Flies as Spreaders of Sickness in Camps. By M. A. Veeder, M. D. [Reprinted from the *Medical Record.*]

Some Problems Solved. By R. W. Lowe, M. D., of Ridgefield, Connecticut. [Reprinted from the *Texas Medical Journal.*]

Irregular Gout. By James S. Kennedy, M. D., of Chambersburg, Pennsylvania. [Reprinted from *Gaillard's Medical Monthly.*]

Conservation of the Ovaries. By B. Sherwood-Dunn, M. D., of Boston. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Gravel. By J. Alexander Wade, M. D., of Danbury, Connecticut. [Reprinted from the *Toledo Medical and Surgical Reporter.*]

Latent Gout of the Menopause. By L. N. Wilson, M. D. [Reprinted from the *New England Medical Monthly.*]

The Employment of Solutions of Toluidin-blue as Collyria, and as a Stain for Corneal Abrasions and Ulcers. By Clarence A. Veasey, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

The Thyreoid, and Thyreoid Therapy. By Haldor Sneve, M. D., of St. Paul.

Miscellany.

The Outdoor Treatment of Phthisis.—Dr. T. S. Caverhill (*British Medical Journal*, October 1st), in a discussion on this subject before the British Medical Association, says that it is indispensable in the first place that the patient be informed of the nature of his disease. With the improvement in his symptoms, which is usually rapid, he loses his depression, and is soon thoroughly convinced that his only hope of safety lies in the most strict adherence to all its requirements. The physician regulates the supply of nourishment, and sees that it is consumed. He prescribes daily the amount of repose and exercise, and he keeps a close watch on the temperature and circulation. His authority must be unquestioned, and nothing must be done without his permission.

If a patient on admission is much reduced in body, with febrile symptoms, he is kept in bed, but with all the windows in his room wide open (or partially open if the weather is stormy); the room is thus flooded with fresh air, winter and summer, by day and night. After the first few days the patient is obliged to eat the prescribed quantity of food, which is usually considerable, even at that early stage.

When his temperature, always taken in the rectum, has been normal for a week, he is allowed to be outside in verandas or pavilions, and, when short walks are not followed by undue elevation of temperature, he gradually increases the distance to eight or nine miles, in which stiff hill climbing is often included. Walking must be slow, with frequent rests, and five hours a day are usually passed in this manner. The patient himself takes and marks his temperature on a chart four times daily—on waking, after exercise (morning and afternoon), and on going to bed—so that the physician, who usually visits him three times a day, can see at a glance the progress of the case.

Much was formerly made of frictions and cold douches in hardening the skin and increasing resistance to colds and catarrhs, but the use of the latter has been largely given up, and now hot or cold douches are given indifferently for purposes of cleanliness. It is remarkable how quickly the hardening process is brought about, and in a few weeks, sometimes even in a few days, patients can rest and sit about till bedtime with wet boots, stockings, and trousers or skirts. At Nordrach, in the Black Forest, thirteen hundred feet high, clothes and boots are seldom changed, even if damp, after the morning walk. Patients of both sexes sit at meals and lie down for the prescribed periods of rest, and only remove their wet garments on going to bed.

Such a procedure is only possible if the consumption of fat be large and the diet abundant. To withstand the cold and exposure to draughts and stormy weather, and to oppose the enfeeblement and wasting induced by the disease, it is necessary to eat largely, first, of fats, usually butter; secondly, of sweets, farinaceous foods, and vegetables; and, thirdly, of nitrogenous foods. The two former must always be taken in full quantity. Repugnance to food is often a psychical condition; it is the function of the physician to overcome this, as well as to stimulate the stomach, which has become weakened by a too-limited dietary, both in quantity and variety.

The main features of the treatment, then, are mental and bodily rest, regulated exercise (walking or hill climbing), overfeeding (or what seems to the patient overfeeding), principally with fats, vegetables, and farinaceous foods, and finally abundant fresh air. In a short time the indications of improvement are apparent. These are: (1) loss of night sweats; (2) feeling of well-being; (3) increased appetite and a gain in weight of from two to five pounds a week in the first month; (4) increased ease of respiration, diminution of cough, and of the tendency to catch colds and catarrhs; (5) rapid improvement in the power of walking and hill climbing; (6) often rapid diminution of fever.

Of the Nordrach treatment referred to, Dr. R. Mander Smyth, in the same issue of the *Journal*, gives an interesting account. He says that he became acquainted with the existence of this institution about five years ago through the illness of a relative, and was later himself a patient there, a sufferer from acute phthisis, having after recovery enjoyed the privilege of assisting Dr. Walther in his work.

It may appear strange, he says, that an institution so successful, beset by applicants at all seasons, should have remained so much unmarked by the medical profession in Germany, as also in England. The reason is chiefly the careful avoidance of publicity by the physician and the remote and private nature of the institution, which for the sake of the patient's quiet is not open for every visitor to make a stay in.

He is able to state as the result of his own observations that though the cases treated are probably of a more advanced nature than those of better known sanatoria, and certainly than those sent to great altitude resorts, the results are actually far better than those obtained in these places.

In reading some recent favorable statistics of treatment in high altitudes one is struck by several things. One is the very high proportion of cases in the first stage of phthisis; in the instance he refers to, sixty-five per cent., as compared with about twenty-seven per cent. in one of the larger German sanatoria. These cases, it is not too much to say, are rarely seen at Nordrach. Yet the average length of treatment in high altitudes was about twelve months, whereas the average for all cases at Nordrach is about five months.

He cites as a good test of the results of treatment the case of an English doctor who was the subject of advanced disease, and had tried in turn a voyage to South Africa, a residence in the Riviera, and the English south coast. He made a complete recovery at Nordrach, returned to London, and there soon fell ill with typhoid fever, losing forty pounds in weight and suffering from double pneumonia as a complication. Instead of old cavities bursting into activity, as one might have supposed, the lungs emerged perfectly sound from the trial, he regained the weight lost, and now, nearly three years since, he maintains robust health in full work, is able to take long bicycle rides, and to lead a perfectly active life.

Extreme purity of the air, though desirable, is not of such prime importance as has been supposed. He has seen better progress on Nordrach lines made by patients in the dust-laden atmosphere of great cities than one would have expected them to make in the Alps; and he has at present a case under observation, in a great Midland manufacturing town where the leaves of trees become covered with a thick deposit of dust, making the most striking advance under very disadvantageous circumstances.

It is indeed greatly to the credit of Dr. Walther that he has been the first to teach the absolute unimportance of the weather, however bad, in the production of a common cold, which he believes to be due to an infection somewhat similar to influenza, and also with regard to the state known as a "chill," loosely used by the laity to mean, as a rule, nothing, sometimes a cold or a rigor, but which as applied to consumptives in nine cases out of ten is a definite though insidious relapse due to overexertion, and marked by pyrexia and increased expectoration.

If Nordrach taught us no more than this, he says, it would still be worthy of distinction, and it is necessary to be very clear about these facts, because there is an extraordinary confusion of ideas on the subject. These "chills" occur frequently enough in the populous health resorts, from simple lack of measures for their prevention. Common colds occur, also, accompanying civilization, though he does not believe more frequently in consumptives than in other classes of people. The overexertion "chill" or relapse rarely happens at Nordrach, because the small number under supervision renders it possible to guard against it, and great care is taken that this is done. A fresh acute cold or catarrh is never seen at Nordrach, because the isolation and the open-air life render the chance of direct infection practically impossible; but when occasionally a cold is taken, it is transmitted from a visitor or some member of the staff, and can be traced to the village or station below. A remarkable confirmation of this theory was afforded by the analogy of an outbreak of influenza last winter traced to a traveling peddler in the valley. Many members of the staff were infected, some quite severely, while not one of the patients, who are constantly exposed to draughts and all weathers, was attacked.

Nor are fresh attacks of bronchitis, pleurisy, and other complications so common in the progress of phthisis, and so often attributed to "fresh cold," ever seen at Nordrach. Where all are making progress toward recovery, symptomatic treatment is reduced to a minimum, and drugs are therefore hardly ever called for.

It is apparent that if the risk of colds and "chills" from exposure can be disregarded, all difficulties in the way of enjoying the fresh air, even in the most changeable climate, such as our own, are at an end. At Nordrach, therefore, no unnecessary "hydrotherapy" or "acclimatization" is indulged in. Patients are at once encouraged to discard overcoats, mackintoshes, and all heavy clothing, in walking, whatever the season of the year, though for the sake of comfort they may wrap up as much as they like while at rest, but with open windows. No regard is paid to wearing sound boots or keeping the feet or clothes dry, nor even to wearing flannel next the skin, the patient's comfort being his guide in such matters.

Sandals or thin canvas shoes are often worn in winter to prevent chilblains, and in summer on account of the heat. These are soaked through in the first puddle. Personally, in common with others, he practically never wore an overcoat during the last two winters either in England or Germany, and in the country rarely a hat, nor carried an umbrella. He has, while a patient, worn wet shoes for days together, sat by open windows for hours in draughts when the temperature of the room was at freezing point, waded in ice-cold water, etc., on purpose to test the truth of this infection theory. But, like the schoolboy, who also tried similar means to get a bad cold and play truant, he failed entirely, neither did any other evil follow. It is in truth certain that no harm need be apprehended from an absolutely fearless exposure of consumptives to any weather, in our country as on the Continent, provided overexertion is avoided. A strong wind is not injurious *per se.* It is only in walking against it that a patient is liable to dyspnœa and fatigue—in a word, overexertion. At rest there is no harm, but always good, to be obtained from the free draught.

The Moral Effect of Hypodermic Injections In Phthisis.—According to an editorial in the *Therapeutic Gazette* for October 15th, Dr. H. P. Loomis says that one can not but be impressed with the moral effect which hypodermic injections have on some patients. He has seen, in neurotic patients, fever leave and weight increase under daily hypodermics of water.

The Relation of Cancer to Syphilis.—Mr. W. Roger Williams, F. R. C. S. (*Edinburgh Medical Journal,* October), in an article on The Influence of Other Diseases upon Cancer, says that in the course of his investigations into the life history of cancer patients he has been struck with the extreme rarity of *syphilis* in such persons. Of a hundred and sixty-five female breast-cancer patients examined by him, not a single one presented undoubted signs of having had syphilis. Of a hundred and sixty uterine-cancer patients, similarly examined, only one presented signs of having had syphilis.

From the foregoing, and from other indications of like import, it may be inferred, he thinks, that the victims of constitutional syphilis are much less prone to cancer than the non-syphilitic. This comparative immunity of the syphilitic is probably due to the depraved nutrition and lowered vitality caused by contamination of the system with the syphilitic virus.

His Heart in his Boots.—According to the *Lancet* for October 8th, an amusing story was related by Surgeon-General Jameson at the dinner to Professor Virchow on Wednesday evening last. Lieutenant-Colonel Sloggett, of the Royal Army Medical Corps, was shot at Sir H. Kitchener's great battle, the bullet entering immediately above the left nipple. The ordinary aseptic dressing was applied and the wound healed in three days. When he reported himself to the director general in London, Surgeon-General Jameson asked him how it was that the bullet did not enter his heart, and remarked that Lieutenant-Colonel Sloggett ought to apologize for being alive. The latter replied that he thought his miraculous escape must be accounted for by the fact that his heart was in his boots at the time!

The Appleton Prize, consisting of twenty-five dollars' worth of Messrs. D. Appleton and Company's medical publications, offered annually by that firm to the candidate passing the best examination before the board of medical examiners of the State of South Carolina, was won this year by Dr. Rolfe E. Hughes, of Laurens.

Urticaria of Mucous Membranes.—M. de Moncan (*Gazette hebdomadaire de médecine et de chirurgie,* October 6th) presented to the Anatomico-clinical Society of Lille the case of a young girl twenty-one years of age who suffered day and night in the form of crises from pricking of the eyes. The palpebral conjunctiva was œdematous, with some photophobia and lacrymation. At the same time there was heat in the head, pain in the vertebral column, and a sensation of suffocation. Speech was labored. The access lasted about half an hour. The patient rarely had two attacks consecutively. Sometimes the attacks took their rise from the labial mucosa. The ætiology was vague and there were no important antecedents. Symptomatic treatment by atropine was instituted.

Tennyson's "In the Children's Hospital."—Mr. G. R. Turner, F. R. C. S. (*Lancet,* October 8th), in his address at the opening of St. George's Hospital, London, said that not only Dickens and Thackeray have been hard on the medical student, but Tennyson, in his poem, In the Children's Hospital, has been unfair to surgery. Thousands have read the poem and pictured the surgeon; very few are aware that Tennyson expressed to the late Sir Andrew Clark his regret that he ever wrote it.

Mosquitoes and Malaria.—Dr. William S. Dodd (*Medical Record,* October 8th), writing from Talas, Asia Minor, says that ten years ago that town, which is four thousand feet above the level of the sea, was entirely free from malaria. To-day that trouble is exceedingly common, although there are no mosquitoes, neither has there been any upturning of the earth, even on a small scale. The soil forms only a thin covering over the rocks, except where there is no covering at all. The climate is painfully dry, and there are no trees except in irrigated gardens. He has made no examination for plasmodium, but the symptoms are typical, and the effect of quinine and arsenic on the disease leaves no doubt as to the correctness of the diagnosis.

More Cases of Maternal Impression.—Referring to previous publications on this subject, Dr. F. F. Chaffee, of Chicago, sends us the following additional case, which came under his own personal observation: A mechanic, while working at a jointing machine, had his left hand caught, and instantly lost three fingers, the middle finger and thumb alone remaining. While on his way home from the shop where the accident occurred, a woman two months pregnant met him, and, although she did not then see the wounded member, the family discussed the exact extent of the wound. She was much exercised at the time, and when in due course delivered of a healthy male child his left hand was found to be the exact counterpart (except in size) of the one that had so impressed the mother.

Dr. A. M. Riggs, of Russellville, Tennessee, vouches for the truth of the following: During the year 1891 a freak, known and advertised as "the half man," appeared in one of the mining towns of East Tennessee as the central attraction of an exhibition to be given at night in the local town hall. Mrs. A., Dr. Riggs's near neighbor, attended the performance, and occupied a seat near the stage. When the curtain rose the "half man" was revealed, supported only by his abnormally long arms; his huge hands, which served him as feet, tightly grasping a pole elevated several feet from the floor, and extending across the stage. Mrs. A. at this time was one month pregnant, and at her maturity was delivered of a child the exact counterpart of the "half man," with long, well-developed arms, large hands, and legless trunk. There were, however, two rudimentary legs, very small, inclining inward, lying close to the surface of the trunk. The monstrosity lived only about an hour.

Dr. Riggs offers the following suggestion relative to these cases, which he believes to be a correct one—namely, that every mother that birth-marks her child is easily susceptible to hypnotic influence—is, in other words, a "natural psychic" or hypnotic subject. Physicians, says Dr. Riggs, who have had experience in hypnotic work, and who are familiar with the labors of the London Society for Psychical Research, will, he thinks, readily admit the probable correctness of his theory.

A Defense of Lieutenant-Colonel Girard.—As a set-off against the wholesale abuse that has been hurled at Colonel Girard, whose able letter on the management of Camp Alger and Camp Meade appeared in our issue for September 24th, the *Journal of the American Medical Association* for October 15th prints a letter from a volunteer surgeon which pays a high tribute to the capacity of Colonel Girard and to the energy and skill he displayed in rapidly and completely overcoming almost insuperable obstacles.

The Saturday Review on the Spanish-American War.—According to the *Lancet* for October 8th, the *Saturday Review* of October 1st contains the first of what promises to prove an interesting series of articles on the above war by "an eye-witness." It is certainly lamentable to read of the state of things which apparently prevailed among the American troops. The writer says that the saddest instance of American official blundering was connected with the army medical department, with which he proposes to deal in his article next week—the current number of the *Saturday Review*.

Mississippi Valley Medical Association.—The following officers were elected at Nashville of the Mississippi Valley Medical Association: President, Dr. Duncan Eve, Nashville, Tennessee; first vice-president, Dr. A. J. Ochsner, Chicago, Illinois; second vice-president, Dr. J. C. Morfit, St. Louis, Missouri; secretary, Dr. Henry E. Tuley, Louisville, Kentucky (111 West Kentucky Street); treasurer, Dr. Dudley S. Reynolds, Louisville, Kentucky. Next place of meeting, Chicago. Chairman of committee of arrangements, Dr. Harold N. Moyer. Time of meeting, October, 1899, date to be determined by the executive officers and the chairman of the committee of arrangements.

The Treatment of Pruritus Ani.—Dr. J. M. Mathews (*Love's Medical Mirror*, October), in a paper on this subject read to the Louisville Surgical Society, reports two very interesting cases of this troublesome, and apparently at times serious, complaint. The second of these cases was a very peculiar one. The patient came to see him one day, and some ladies waiting in the office told him that a wild man had called, and said that he would return later, perhaps in the course of an hour or two. He soon came back, and Dr. Mathews himself thought him insane. He was crying, and in detailing his case said that he had been suffering from this pruritic affection for several years; that he had had all manner of treatment; that on a previous occasion some surgeons had given him chloroform and divulsed his sphincter muscle. He was suffering from partial incontinence of fæces from the effect of divulsion of the sphincter muscle. He said if the doctor was not positive he could do him good, he would rather it should not be attempted, and in the same breath that if he did not get well he would commit suicide. He was thirty-five years of age, a business man, and asserted that he could not attend to his business because of the intense agony he suffered; that it interfered with his business, for that when he had the disposition to scratch himself he was forced to do so even in the presence of ladies; that he could not sleep; that his life was a torment; that he believed he was going insane. Several authors report cases of insanity resulting from pruritus ani, and the author reported one to this society several years ago.

The patient was sent to the Norton Infirmary about noon one day, and later in the day the doctor received a telephone message stating that the patient was acting very queerly, and asking what was the matter with him, whether he was crazy, etc. He was chloroformed on the morning of the second day after being put in the infirmary, and a circular incision was made with a radius of about three inches, going up on the perinæum and back as far as the sacrum laterally. Then a careful dissection was made of the skin and tissue to the depth of a quarter of an inch, going down to the rectum; dissecting it loose and pulling it down to the extent of nearly an inch, it was cut off. The bleeding vessels were simply twisted and no mucous membrane was united, as there was nothing to unite it to. This made a very extensive wound. The man remained in the infirmary about four weeks. From the moment the incision was made to the present time the patient has never itched a particle, and he was comfortable the next day after the operation.

There never was after the operation the least disposition to itch or scratch. He was kept there until the entire wound had healed, and the skin had grown freely over it, when he was allowed to go home. The author has heard from him since, and he says he has been perfectly and radically cured.

Dr. Mathews says that many authors take the position that pruritus is the result of irritation caused by a discharge of some kind from the rectum, and is therefore, but a symptom of hæmorrhoids, internal fistula, proctitis, etc. He does not believe it. He believes that the itching resulting from a rectal discharge is easily cured, and that it would get well of itself by curing the cause of the trouble. The vast majority of cases of pruritus he has met with have never been associated with any other rectal disease; there has not been a discharge such as is spoken of by most authors. Therefore he has always believed that there was an irritation, *per se,* of the peripheral nerves themselves, brought about he does not know how, and that by destroying them, as by the actual cautery, or by dividing them, as by incision, this persistent and often long-standing pruritus could be cured. Therefore he recommends that with cases of this character no time be wasted by using local applications, but that the patient be subjected to surgical treatment. He does not mean the simple cases, but the persistent cases, such as the two he has reported. He prefers careful dissection to the application of the actual cautery.

He says, however, that there is one class of patients who suffer from pruritus who should not be subjected to this method of treatment—namely, the tuberculous patients. They often suffer from pruritus, and if so much tissue was removed the wound might prove an indolent one and refuse to heal, and consequently the patient would be put in a very distressing condition.

The Importance of Feeding the Soldier.—The *Lancet* for October 8th says that the Sirdár evidently agrees with Marshall Saxe that an army marches on its belly, for he specially alludes in his late dispatch to the excellent way in which the soldiers composing his force were rationed in the field and to the favorable effect this had in fortifying their health and strength. If an army is well fed and looked after, suitably clad and not habitually overworked, it is generally healthy, although it can not, when the excitement of the struggle is over, be expected to escape altogether the sickness incidental to campaigning in a hot climate. As so frequently happens, no sooner is the nervous exertion and strain over than the troops begin to manifest and harvest the sickness they have contracted during active operations in the field.

Sir Herbert Kitchener on the British Medical Staff.—The *Lancet* for October 8th says that the medical services—British and Egyptian—are to be congratulated on the handsome way in which they are mentioned in his dispatch:

"The medical department was administered with ability and skill by Surgeon-General Taylor, principal medical officer, who was well assisted by Colonel Macnamara, while the medical organization of the Egyptian army fully maintained its previous excellent reputation, under the direction of Lieutenant-Colonel Gallwey and his staff. The general medical arrangements were all that could have been desired, and I believe the minimum of pain and maximum of comfort procurable on active service in this country was attained by the unremitting energy, untiring zeal, and devotion to their duty of the entire medical staff."

Chorea and its Treatment.—Dr. Moncorvo, of Rio Janeiro (*Pædiatrics,* October), thus sums up an interesting paper: From observation of the foregoing cases, and of others elsewhere described by me, I have drawn the following conclusions: 1. The frequency with which nervous and other symptoms are met with in chorea places beyond doubt their influence as ætiological factors. 2. Hysteria appears to exercise a marked influence on the onset of chorea, so much so that some authors have regarded the latter as a form of it. 3. According to certain writers who have remarked the close connection between chorea and the infectious diseases common to childhood, it would seem possible that the former is but a secondary affection, the sequel of these virulent diseases. 4. On the one hand, the close relation between chorea and rheumatism, so long admitted by clinicians of the highest standing, and, on the other, the bacteriological nature of rheumatism as proved by Achalme, Thiroloix, Triboulet, Coyon, and Ladoc, lead me to see in chorea only the cerebro-medullary tendency of a rheumatic infection developed in a hysterical or neurasthenic temperament. 5. Of the numerous remedies to which resort has been made in the treatment of chorea, I give the preference to those derived from the aromatic plants, such as antipyrine (the proper dose of which I have determined), exalgine, asaprol, and analgine, whose curative action in the treatment of chorea I was the first to demonstrate. 6. While these remedies have been of undeniable efficacy in the treatment of rheumatism, it is equally true that under their action all choreic manifestations disappear within the space of from eighteen to fifty days. 7. My personal observations have assured me of the successful outcome of this treatment, at least in the case of children whose subsequent history I have been able to follow.

The Notification of Tuberculosis in New York.—Dr. H. A. Caley (*Lancet,* October 8th), in his address at the opening of St. Mary's Hospital Medical School, London, says that the advisability of making tuberculosis a notifiable disease has been much discussed; no drastic steps in this direction seem practicable or even desirable, but in his opinion regulations for a modified notification, similar to those in force in New York since 1893, might with advantage be adopted in this country, particularly in our large cities. He refers to the regulations of the New York Board of Health, by which the authorities of all public institutions were *required* to notify all cases of pulmonary tuberculosis and all private practitioners were *requested* to do the same, every facility being at the same time afforded for bacteriological examination of tuberculous cases at the public expense, for efficient disinfection by the sanitary authorities, and for actual renovation of premises which had been occupied by phthisical patients. Such measures would probably, in time, pave the way for more comprehensive measures, as has been the case in New York. Since last year, 1897, the notification of tuberculosis has become compulsory in that city—a broad distinction being, however, intentionally made between it as a "communicable" disease and the common infectious fevers. The death-rate from all tuberculous diseases in New York has fallen from 4.42 in 1886 to 2.85 in 1897, and, according to Dr. Herman Biggs, who has done so much to bring this about, the present year promises to chronicle a still more decided advance in the same direction.

The Behring Patent.—According to the Berlin special correspondent of the *Lancet* for October 8th, Professor Behring's application for a patent for his antitoxine, which was so severely criticised in a leading article in the *Lancet* of August 27th, has been much discussed in the German newspapers, both lay and medical. The charges made by the American papers induced Professor Behring to declare in a periodical published in Marburg, his place of residence, that he did not concern himself about what the American chemists had said against him, because they had spoken *pro domo.* His claim for a patent was legal, and he could not understand that to make profit out of an invention in a legal way might be an immoral action. The American public would not suffer in consequence of his patent, as the serum would now be obtainable of better quality and at lower prices than before. These views of Professor Behring are strongly disapproved of by the *Münchener medicinische Wochenschrift,* the leading medical paper of South Germany, which maintains that some methods of making money, though legal enough in themselves, are nevertheless impossible for a medical man who desires to conform to the laws of medical ethics. The criticisms of the American and English press were to be regretted, but were not unfounded. Among the leading non-medical papers, the *Berliner Tageblatt* has severely blamed Professor Behring. In an article entitled Science and Business, a medical contributor to this periodical asked: "What would have become of the ophthalmoscope if Helmholtz had made a claim to patent his invention? What would have become of the methods of immunization devised by Pasteur, or of the antiseptic dressing introduced by Lord Lister, if these gentlemen had acted like Professor Behring? Medical men ought not to be dealers in medical commodities." To these charges Professor Behring has replied, writing in the *Deutsche medicinische Wochenschrift.* In his usual plain language he said that Helmholtz of course could not have attempted to patent the ophthalmoscope as there were no patent laws at that time; what Pasteur and Lord Lister would have done, supposing that it had been possible for them to obtain a patent for their discoveries, he really did not know, and he wished to ask if the medical correspondent of the *Berliner Tageblatt* knew. From his personal acquaintance with those two gentlemen he thought himself entitled to suppose that they would have declined to defend the interests of foreign traders. He went on to mention that he did not belong to the medical profession in the strict sense of the term, as he was not engaged in medical practice and did not attend patients. He had therefore to provide means for continuing his experiments, and he was the more compelled to do so as he had received no assistance from the public in his studies. In France more than 1,000,000 francs (£40,000) were collected by the French nation and 200,000 francs (£8,000) were given by the government to the Pasteur Institute. On the other hand, what had been done in Germany? He would not have been able to continue his work if the Höchster Farbwerke had not supplied the necessary means, and he must confess that an inventor in Germany would risk very much if, relying on the gratitude of the nation, he should neglect to look after his own interests. The American public, he repeats, would benefit by the monopoly because the Höchst factory would now sell a better antitoxine and charge no more than the American chemists. An answer to this argument was published in the *Allgemeine medicinische Centralzeitung* by a writer who declares that there was no need for Professor Behring to experiment at his own expense, as there is a special state laboratory for such studies, and that his remarks about the ingratitude of his countrymen were quite uncalled for, because very soon after he made his discovery he was not only appointed an ordinary professor with a fixed salary, but was also left at liberty either to lecture or not to lecture entirely at his own option. With regard to tuberculin, Germany had shown an enthusiasm which unfortunately was not justified by the results, and in consequence the public had learned to be more reserved. According to the author of this communication, Professor Behring was well provided for at the time when he applied for a patent in the United States. It will thus be seen that the controversy is rather animated.

The Wyoming State Medical Society.—The second annual meeting will be held on Tuesday, November 1st, in the superintendent's office of the Wyoming General Hospital at Rock Springs, Wyoming. A rate of one and one fifth fare over the Union Pacific lines has been granted to those desirous of attending the meeting. The programme is as follows: *Morning Session:* (1) Address of welcome, by Hon. W. K. Lee, Mayor of Rock Springs; (2) Response to address of welcome, by C. H. Solier, M. D., Superintendent of the State Hospital for the Insane, Evanston; (3) President's Address—The Importance of Closer Scientific and Fraternal Relations, by R. Harvey Reed, M. D., of Rock Springs; (4) Anæsthesia, by E. E. Levers, M. D., of Almy; (5) Peliosis Rheumatica, by H. M. Bennett, M. D., of Rawlins; (6) Epidemic Cerebro-spinal Meningitis, by J. F. Leeper, M. D., of Casper; (7) Clinic, by R. Harvey Reed, 11 a. m. *Afternoon Session:* (8) Suppurative Diseases of the Accessory Sinuses of the Nose, by William Winthrop Betts, M. D., of Salt Lake City, Utah; (9) Auto-intoxication, by E. Stuver, M. D., of Rawlins; (10) Acute Broncho-pneumonia in Children, by C. P. Hough, M. D., president Rocky Mountain Interstate Medical Association, of Salt Lake City, Utah; (11) Report of a Case of Foxtail Infection, by Robert C. Chamberlain, M. D., of Rock Springs; (12) The Radical Treatment of Diseases of the Hip Joint, by Charles G. Plummer, M. D., of Salt Lake City, Utah; (13) The Prophylaxis of Puerperal Infection, by C. H. Solier, M. D., of Evanston, Wyoming; (14) How Does the Cause of Disease Produce Disease?—A Further Study, by G. M. Russell, M. D., of Dixon.

Prejudice Run Mad.—The *Philadelphia Medical Journal* for October 22d says that according to the *Lancet,* during the course of the complimentary dinner that the medical profession of Great Britain and Ireland tendered Professor Virchow on the occasion of his recent visit to England, an anonymous telegram was handed to the illustrious guest, containing the following words: "Get thee hence, vile vivisector! England spurns thee!"

Original Communications.

THE RELATION OF SUPPURATION TO SHORTENING OF THE LIMBS IN TUBERCULOUS DISEASES OF THE HIP JOINT.

A STUDY OF ONE HUNDRED AND SIX CASES.

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Suppuration in connection with tuberculous disease of the hip joint and the relation it bears to the shortening of the limb can only be determined by a study of cases of both varieties of the disease existing under similar conditions and being treated by the same methods.

The tabulated report of the following number of cases, one hundred and six in all—forty-seven of the non-suppurative variety, Table I, and fifty-nine of the suppurative variety, Table II—is made with the object in view of determining this question.

The writer realizes that conclusions based upon a clinical study of so small a number of cases can not be considered final, but hopes that such study, and the conclusions drawn therefrom, may be of some value in the final determination of this question.

These cases were patients of the New York Orthopædic Dispensary and Hospital at the time the measurements and notes were taken; and all of the cases there in which the disease had existed two years and upward which the writer could see and measure during a period of several months are included in this report, with the exception of cases in which bone had been removed by some operative procedure, and two or three in which the deformity was so great that correct measurements could not be taken. The measurement of the limb was taken from the anterior-superior spine of the ilium to the internal malleolus.

The mechanical treatment as effective in the production of the conditions found to exist is represented in most instances by the length of time they were under the care of the above-named institution, and was by the traction method, as applied by the long traction hip splint. In only twenty-six cases had there been any previous mechanical treatment; and in these, so far as it could be determined, it was of little consequence, except in one instance, Case XXXI, Table I, which was treated in St. Luke's Hospital for two years previously, and, as the method used was the same as in the others, this is not considered as previous treatment.

The greater number received only the care of dispensary patients, only a small percentage having had any hospital treatment. The abscesses in those cases of the suppurative class, when the abscess developed while under the care of the dispensary and hospital, were treated, in most instances, by the non-interference plan, being allowed to open spontaneously, when opening occurred, and to continue uninterfered with through their entire course. That abscess may develop at some future time in the course of the disease in those cases classed as non-suppurative is to be expected. Still, this does not lessen their value in the determination of the question in hand, as abscess could not have been a determining factor in the amount of shortening found to exist at the time the observations were made. The arrangement of the cases in Tables I and II is such as to afford the reader, in brief, a complete history of each case; while Tables III and IV, based respectively on Tables I and II, deal with the cases only from the standpoint of the duration of the disease, the amount of shortening, and the duration of treatment.

There was no shortening in three cases, or 6.38 per cent., of the non-suppurative class, and in six cases, or 10.16, of the suppurative. Two of the latter number had, respectively, five eighths and three fourths of an inch lengthening. Three, or 6.38 per cent., of the non-suppurative, and fourteen, or 23.72 per cent., of the suppurative class had less than half an inch; fifteen, or 31.91 per cent., of the non-suppurative, and fourteen, or 23.72 per cent., of the suppurative, from half an inch to an inch. Eight, or 17.02 per cent., of the non-suppurative, and fourteen, or 23.72 per cent., of the suppurative, had from an inch to an inch and a half. Eight, or 17.02 per cent., of the non-suppurative, and five, or 8.47 per cent., of the suppurative had from an inch and a half to two inches; five, or 10.62 per cent., of the non-suppurative, and three, or 5.08 per cent., of the suppurative, from two to two inches and half; four, or 8.51 per cent., of the non-suppurative, and one, or 1.69 per cent., of the suppurative, from two inches and a half to three inches; and one, or 2.13 per cent., of the non-suppurative, and two, or 3.38 per cent., of the suppurative, from three to four inches. Exclusive of the number that have no shortening, seventy-one per cent. of the suppurative class and only fifty-five per cent. of the non-suppurative class have less than an inch a half shortening.

Thus it is seen that whatever effect the process of suppuration may have had upon other conditions found to exist in these patients, it has not been that of causing shortening of the limb, as those cases which have never had suppuration in the course of the disease in the majority of instances have a greater amount of shortening.

The course of tuberculous disease of the hip joint is so much an individual matter that general statements in regard to any feature of such cases are liable to be more or less inaccurate. However, it seems reasonable to credit with considerable accuracy conclusions based upon a study of cases similar as regards the most important conditions affecting them. This similarity will be found to exist in a general way as applied to the whole number of cases, while a study of individual cases comparatively, both as regards the duration of the disease, treatment, and the efficiency of the treatment as

TABLE I.—*Non-suppurative Cases.*

Case No.	Sex.	Age.	Hip diseased.	Duration of disease.	Short'ning of limb.	Duration of treatment.	Length of time in hospital.	Attendance at dispensary.	Previous treatment.	Notes.
		Years.		Years.	Inches.	Years.	Years.			
1	F.	28	Right.	4	1¼	1	....	Regular but infrequent.	Different methods.	
2	M.	9	Left.	6	¾	5	4	Regular and frequent.	No mechanical.	
3	M.	9	Right.	4½	⅞	1½	....	Regular.	Different methods.	
4	F.	20	Left.	5	⅞	3½	....	Regular.	No mechanical.	First attack, three years; second attack, two years.
5	M.	12	Left.	6	¾	3	3	....	No mechanical.	
6	F.	16	Left.	11½	1½	11¼	....	Regular.	No mechanical.	
7	M.	5	Left.	3½	1	3¼	....	Regular.	No mechanical.	
8	F.	10	Right.	2½	None.	2	2	....	No mechanical.	
9	M.	14	Right.	11	2½	10¾	....	Regular but infrequent.	No mechanical.	
10	M.	14	Left.	9	3	8½	¼	Regular but infrequent.	No mechanical.	
11	F.	13	Left.	11½	¾	10½	....	Regular.	No mechanical.	
12	F.	8	Left.	4½	⅜	4⅙	....	Regular and frequent.	No mechanical.	
13	M.	15	Left.	2	¾	2	2			
14	M.	11	Left.	6	1⅝	5½	3	Regular.	No mechanical.	
15	F.	12	Left.	7	1¼	7	....	Regular and frequent.		
16	F.	13	Right.	7½	1	4	....	Irregular attendance.	Different methods.	
17	F.	10	Right.	7½	1½	5½	....	Irregular.	No mechanical.	
18	M.	11	Right.	6	2¼	6	....	Regular and frequent.		
19	F.	5	Right.	3	⅝	2¾	....	Regular and frequent	No mechanical.	
20	M.	17	Left.	15	2⅞	14½	....	Regular.	Different methods.	
21	M.	6	Left.	3⅓	None.	3	....	Regular.	No mechanical.	
22	M.	14	Right.	12	1⅞	4	3	Regular and frequent.	No mechanical.	
23	M.	3½	Right.	2⅓	¼	1⅚	....	Regular and frequent.	No mechanical.	
24	M.	10	Left.	9	2	9	2¼	Regular.		
25	M.	14	Left.	10⅔	2¾	10	¾	Irregular.	No mechanical.	
26	M.	15	Right.	5	1¾	2	2	....	Different methods	
27	F.	9	Right.	5	¾	3	3	....	No mechanical.	
28	F.	10	Left.	5	½	2	2	....	No mechanical.	
29	F.	23	Right.	3¼	½	1⅓	....	Regular but infrequent.	No mechanical.	
30	F.	7	Right.	5½	⅜	3½	2	Regular.	No mechanical.	
31	M.	5	Left.	3⅓	1	3	....	Regular.	Weight and pulley.	In St. Luke's Hospital two years of this time.
32	F.	5½	Left.	3¾	½	3	....	Regular and frequent.	No mechanical.	
33	F.	15	Left.	9⅓	2¾	9⅓	....	Regular.		
34	F.	12	Left.	8	2	8	....	Irregular.		
35	F.	8	Left.	2¾	½	2¾	....	Regular.		
36	M.	6	Left.	3½	1	3	....	Regular.	No mechanical.	
37	M.	5	Left.	4	¼	3	....	Regular and frequent.	Wire cuirass for one year.	
38	F.	16	Left.	9½	2⅜	3½	1⅙	Irregular.	No mechanical.	
39	F.	9	Left.	4	None.	2	....	Regular.	No mechanical.	
40	F.	7	Left.	2	½	2	....	Regular.		
41	M.	26	Right.	8	¾	6	....	Irregular.	Weight and pulley.	
42	M.	8	Right.	4	1	3	....	Irregular.	Different methods.	
43	M.	16	Left.	5⅔	1½	4¾	2⅔	Irregular.	No mechanical.	
44	M.	10	Right.	6	1	5¾	....	Regular.	Different methods.	
45	F.	8	Left.	5	2	5	....	Regular.		
46	F.	8	Left.	4	1½	4	....	Regular.		
47	F.	12	Right.	5½	1⅞	5½	....	Regular.		

carried out in detail, will emphasize this fact and sustain the conclusion that the amount of shortening is greater in the non-suppurative cases than in the suppurative.

The effect that suppuration produced upon the shortening of the limb in these patients, if any, would seem to represent very nearly its true effect, as the suppuration has been allowed to pursue its own course as the natural expression of a morbid process uninterfered with by operative procedure, affected only by the means applied for the relief of the disease, which was the same in both the suppurative and the non-suppurative cases. The moment that operative measures are instituted for the relief of abscess in connection with such disease the suppuration ceases to be the simple non-septic process that it is, as a rule, when undisturbed by operation, and becomes complicated, so that it no longer truly represents such suppuration, and it naturally follows that conclusions based upon a study of suppuration existing under such circumstances in regard to its causative relation to shortening of the limb must necessarily be incorrect.

The development of abscess in the course of such disease, being evidence of the destruction of tissue, would seem to justify the opinion held by most writers that the greater amount of shortening is to be expected in such cases than in cases which have no suppuration; particularly when it is believed, as it is by many, that the principal cause of shortening is the destruction of tissue. To the extent that shortening is caused by destructive changes in the joint, to the same extent is it indicative of the destruction of bone, as the destruction of other tissues would only to a very slight degree, if at all, affect the length of the limb. In view of the conditions found to exist in these patients, suppuration does not seem to have been evidence of as great destruction

TABLE II.—*Suppurative Cases.*

Case No.	Sex.	Age.	Hip diseased.	Duration of disease.	Location of abscess.	Size of abscess.	Duration of abscess before absorption.	Length of time abscess discharged.	Shortening of limb.	Duration of treatment.	Length of time in hospital.	Attendance at dispensary.	Previous treatment.	Notes.
		Yrs.		Yrs.					Inches.	Years.	Years.			
1	M.	10	Right.	8	Outer aspect of thigh.	Very large.	....	8 months.	1	2	2	....	Different methods.	
2	M.	7	Right.	2½	Antero-lateral aspect of thigh.	Large.	....	1 year.		1	1	....	No mechanical.	
3	M.	15	Left.	4	Anterior aspect of thigh.	Very large.	....	16 months.	None.	2	2	....	No mechanical.	⅝ inch lengthening.
4	F.	13	Right.	2½	Femoral region.	Large.	1 year.	....		2½	2½			
5	F.	6	Left.	5	Gluteal region.	Large.	21 mos.	....	1	4	3½	Regular.	Different methods.	
6	F.	6	Right.	3½	Outer aspect of thigh.	Large.	....	11 months.	⅛	2½	2½	....	No mechanical.	
7	F.	13	Right.	8	Outer aspect of thigh.	Large.	....	1½ year.	1¼	3	3	....	Different methods.	
8	F.	9	Right.	3	Femoral region.	Medium.	1½ year.	....	¼	2	2	....	No mechanical.	
9	M.	10	Right.	5½	Outer aspect of thigh.	Very large.	....	10 months (continues).	None.	4½	4½	....	No mechanical.	¾ inch lengthening.
10	F.	13	Right.	9	Outer aspect of thigh.	Large.	....	1 year.	¾	6	.....	Regular.	No mechanical.	Cured. Has gone without brace three years.
11	F.	10	Right.	7¾	Outer aspect of thigh.	Large.	....	5 months.	¾	7¾	.....	Regular.		
12	F.	15	Left.	13	Outer aspect of thigh.	Unknown.	....	Few months.	1⅛	11½	.....	Irregular.	No mechanical.	
13	F.	14	Right.	6	Gluteal and femoral regions.	Large.	....	2½ years.	½	5	.....	Regular and frequent.	No mechanical.	
14	F.	17	Right.	11	Outer aspect of thigh.	Unknown	....	Unknown.	1⅛	10	.....	Irregular and infrequent.	No mechanical.	
15	M.	21	Left.	13½	Outer aspect of thigh.	Unknown.	....	Unknown.	1⅜	12⅔	.....	Irregular and infrequent.	No mechanical.	Treatment interrupted for three years.
16	F.	14	Left.	7⅔	Anterior aspect of thigh.	Medium.	....	3 years.	1⅜	5⅔	.....	Irregular.	Different methods.	
17	F.	9	Left.	3½	Antero-lateral aspect of thigh.	Medium.	....	....	¼	3	.....	Regular and frequent.	No mechanical.	Abscess has existed three months. Increasing.
18	F.	14	Right.	9½	Outer aspect of thigh.	Large.	....	3 years.	1⅜	5½	.....	Irregular.	Weight and pulley for a few mos.	
19	F.	18	Left.	11½	Two: femoral and external aspect of thigh.	Medium.	....	9½ yrs. and continues.	4	10½	.....	Irregular and infrequent.	No mechanical.	Treatment frequently interrupted.
20	F.	13	Left.	11½	Outer aspect of thigh.	Large.	1 year.	....	1¼	9½	.....	Regular.	No mechanical.	
21	M.	6	Right.	4⅚	Outer aspect of thigh.	Large.	....	2 years (continues).	⅛	4	.....	Regular and frequent.	No mechanical.	
22	F.	6	Left.	2½	Outer aspect of thigh.	Large.	20 mos.	....	1	1½	.....	Regular.	No mechanical	
23	M.	5	Left.	3⅓	Outer aspect of thigh.	Small.	10 mos.	....	¼	2⅓	... .	Regular and frequent.	No mechanical.	
24	F.	18	Left.	14	Outer aspect of thigh.	Large.	....	9 months.	2	14	.....	Regular but infrequent.	....	Treatment interrupted for three years.
25	M.	8	Left.	3¾	Outer aspect of thigh.	Large.	....	1½ year (continues).	⅝	3⅜	.....	Regular but infrequent.	....	Treatment interrupted for fifteen months.
26	F.	15	Right.	4	Antero-outer aspect of thigh.	Very large.	....	1½ year.	1¾	3⅜	2½	Regular and frequent.	No mechanical.	
27	F.	8	Right.	7	Gluteal region.	Large.	....	6 years (continues).	1⅛	1	⅜	Regular but infrequent.	Weight and pulley for 3 months.	
28	M.	10	Left.	5½	Femoral region.	Large.	....	21 months.	1	4	3	Regular but infrequent.	No mechanical.	
29	F.	6	Left.	2	Inguinal region.	Small.	....	6 months.	¼	1¾	.....	Regular and frequent.	No mechanical.	
30	F.	6½	Right.	2½	Outer aspect of thigh.	Large.	....	7 months.	¾	2	.....	Regular and frequent.	Weight and pulley.	
31	M.	6	Right.	3	Outer aspect of thigh.	Large.	....	2 years.	⅛	3	.....	Regular and frequent.		

TABLE II.—*Suppurative Cases* (*continued*).

Case No.	Sex.	Age.	Hip diseased.	Duration of disease.	Location of abscess.	Size of abscess.	Duration of abscess before absorption.	Length of time abscess discharged.	Shortening of limb.	Duration of treatment.	Length of time in hospital.	Attendance at dispensary.	Previous treatment.	Notes.
		Yrs.		Yrs.					Inches.	Years.	Years.			
32	M.	21	Right.	15	Anterior aspect of thigh.	Large.	....	Unknown.	3½	11	.....	Irregular and infrequent.	No mechanical.	
33	M.	13	Right.	7½	Antero-lateral aspect of thigh.	Large.	....	6 years (continues).	¾	6½	.....	Very regular and frequent.	No mechanical.	
34	M.	5	Right.	3	Outer aspect of thigh.	Large.	....	1½ year (continues).	¾	3	.....	Regular and frequent.		
35	F.	5	Right.	3½	Outer aspect of thigh.	Large.	....	Not known.	⅝	1½	.....	Irregular.	No mechanical.	
36	M.	11	Right.	7¾	Antero-outer aspect of thigh.	Very large.	....	4½ years (continues).	¼	7½	.....	Regular.	No mechanical.	Five open sinuses at this writing.
37	F.	6	Left.	6	Gluteal region.	Small.	....	....	⅛	4	.....	Regular.	No mechanical.	Abscess quiescent.
38	M.	4	Right.	2	Outer aspect of thigh.	Very large.	....	....	None.	1	.....	Regular and frequent.	Different methods.	Abscess increasing.
39	M	12	Right.	8	Antero-lateral aspect of thigh.	Large.	....	1 year.	1	6	.....	Irregular.	Unknown	
40	F.	8	Left.	4⅓	Anterior aspect of thigh.	Large.	....	2⅓ years.	1⅓	4¼	.....	Regular and frequent.	No mechanical.	
41	F.	12	Right.	2⅜	Outer aspect of thigh.	Large.	....	....	¼	1	.....	Regular.	Different methods.	Abscess disappearing.
42	M.	8	Left.	3⅜	Outer aspect of thigh.	Very large.	1 year.	....	None.	3 7/12	.....	Regular.		
43	F.	8	Left.	3⅙	Outer aspect of thigh.	Very large.	....	1½ year.	¾	3⅙	.....	Regular and frequent.		
44	M.	9	Right.	4⅛	Outer aspect of thigh.	Large.	....	19 months.	¾	2	.....	Regular.	Plaster-of-Paris spica.	
45	M.	10	Left.	9⅓	Outer aspect of thigh.	Unknown.	....	Unknown.	⅝	3⅛	1⅓	Regular and frequent.	Different methods.	
46	M.	7	Left.	5½	Outer aspect of thigh.	Small.	....	3 months.	¾	2½	2½	....	Weight & pulley.	
47	M.	10	Left.	2¾	Outer aspect of thigh.	Large.	....	6 months.	1⅛	2½	.....	Regular.	No mechanical.	
48	M.	10	Right.	4	Outer aspect of thigh.	Small.	....	Few days.	1	4	.....	Regular but infrequent.		
49	F.	7	Left.	5½	Antero-outer aspect of thigh.	Large.	15 mos.	....	¼	4	½	Regular and frequent.	No mechanical.	
50	M.	24	Right.	19	Outer aspect of thigh.	Small.	....	4 months.	2⅞	10	.....	Irregular.	Plaster-of-Paris spica.	
51	F.	9	Left.	5¾	Anterior aspect of thigh.	Unknown.	Unknown	....	2¼	3¾	.....	Irregular and infrequent.	Different methods.	
52	M.	14	Right.	4	Outer aspect of thigh.	Unknown.	....	1½ year.	1½	2½	2½	....	Different methods.	
53	M.	10	Right.	4	Antero-outer aspect of thigh.	Very large.	....	3⅓ years (continues).	¾	3¾	.....	Irregular.	No mechanical	
54	F.	16	Left.	9	Outer aspect of thigh.	Unknown.	....	8 years.	2	6	.....	Irregular and infrequent.	No mechanical.	
55	F.	8	Left.	2½	Anterior aspect of thigh.	Large.	14 mos.	....	None.	1⅚	1⅚	....	Different methods.	
56	M.	7	Left.	3¾	Outer aspect of thigh.	?	A few months.	....	½	3¾	.....	Regular and frequent.		
57	M.	11	Left.	5	Outer aspect of thigh.	?	....	At intervals during four years.	1⅛	1	1	....	Different methods.	
58	F.	9	Right.	4	Outer aspect of thigh.	Large.	....	6 months.	¼	2½	1	Regular but infrequent.	No mechanical.	
59	M.	3	Left.	2½	Outer aspect of thigh.	Large.	6 mos.	....	None.	2	.....	Regular.	No mechanical.	

of bone as occurred in cases which had no suppuration, and suggests that suppuration is evidence that the disease was chiefly confined to the soft structures in and around the joint, and, their nature being such as to afford less resistance to the morbid process, they were more rapidly destroyed—thus the formation of abscess;

while in the cases where suppuration did not exist (caries sicca), the disease was chiefly confined to the bone, and more active in its destruction and in interfering with its growth, as evidenced by the greater amount of shortening.

TABLE III.—*Non-suppurative Cases.*

DURATION OF DISEASE.	Cases.	SHORTENING.								Average duration of treatment.
		None.	Less than ½ in.	½–1	1–1½	1½–2	2–2½	2½–3	3–4	
Years.										
2–3	5	1	1	3	....	....	....	....	....	2$\frac{1}{12}$ years.
3–4	7	1	....	3	3	....	....	....	....	2⅔ “
4–5	7	1	2	1	2	1	....	....	....	2⅔ “
5–6	8	.....	....	4	....	3	1	....	....	3⅔ “
6–7	5	.....	....	2	1	1	1	....	....	5 “
7–8	3	.....	....	....	2	1	....	....	....	5½ “
8–9	2	....	....	1	....	....	1	....	....	7 “
9–10	4	.....	....	....	....	....	2	1	1	7$\frac{7}{12}$ “
10–11	1	.....	....	....	....	....	....	1	....	10 “
11–12	3	.....	....	1	....	1	....	1	....	10⅚ “
12–13	1	.....	....	..	....	1	....	....	....	4 “
13 and upw’rd	1	.....	...	....	....	....	....		....	14½ “

TABLE IV.—*Suppurative Cases.*

DURATION OF DISEASE.	Cases.	SHORTENING.								Average duration of treatment.
		None.	Less than ½ in.	½–1	1–1½	1½–2	2–2½	2½–3	3–4	
Years.										
2–3	10	3	4	1	2	....	....	....	....	1¾ year.
3–4	11	1	5	5	....	....	....	....	....	2⅚ years.
4–5	9	1	2	2	2	2	....	....	....	3⅙ “
5–6	7	1	1	1	3	....	1	....	....	3$\frac{5}{12}$ “
6–7	2	.....	1	1	....	....	....	....	....	4½ “
7–8	5	.....	1	2	2	....	....	....	...	5⅔ “
8–9	3	.....	....	....	3	....	....	....	....	3⅔ “
9–10	4	.....	....	2	1	....	1	....	....	5⅙ “
11–12	3	.....	....	....	2	....	...	....	1	10 “
13 and upw’rd	5	.....	....	....	2	....	1	1	1	11⅚ “

That in most instances such disease begins as an osteitis is not opposed to this suggestion, as the structure in which it has its origin does necessarily determine the nature of the structures to which it may extend and be most destructive of in its progress. If the development of the abscess in the course of the disease is evidence chiefly of the destruction of soft structures, the fact that abscess appears in the majority of cases would indicate that, though beginning as an osteitis, other structures are soon involved. The surrounding structures, having less power of resistance than bone, certainly furnish a more susceptible field for the spread of the disease; particularly so in cases where the effect of traumatism in lessening the power of resistance of bone and increasing the activity of the disease is minimized to the greatest degree by efficient mechanical protection. What explanation can be offered that more fully justifies the conditions found to exist in many of these patients—those in which the suppuration was profuse and had existed for long periods of time, but that had little shortening, none at all, or even lengthening? Note Case XXXVI, Table II—the suppuration was profuse at the time of this observation, and had continued for four years and a half, and there was only a fourth of an inch shortening; and Cases III and IX, which had, respectively, five eighths and three fourths of an inch lengthening; the abscesses had discharged for sixteen months in the former and ten in the latter, and were still open in both at the time the notes were made. Certainly in such cases suppuration could not be regarded as evidence of the destruction of bone or as profoundly interfering with its growth, else there would have been a greater amount of shortening. In a few cases, where suppuration had existed for a long period of time, there was considerable shortening, but such cases, as a rule, are those in which the treatment was very inefficient, and in consequence of the poor protection of the joint the effect of traumatism was greater in increasing the activity of the disease and the destruction of bone. There is not necessarily, even in these cases, any relation existing between the suppuration and the shortening, and it is probable that if the protection of their joints had been good the shortening of the limb would have been less.

The important consideration in any case, as in these, is the effect of traumatism upon the bone, which not only diminishes its disease-resisting power, but to the point of its being less than that of the surrounding structures, thus increasing the amount of bone destroyed and measuring the amount of shortening dependent upon this cause. One can understand that in some cases suppuration may depend to some degree upon the destruction of bone, but that, as a rule, it can not be considered indicative of the extent of such destruction is certainly true of these cases, and a striking illustration of this is seen in such disease of the spine—as in that region of the spine, the upper dorsal, where there is the greatest destruction of bone, as evidenced by the greatest amount of deformity, abscess is comparatively infrequent; while in the lower dorsal and lumbar region abscess is frequent and suppuration often profuse, the destruction of bone is small and the deformity slight; the greater destruction of bone in the one case, the upper dorsal, depending upon the effect of constant traumatism, which can not be relieved, while in the other, lower dorsal and lumbar, the relief of traumatism is less difficult and more complete and the destruction of bone less.

In addition to the amount of shortening caused by destructive changes in the joint, there is undoubtedly a trophic disturbance operating as an effective cause of shortening, not only by seriously retarding the growth of the bone, but by producing its atrophy. Evidence of this is seen in the early appearance of atrophy of the muscles before disuse has occurred and in the shortening of the tibia. An analogous condition of the bones is seen in infantile paralysis. There does not seem to be any reason to believe that suppuration has any effect in increasing the amount of shortening produced by this cause, particularly if it is left uninterfered with as the simple expression of the disease, but that the amount of shortening due to trophic disturbances depends upon the extent of the involvement of bone, as does that produced by destructive changes in the joint and, as suppuration is no index to the amount of bone diseased and destroyed, it bears no relation to shortening of the limb. So there is no reason to expect greater shortening in cases which have suppuration than in those which have not.

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INFLUENCE OF LYMPHOID HYPERTROPHY ON EPILEPSY.*

By URBAN G. HITCHCOCK, M. D.

In considering the influence exerted by lymphoid hypertrophy in the pharyngeal vault upon coexistent epilepsy, and at this period in the history of the subject when so much attention is deservedly being given to such growths, it clearly would not serve any useful purpose were the present paper to dwell at length upon the relief to respiration which follows the removal of these obstructing masses, or to make extended allusion to the great amount of good otherwise accomplished by that operation, as, for instance, the benefit so afforded to sufferers from dependent aural affections.

It has long been a matter of definite and wide observation that the area closely adjoining the seat of this lymphoid hypertrophy is very susceptible to irritation, and that it thus determines, in many cases, the production of numerous reflex symptoms in various parts of the human body. This area, defined to be preeminently that of the mucous membrane covering the posterior portions of the lower turbinated bodies and of the sæptum, is known, under certain conditions, to excite by its reflex activity even so grave a nervous manifestation as an epileptic attack in patients possessing the necessary morbid predisposition. No term less vague than this latter—namely, morbid predisposition—appears at present available to indicate the essential nature of epilepsy, the diagnosis of which malady in its idiopathic, as distinguished from its symptomatic, phase has been authoritatively declared to be often clinically impossible. Whether or not the pathogeny of epilepsy will ever be exactly and fully known, it must always remain a matter of high importance in practice to control all those sources of irritation which have been recognized as possible provocatives of the convulsive seizures.

Embarrassed nasal respiration, owing to turbinated hypertrophy, or to polypi, would seem to have received more attention in this especial regard than some other conditions, and notably that of lymphoid growth, which latter, in a case of pronounced epilepsy once seen by the writer, was so manifestly an exciting cause of the convulsions as to furnish a striking illustration of the foregoing statements. This patient was a boy of eleven years, of good mental capacity, and even of remarkable mechanical ingenuity. The hereditary history was negative, and an older sister and a younger brother exhibited no such symptoms as those of their brother, in whom nothing unusual was impressed upon his parents' attention until he was about a year old, when he is described as having become abnormally quiet; and it was, moreover, learned from them, upon inquiry, that he had been a mouth-breather since a few months of age. Epilepsy, in the more violent of its forms, commenced after his recovery from pneumonia at two years, the seizures occurring at intervals of about two to seven weeks. At seven years *petit mal* became superadded, following, as it is said, removal of the tonsils, and kept getting worse until the attacks reached ten a day. When about nine years old he was placed under treatment by a prominent neurologist, who, observing no improvement from the use of the bromides, referred the patient for nasal examination. Marked lymphoid hypertrophy being thereupon discovered, the operation for its removal was performed under ether, with the result that attacks of all kinds immediately ceased throughout an unbroken period of eighteen months. Just one month after this operation, and under the direction of the family physician, it was found necessary to operate for appendicitis; three months later he passed through a serious attack of pneumonia, but continued, as already stated, and under competent observation, free from both kinds of epileptic attacks for a year and a half after the removal of the growths. In October, 1895, the attacks having begun to recur during the previous August, another operation was done under ether for the removal of remnants of the lymphoid masses; and the epileptic attacks again ceased completely until five months later, when a blow on the head was followed by a reestablishment of the *petit mal*. This, I have recently been informed, has continued in spite of various forms of treatment.

In the instance just narrated, so unmistakable was the causative character of the lymphoid hypertrophy in influencing the underlying nervous affection as to suggest the belief that similar examples might be met with by practitioners of a specialty in which lymphoid hypertrophy forms so large a proportion of the ailments coming under observation. That few cases of this kind, so far as the writer is aware, have been discovered in that way, may, perhaps, be attributed to the circumstance that epilepsy not being especially looked for as a concomitant state, a slight degree of that disease might sometimes be liable to escape detection by the rhinologist; while it is equally manifest that an affection so widely prevalent as lymphoid hypertrophy can not very commonly be an important factor in the production of a disease of such relative infrequency, in this comparison, as epilepsy. But, given the existence of epilepsy in any subject, while allowing for the influence of such other and well-established causes as heredity, drug habits, the accumulation of toxic products in the blood, diathetic conditions, and more particularly in the course of the examination of all the epileptogenic zones, the advantage of including lymphoid hypertrophy among the possible exciting causes of epilepsy is once more exemplified.

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* Read before the American Laryngological Association at its twentieth annual congress.

A CASE OF NASAL FIBROMA.

A SUPPLEMENTARY REPORT.[*]

By W. E. CASSELBERRY, M. D.,
CHICAGO.

Ten years ago I read before the Section on Laryngology of the Ninth International Medical Congress [†] the report of a case of nasal fibroma, and noted the rarity of this neoplasm in the nose proper. Last year, having referred to this case in discussion before the American Laryngological Association, the very existence of nasal fibroma was questioned by some of the fellows. The original report was defective in not containing a detailed description of the microscopic examination, which, through the courtesy of Dr. Jonathan Wright, I desire to remedy. The lapse of time has also furnished additional information and clinical data which justify a supplementary report of the case in an effort to substantiate the original diagnosis to the satisfaction of all.

The following is an abstract of the case: Mrs. R., aged thirty-nine years, came under my observation in 1886, having had a nasal growth of unknown character removed from the left nasal fossa by means of forceps ten years previously. She remained well for five years, and then again noticed gradually increasing obstruction and later a dark, reddish mass presenting at the left anterior nasal aperture. Four years previously she suffered an attempt at removal under chloroform, which was unsuccessful because of severe hæmorrhage. She declined further interference until 1886, when she applied for treatment to my office associates, Dr. Coleman and Dr. Gilmore, incidentally coming under my observation, and a few days thereafter under my exclusive care. The left nostril was much distended, showing evidence of commencing frog-face, and the fossa was filled anteriorly by a firm, elastic tumor which projected slightly from the anterior naris. There was no undue prominence over the antrum of Highmore, nor encroachment upon the orbit or nasopharynx. Efforts to include the neoplasm in a galvano-cautery snare failed on account of its size, tight fit, and numerous adhesions; so the lower portion was slit up by the knife electrode, some adhesions separated in like manner, and a large section, perhaps half of the tumor, extracted by means of snare and forceps. A few days subsequently the case was referred to me.

The space left by the part removed now admitted of more extended examination. The left half of the external nose is decidedly more prominent than the right. The left fossa, above the line of the inferior turbinated body, is yet filled by a firm, elastic, irregularly lobulated neoplasm. No middle turbinated body is discernible, its position being occupied by the remaining part of the tumor. The inferior meatus is now free, corresponding to the portion of the growth already extracted. The anterior two thirds of the sæptum narium have been pressed far over to the right side, enormously increasing the capacity of the left fossa. The nasopharynx is normal, only a faint outline of the tumor located well forward being seen through the left choana. The posterior part of the sæptum is in the median line.

I removed the remaining part of the growth in repeated sittings by means of the galvano-cautery steel-wire snare, with which more could be accomplished at one time than with the cold snare on account of the better control of the hæmorrhage. Usually it was necessary to make a preliminary incision into the substance of the tumor with a knife electrode in order to prepare a place for the wire, or by the same means to detach an adhesion, that the snare might take hold. The tumor was thus followed up to its primary attachments, which extended along the horizontal plate of the ethmoid bone and included that part of the ethmoid which contains the cells and from which projects the middle turbinated bone, the latter having disappeared by absorption and the cells having opened by the same process into the general nasal cavity. In fact, since the complete removal of the growth the nasal fossa is like a great ovoid cavern with perfectly smooth walls. For some months thereafter it would incrust in the manner of atrophic rhinitis, but this annoyance gradually ceased. Eleven years have now elapsed since the operation, during which time the patient has been under occasional observation for other reasons, affording opportunity for reexaminations, and she has remained free from recurrence and devoid of any nasal disease or discomfort whatsoever.

All parts of the growth removed were firm in texture and had the gross appearance of a fibroma, not resembling in the slightest degree the ordinary œdematous nasal polypus. The microscopic examination was made by Dr. Elbert Wing, at that time pathologist to Cook County Hospital, who reported it to be a fibroma, and this was confirmed by my own examination. Recently the tissue has been reexamined by Dr. Jonathan Wright, who has kindly reported as follows: “The sections are largely made up of fibrous connective tissue whose outlines do not show very clearly, owing probably to the long time the specimens have been kept. I presume you are justified in calling the growth a fibroma, although there are a number of œdematous areas in it as well as the evidences more commonly regarded as those of chronic inflammation. The longer I study nasal pathology, the harder I find it to draw the line between inflammatory and true benign tumors, and the more inclined I am to believe that that line is a very arbitrary one and really should have no existence, as benign neoplastic growths are, I believe, all the result of chronic inflammation or analogous metabolic processes.”

The interesting question relative to the pathogenesis of benign neoplasms—fibromata, among others—which is raised in the latter part of Dr. Wright's report, I will not follow further at this time, the point which I desire to establish being that, in its clinical course, macroscopic aspect, and microscopic structure, this nasal neoplasm corresponds with our usual conception of a fibroma.

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[*] Read before the American Laryngological Association at its twentieth annual congress.

[†] *Journal of the American Medical Association*, April 21, 1888.

Against the supposition that it might have been an ordinary mucous polypus, perhaps with more fibrous tissue than usual, may be mentioned that the patient has not then or since presented any of the frequent concomitant conditions of mucous polypus, such as hypertrophic rhinitis, polypoid degeneration of the middle turbinated bodies, ethmoiditis, sinusitis, asthma, hyperæsthetic rhinitis, multiple formation, or recurrence.

Very few perfectly authenticated cases of nasal fibroma are recorded. Morell Mackenzie [*] reports one of two years' duration in the person of a female aged thirty-five years. A pedunculated solid growth of the size of a pigeon's egg originated from the roof of the nasal fossa, well within the nasal cavity, and projected through the left choana into the nasopharynx. On section it was hard, dense, and pale, with microscopically closely interlaced whitish fibres and a few minute cells. It was removed by evulsion with forceps through the nasopharynx, and no subsequent history is given. The same author cites two other cases, both devoid of microscopic examination, one by Gerdy,[†] of one year and a half's duration, in the person of a male aged thirteen years, in whom death resulted from hæmorrhage following an attempt to cut through the base of a growth, demonstrated at the autopsy to have been attached at the posterior part of the vault of the left nasal fossa, and which was firm, elastic, and on section seemed to be of purely fibrous structure; the other by Lichtenberg,[‡] of which the only particulars are that it originated from the cribriform plate and upper turbinated body.

Kempf [#] and Buchanan,[||] cited by Wagner, each report a case of probable fibroma, but in which the diagnosis is not positively established, the first because of the absence of a microscopic examination, and the second because of the presence of round cells supposed to be inflammatory, but in which no subsequent history is given. They both originated from the sæptum, were of large size, and had the gross appearance of fibromata.

Dr. Charles H. Knight [△] has described a smooth, movable tumor attached to the posterior end of the inferior turbinated body in the person of a male aged twenty-one years which, after easy removal by the cold-wire snare, under the microscope proved to be a pure fibroma.

Horne [*] records a case, of traumatic origin, in a woman aged seventy years, attached to the sæptum, in which the mere removal of a fragment for microscopic examination afforded relief to the epistaxis and stenosis. The growth presented the appearance of a fibroma, with no evidence of malignancy.

In Price Brown's [†] case the very vascular growth originating from the side of the sæptum posteriorly seems to have encroached somewhat upon the nasopharynx, inasmuch as it formed attachment also to the anterior border of the tuber of the Eustachian orifice. Microscopically, it was pronounced a dense, close-grained fibroma, and was removed with difficulty by a combination of electrolysis and the galvano-cautery.

Crighton [‡] reports two cases: One, a male aged eighteen years, who had a dense, resisting, readily bleeding, and slightly movable tumor the size of a pigeon's egg, which was broadly pedunculated and attached to the sæptum at the junction of the middle and posterior thirds of the nasal fossa. It was removed by the galvano-cautery snare, but bled profusely, necessitating packing. Microscopically it was pronounced a pure fibroma. No recurrence after a year and a half. The other case, a male aged nineteen years, had a large, broadly pedunculated, firm, whitish, non-bleeding neoplasm attached apparently to the ethmoid. Fragments only were removed for microscopic examination, from which it was pronounced a true fibroma.

Without pretensions to an exhaustive search, I have thus collected eleven cases from recent literature. Antique reports are omitted as being uncertain in the diagnosis. A few of these are imperfectly recorded, but enough remain to indicate that, while rare, the occasional occurrence of genuine fibroma in the nose proper should no longer be questioned.

ON THE TREATMENT OF DEFICIENT EXCRETION FROM KIDNEYS NOT ORGANICALLY DISEASED, AND SOME OF THE DISEASES PECULIAR TO WOMEN, AND DISEASES OF THE SKIN.

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The general considerations relating to this topic were presented by the present writer before this society last year,[#] and no attempt will now be made to show either the importance of the subject or its practical relations. The object of the present brief communication is to again call attention to deficient excretion from kidneys not organically diseased as a cause of some of the chronic disorders of the system, and to make a few practical suggestions as to the treatment of the condition.

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[*] Morell Mackenzie. *Diseases of the Throat and Nose*, American edition, vol. ii, p. 376.

[†] Gerdy. *Des polypes et de leur traitement*, Paris, 1833. Cited by Mackenzie, *loc. cit.*

[‡] Lichtenberg. *Lancet*, 1872, vol. ii, p. 773. Cited by Mackenzie, *loc. cit.*

[#] Kempf. *Louisville Medical News*, 1879, vol. vii, p. 65. Cited by Wagner, *Diseases of the Nose*, 1884, p. 216.

[||] Buchanan. *Glasgow Medical Journal*, 1882, xvii, p. 211. Cited by Wagner, *loc. cit.*

[△] Charles H. Knight. *Journal of Laryngology, Rhinology, and Otology*, 1895, p. 193.

[*] Jobson Horne. *Journal of Laryngology, Rhinology, and Otology* 1897, p. 73.

[†] Price Brown. *The Canadian Practitioner*, reprint.

[‡] Crighton. *The Laryngoscope*, May, 1898.

[#] *Transactions of the Medical Society of the State of New York*, 1897, p. 261; *Journal of the American Medical Association*, January 8, 1898.

As remarked in the former paper, while the main consideration is in regard to the kidney excretion, it is not by any means necessarily implied that the real trouble has always to do with the action of the kidneys themselves; indeed, it might almost be said that the kidneys themselves often play the least important part in connection with the derangements referred to. The failure to appreciate this fact often leads to failure in the accomplishment of the end desired.

However much the kidneys may be regarded as independent organs, subject to idiopathic diseases of structure and secretory power, it is to be remembered that at present we are considering deficient excretion from kidneys *not* organically diseased; we have here to do simply with the urine as indicating the removal of effete matter from the body.

Time and space do not permit any discussion of the chemistry of the blood and its relations to the physiology of the urinary secretion, which, moreover, is as yet but imperfectly understood, as to how or where the various chemical constituents of the urine are formed. But, looked at in its broadest sense, the kidneys must represent filters, which remove from the abundant blood current brought to them the ultimate products of metabolism, which are no longer useful or needed, and whose retention is injurious to the system. Plainly, the kidneys can not do their work properly if the blood supply upon which they act is not in a right and proper condition. If the results of assimilation and disassimilation have not been antecedently carried on properly, and in such a manner that the waste products are available for alteration and separation by the kidneys, these organs can not make up for such a failure, and can not do the work which has properly belonged to other portions of the economy.

We see, thus, that the subject is a far more important one than it appears at first sight. When deficient excretion has been discovered the treatment may by no means relate simply to the administration of this or that diuretic to whip up the kidney action, but it may include the most profound consideration and treatment of the health and nutrition of the patient from every aspect. The subject is too broad a one to elaborate at the present time; we must therefore leave the many possible features which might with advantage be considered, and be content with a few practical suggestions which arise from experience, dating back some years.

In by far the larger number of cases exhibiting deficient urinary secretion there will be also marked indications of faulty intestinal action and excretion, which must certainly be remedied in order to obtain the best results. This may, of course, exhibit many phases, which need not be fully considered here. It may be remarked, however, that it is often not at all sufficient simply to prescribe a purgative to relieve the constipation present, but there must be instituted a regular and systematic treatment suited to secure proper bowel action. While temporary benefit of the urinary secretion may be obtained by relieving a loaded colon or rectum, the condition will relapse without proper measures calculated to secure more proper general intestinal action. The liver is constantly found to be at fault in connection with urinary insufficiency.

Coming yet higher up in the alimentary process, the faulty kidney action may even depend upon errors in primary digestion, and the care of the stomach, as to diet, mode of life, etc., may often require much thought before it can be expected that the secretion from the kidneys will be that of health.

Finally, as healthy urine represents the results of normal systemic metabolism, and this takes place in part through muscular action, it is evident that hygiene, including exercise, bathing, sleep, etc., may be an important element to consider in connection with securing a discharge of healthy urine.

Thus much is premised because, in presenting suggestions as to the treatment of the condition under consideration, it must be understood that they are only simple elements, looking in one special direction, which *may be quite ineffective* unless the matters already referred to are well and rightly attended to.

In the paper of last year, already referred to, more especial attention was given to the solid constituents of the urine, and a ready method was presented for determining the amount of daily excretion of the waste products. It is well to remember, however, that although the total amount of solids excreted each day, with a scanty urine and high specific gravity, may be quite sufficient, the processes of metabolism and life are not as well carried on, nor is the patient in as good a physical condition, as when the amount of water in the urine is also normal; perfect health is maintained only when there is a normal amount of healthy urine of a normal specific gravity. Fortunately, in our efforts to secure the increase of the one, if rightly exercised, we generally increase the other.

Passing by the treatment of the many affiliated conditions of deranged action in other organs which have been alluded to, and which must never be neglected, we will at present speak only of that relating to the kidneys, which should be carried on at the same time.

Diuretics are proverbially uncertain remedies. But, if what has preceded be remembered, it is easily understood why this should be so; the kidneys may for a time be whipped into action, but this or that remedy or measure seems soon to lose its efficacy, simply for the reason that the kidneys can not create the waste products which should be supplied to them by properly elaborated blood when this fluid is not in its normal condition. Many special kidney stimulants, such as diuretin, urecedin, piperazin, phosphate of sodium, etc., have been brought forward, but, as a rule, I have not relied much on them; nor, indeed, have I placed great reliance in any purely diuretic remedies, because measures which have seemed to be more correct physiologically have, as a rule, accomplished what was desired in a more satisfactory manner.

Water is undoubtedly Nature's great diuretic, and upon its proper use depends the life and health of the individual. The vast army of invalids and others who frequent the mineral springs of this country and Europe, with more or less benefit to chronic disorders, should teach us that this great remedy of Nature—water—is ever potent to restore deranged vital action. And, furthermore, the great variety of the mineral waters which are employed, often with benefit, by the same patient, together with the great variety of diseases often found to be benefited at the same spring, all teach us that it is not the mineral ingredients which are the effective agent so much as it is the water itself, common to all; this, of course, is aided by the change of scene, air, and diet, together with the hope infused thereby.

The first lesson which I learn from mineral springs is that the water does greatest good when taken warm or hot; most of the European and many of the American springs of note are hot, and even Vichy water, which is so often taken iced, issues from the ground at one of the springs at a temperature at which it can hardly be drank. In giving water at home, therefore, experience from Nature tells us that it will be of most service warm or hot.

The next lesson I learn from the experience of those who prescribe the natural mineral waters at the springs is, that this extra quantity of water should be taken on the empty stomach, some time before meals, while very little liquid is to be allowed during the meals, for physiological reasons familiar to all.

But it will often be found very difficult to secure just the right and proper administration of water in this country and at the home as compared to the readiness with which this is accomplished when patients follow the directions given to them at public watering places; and some of the knack of handling these cases successfully consists in securing a rigid adherence to proper directions under all circumstances. The ordinary drinking water of most places seems flat, insipid, and unprofitable to patients, especially when heated, and practically it is very difficult to get them to take plain water, whether cold or hot, with perfect regularity; and yet herein lies the success of treatment. At the mineral springs—abroad, at least—the careful directions of the resident physician are punctiliously carried out, and my experience, as well as that of others, has shown that when one can secure the same perfect obedience to orders in regard to whatever form of water may be prescribed, we obtain satisfactory results.

As already intimated, I do not think it matters essentially as to exactly what kind of water is employed, and in handling a case it is often desirable to change the special water from time to time. This may be done both in order to get the particular effect of this or that mineral ingredient required at different times, but often, again, to get that variety in treatment which in some cases is essential to success. The aim of it all is to secure the passage of the requisite amount of water —H_2O—through the system. Patients are often quite willing to take plain hot water if a tablet, as of lithia, is given to be dissolved in it.

There are very many so-called mineral waters on the market which differ materially in their composition; many purporting to be little more than pure mountain spring water, often artificially charged with carbonic-acid gas, while many others have very active mineral ingredients. It is impossible at the present writing to state which mineral waters have proved the most serviceable, for excellent results have been obtained from many of them, both those which were comparatively void of active medical ingredients and those heavily charged with mineral salts. As before stated, it is believed that the water itself is the most potent ingredient in them all, and one of the chief advantages in using these commercial waters over common drinking water is that which arises from having one which is palatable; to this must be added, however, the mental effect produced, for the secretion of the kidney, as is well known, is greatly influenced by the state of the mind, as may be instanced by the urgent and often free passage of urine under mental excitement or worry.

Many drugs are of more or less value in connection with deficient excretion from the kidney, but their action, as before stated, is uncertain and, as might be expected, their effects are more or less transient; the whip soon ceases to be effective if too continuously applied, and often, as before shown, it is impossible to cause the kidneys to secrete normal urine from blood not properly elaborated.

Foremost among the mineral salts stands the acetate of potassium; under proper conditions it is a most valuable diuretic, and in my experience is superior to the citrate of potassium. In most instances it is best given in ten- to twenty-grain doses after eating, in a bitter infusion with nux vomica; where there is stomach atony, with weak secretion of gastric juice, it is best administered half an hour before eating.

There are, of course, many remedies, mineral and vegetable, which at different times and under varying circumstances will serve to increase either or both the solid and the liquid portion of the urine, and it would lead us far beyond the proposed limits of this paper to attempt to mention them at all fully. Nitric acid has served me a very good purpose many a time, when given in three to five drops of the strong acid, well diluted, in water after eating. Buchu, digitalis, broom, and triticum repens have been the vegetable diuretics on which I have most relied, and which I still use.

But the object of this paper was not so much to specify particular remedies which, as will be understood from what has preceded, must be very different in different cases, as to call serious attention to the necessity of studying each case, with a view to determining and rectifying the condition of the system which leads up to or induces the deficient excretion from kidneys not organically diseased. With careful study and observation it will constantly be found that the fault is not in the kidneys themselves, but in other portions of the economy, and with a careful rectification of stomach, liver, and intestinal action the kidneys will, with very little aid, perform quite their natural functions. I wished also to call particular attention to the very important part which water, when rightly given, plays in restoring faulty kidney secretion. Warm milk, when given pure and alone, one hour before meals, also acts most favorably in this direction.

4 East Thirty-seventh Street.

THE RELATION OF SYPHILIS TO CANCERS OF THE MUCOUS MEMBRANES.

By WILLIS P. KING, M. D.,
KANSAS CITY, MO.

Syphilologists, in their treatises on syphilis, tell us that this disease has come down from time immemorial; that it has been in existence among the members of the human race so long that history gives no account of its beginning. They tell us that at a certain time in the world's history a French army invaded Italy; that the diseas spread in the regions occupied by the invading army, and that the Italians called it "the French disease"; and that at another time an army from some other country invaded still another country, and this disease spread, and that the people of the beleagured country called it after the name of the country from which the invading army came.

All syphilologists, so far as my researches extend scout the idea of this disease originating in any other way than by being transmitted from one person to another, and deny absolutely that it originates *de novo*.

Now, I wish to say at the outset, and with all respect for the talents, ability, and opportunities for extended observation of such writers as Bumstead and Van Buren and Keyes, in this country, and of many distinguished names that might be mentioned belonging to the other countries, that I do not believe one word of this. If I had no other and better evidence, the very fact that, at some time in the history of the world, there were conditions and circumstances in which and from which there was elaborated a special form of *virus* which, when introduced into a human organism, produced the disease which we call syphilis, is sufficient evidence to my mind that the same special virus would originate again under the same favorable conditions. It seems to me that there is no answer, and that there can be none, to this argument.

Again, every physician who has practised medicine very long has seen *measles, diphtheria,* and *scarlatina* break out, time and again, in neighborhoods and localities where the disease had not existed before, and where there had been no opportunity, so far as anybody knew, and so far as the strictest and most patient inquiry could elicit, for the introduction of the disease into this particular neighborhood or locality from the outside. This would tend to show that all diseases having for their causation a special germ originated *de novo*.

There is another argument against the statement that *syphilis* has been transmitted from one human organism to another from generation to generation in the fact that all diseases which have a special germ or virus for their causation tend to *run out*—in short, as the virus is transmitted from one organism to another it becomes *attenuated*. Our grandmothers knew this. If you vaccinate a child against small-pox with the serum from a heifer, the child's arm will become immensely swollen and red, the child will have a fever of from 102° to 104° or 105° F., will be compelled to quit school, and will be confined to its bed two, three, four, and sometimes five or six days.

Now, take the crust from this child's arm and vaccinate another child, which has never before been vaccinated, and this second child will have the same kind of an arm and the same serious constitutional disturbance as the first child, only, perhaps, not quite so severe. Continue this from one child to another and there comes a time, after you have run this virus through a succession of quite a number of human organisms, when it will not make the child's arm red, will not produce the least constitutional disturbance, and hence will not protect the child against small-pox. The grandmother says, "I guess it has run out." The scientific physician says that the virus (the germ in reality) "has become so *attenuated* that it has ceased to be a protection against small-pox." The grandmother says, "We must get another quill," and so says the scientific physician.

Pasteur, in his inoculation against hydrophobia, recognizes the same law. He inoculates his first rabbit from the dog, and when it shows signs of rabies he kills the rabbit.

Now, he takes out the spinal cord of the rabbit and hangs it in a bottle to dry. From the fluid obtained he vaccinates rabbit No. 2. He continues this up to rabbit No. 12.

In treating a person threatened with rabies he first inoculates him with a cord that has been drying fourteen days, the next day with one that has been drying thirteen days, and so on.

Now, if syphilis observes the same law of attenuation that other diseases having a special virus or a germ for their causation, and by which they are transmitted from one person to another, observe, then it is fair to assume that, if there were no new source of origin for syphilis, this disease would have wiped itself from the face of the earth a thousand years ago. I do not believe that I am doing violence to facts in this assertion. On the contrary, the statement is based on well-known and well-established laws—laws that have been established from the observations of the very best men in the medical profession.

I wish now to make application of the above principles.

My own Case.—On April 24, 1897, while operating on a case at All Saints' Hospital in Kansas City, Missouri, for laceration of the cervix uteri, I punctured my left thumb on the inner side, between the root of the nail and the first joint. The needle was an ordinary Emmet's cervix needle and was quite large. The puncture was very deep, but the wound did not bleed much. I simply shook it in a basin of bichloride water, 1 to 3,000, and finished the operation. I thought no more of the small affair until the next afternoon, when the matter of the puncture was brought to my mind in a rather alarming way.

On the morning of April 25th I curetted a cancer of the rectum in a man, and between six and seven o'clock in the evening I curetted a cancer of the uterus in the case of the wife of a prominent citizen of this city. There was no other reason for the curettement than that she was having fearful hæmorrhages. I curetted away the cancerous cervix, and also curetted the cavity, and washed out with hot bichloride solution, and packed with iodoform gauze. In the process of washing out I held the parts open with my thumb and finger and the water from the syringe and the return fluid flowed over my hand.

On my return from the place my assistant, Dr. George Norberg, says that I called his attention to the fact that the needle wound in my thumb was smarting; that he proposed to cauterize it, and that I declined on the ground that the depth of the wound was such that the caustic would not reach it. About ten or eleven days afterward I noticed a lump on my thumb at the exact site of the puncture, and called the attention of my senior house surgeon, Dr. George F. Hamel, to it. Within five or six days afterward I picked the dead skin off from the place while talking to some one, and without knowing what I was doing. The part picked off embraced the entire thickness of the true skin. At the bottom of the wound I noticed three or four small, angry-looking granulations. Within a few days the granulations had reached to near the surface, and the wound was discharging a bloody serum quite freely. This continued some time, the wound burning and smarting all the time, and was sufficiently painful to constantly draw my attention to it. It soon began to cause me to lose sleep. At the suggestion of medical friends I put on it successively boric acid, ichthyol, balsam of Peru, and iodoform. The iodoform was the only thing that seemed to allay the pain in any degree whatever. The discharge of bloody serum was so copious that it would penetrate through six or eight thicknesses of gauze within a few hours.

The pain continued to grow worse, and I soon found that the epitrochlear gland on that side was enlarged and painful, and ere long I found the same condition in the glands of the axilla on that side. I soon began to suffer pain all over the body, particularly in the joints. This embraced the joints of the toes, the ankles, knees, hips, spinal column, shoulders, elbows, wrists, and fingers.

At the end of about four weeks I was compelled to take to my bed on account of the great suffering, and to use deodorated tincture of opium by enema. This condition of the case continued until about the ninth week, when my attendant, while rubbing my back with chloroform liniment, discovered an eruption which we thought due to the liniment, as I had had the course of the spine rubbed with it for several nights.

On the next morning, while in the bath, I noticed a quite free eruption on the chest and abdomen, the eruption being the thickest about the epigastrium. I sent for two specialists in dermatology, Dr. George W. Davis and Dr. Jacob Block, both of whom, after a careful and thorough examination, pronounced the case to be one of *syphilis.* This eruption soon spread over the whole body.

At this time there was enlargement of the post-cervical glands, of both epitrochlears, and the glands in both axillæ. In addition, there was a mucous patch on the tip of the tongue, with one on the lip where the part of the tongue upon which the patch was situated came in contact with the lip. There were also several mucous patches in the throat.

I began treatment by using mercurial ointment by inunction at once; and on July 1st went to Manitou, Colorado, where I remained until August 15th.

Through my anxiety regarding my trouble, and on account of the great amount of suffering I endured by reason of it, I overdid the matter of treatment, using the ointment in such quantities, and keeping it up so long, that I brought on a condition of mercurial cachexia. From this fact, and from some other troubles not related to the syphilitic condition, I desisted from the use of mercury in any form, or in any way, from August 15, 1897, until about January 1, 1898. Then there was a return of the trouble, characterized by a return of the pain in the joints, a severe sciatica on the left side, and the appearance of large, oblong, hard, reddish-colored welts about the ankle joints, posterior part of knee joints, at several points about the hips, and two or three about the chest on left side.

At the suggestion of Dr. George F. Hamel, my senior house surgeon at the Missouri Pacific Hospital, I then began the use of the ammoniated mercury ointment, compounded as follows:

℞ Hydrarg. ammoniat., }
Pulv. zinci oxidi, } ....āā ʒj;
Ol. olivæ .... ʒij.

Mix and rub together until the mercury is thoroughly dissolved and add vaseline enough to make an ounce.

S.: Apply as directed.

This was rubbed into some part of the body thoroughly on going to bed each night—sometimes on the chest, then on the abdomen, then the groins, back, etc. This was kept up assiduously until all indications of trouble, including pain, had passed away. Since then I have used it each alternate night for a while, and at last twice and finally once a week.

While I lost flesh greatly at the beginning—going off in weight from two hundred and twenty-eight pounds to a hundred and seventy in ten weeks, and again losing flesh rapidly at the second appearance of late secondary manifestations in January last—I have now regained my weight so far as to weigh about two hundred and ten pounds. I am, in short, to all intents and purposes, well again.

Now, "one swallow does not make a summer," neither does one swallow make a meal for a hungry man; nor does one case like this sustain the position assumed in the opening of this paper. But, fortunately for the truth of the matter, I am not compelled to confine my proofs to one case. I therefore submit the following, and beg the profession to give to the facts which I adduce that serious and fair consideration which I believe the importance of the subject under consideration demands.

I submit the following:

Fifteen years ago a young man came to me with what appeared to be a well-defined "Hunterian" chancre on the prepuce. On investigating the matter I learned that he had been going with only one woman. She was a widow, about thirty-six years old, with two children. The young man was an upright, manly, quiet, and thoughtful fellow, whom I had known from his childhood. The chancre, as said before, was situated on the foreskin and had all the physical characteristics of a true chancre, including the *scooped-out* appearance, the "mouse-bitten" edges, the "split-bean" feel under the mucous membrane, etc. He had accused the widow of going with other men, and she had wept and denied so strenuously that he had agreed that, if she would come to me and submit to an examination, and I said that she did not have syphilis, he would believe her statement that she had had intercourse with no one but him.

The widow came promptly that afternoon, and I stripped her shoulders and breast and stripped her drawers up and her stockings down and found her skin to be as white as marble, with not a blotch upon it. Upon her statement that she had had no sore about the genitals I did not examine her in that regard. I was so uncertain about the case—the uncertainty being based on his statement that he had not had intercourse with any woman, except the widow, for two years—that I postponed treatment until the appearance of the secondary eruption, which made its appearance in about six or seven weeks. I put him under contract to remain under my observation and treatment for two years, as I do all of my syphilitic patients, and before the two years expired the widow died from *cancer of the uterus!* I treated her, and know whereof I speak.

Case II.—Six years ago Dr. ——, a distinguished surgeon of Kansas City, operated upon a most excellent lady for removal of a cancerous uterus. He had an abrasion on one thumb. This thumb was poisoned, and the sore refused to heal until he broke out all over with what was pronounced to be a secondary syphilitic eruption. The doctor died within four or five months from some intercurrent trouble—phlebitis, I believe.

Case III.—Several years ago Dr. W., of Louisville, operated upon a case of cancer of the uterus. He had an abrasion on his hand which became infected. Within six or eight weeks there appeared what was pronounced to be a secondary syphilide, and in a short time the doctor died.

Case IV.—Only six or eight years ago Dr. N., of Detroit, operated on a cancer of the uterus (I am not sure as to the character of the operation, but believe it was a hysterectomy), and having an abrasion on some part of his hand it became infected. Within seven or eight weeks he broke out with what appeared to be a maculo-papular syphilide, and within a few months he died.

Case V.—About two or three years ago Dr. R. J., of Chicago, operated upon a cancer of the uterus, and either having an abrasion on some part of his hand, or having wounded his hand in the operation, got an infected wound; and, after several weeks, there appeared what was pronounced to be a maculo-papular syphilide, and the doctor died within a few months.

I have had the history of quite a number of similar cases to the above, but they were not sufficiently well authenticated to warrant their use in a paper of this kind. However, I have no doubt that, had I issued a circular letter of inquiry covering this subject, I could have multiplied the above cases by ten; and, perhaps, if my circular letter had covered a large enough territory, and the inquiry been directed to a great number of qualified observers, I could have multiplied them by a hundred.

Eighteen years ago a medical friend met me at my front gate one day as I was going out. He stated that he wanted me to look at his thumb. He unwrapped a bandage from his right thumb and showed it to me. There was a deep sore between the second and third joints. He asked, "What does that look like?" I answered that it looked like a sore. Then he asked, "Don't you think it looks like a chancre?" I was obliged to say that it did; but, as he could not account for it upon any hypothesis connecting it with syphilis, we decided to wait. Within a given number of weeks there appeared upon his body a typical *maculo-papular syphilide.* We were so uncertain about the matter—as he had not handled a case of either primary or secondary syphilis—that he wrote the eminent Dr. Van Buren, of New York, giving a detailed history of the case and asking advice as to treatment. Dr. Van Buren advised that, notwithstanding the obscure history of the case, yet, in view of the primary sore and secondary eruption within about the usual time, he thought a course of mercury would do no harm. This advice was followed, and the doctor got well and is still alive. Not knowing enough about the case to connect it with cancer, I was anxious (since my own case, and since I had evolved this theory) to see the doctor and ask him some questions. Fortunately, I met him at the recent meeting of the Missouri State Medical Association, and, after relating to him my own case, I asked him, "Doctor, have you been able to in any way connect your case with a cancer of a mucous membrane?" "Why, doctor," said he, with evident astonishment, "have you forgotten how I got that sore?" I answered that, if I ever knew, I had forgotten. "Why," said he, "I was opening an adventitious abscess on the rectum of an old female servant in one of my families. *She had cancer of the rectum*, and this abscess appeared just outside the sphincter. I undertook to open this abscess without chloroform, and she kicked me and caused me to cut my thumb, and the pus from the abscess flowed over the wound and poisoned it!"

Now, I am sure that every syphilologist in this country, and, perhaps, in the world, will be prepared to metaphorically jump astraddle of my theory. It is a peculiarity of human nature that when a man has said that a horse is sixteen feet high, he will stick to it, even after having been informed that horses are measured by *hands* and not by *feet*. But I request such gentlemen to explain some things:

Will they explain how it is that syphilis continues to be virulent, notwithstanding its passage through thousands of organisms, if their theory is true? Will they explain why it is that some cases of syphilis are so virulent (notably those I have given) and some so mild? Almost every physician, surgeon, and specialist of experience knows how widely the cases differ in virulence, and this can not be explained on any other theory than the one here advanced. Will they explain, to the satisfaction of inquiring medical minds, why all of the cases herein related occurred after operations upon cancers of the mucous membranes? This fact can not be explained upon the theory of a coincidence. When the same thing occurs over and over again under similar conditions the coincidence theory must be abandoned, and it must be explained upon some other theory or hypothesis.

Will they explain the unusual virulence of the cases I have related—this virulence being so marked and so great as to take the lives of all, or nearly all, of the persons affected, except the two who took mercurial treatment?

Assuming the theory I have advanced to be true, the unusual virulence of these cases can be easily explained. It is accounted for upon the same theory as that of first vaccination with the serum from the heifer. The special germ of syphilis (and there is a special germ in syphilis, notwithstanding the fact that it has not yet been isolated) has not yet become attenuated, and hence the marked suffering. I never witnessed such suffering in any case of syphilis that I ever treated as I experienced in my own case. The pain was terrible, the general feeling of suffering and the mental depression were so great that I speak the honest truth when I say that I would gladly have died to be relieved. I have treated a great many cases of syphilis in old men during my thirty-two years' experience in practice, but I have never treated nor seen a case in any man or woman, old or young, in which there was such marked suffering as I experienced.

I was fifty-seven years old when I contracted this disease, but the marked virulence and unusual suffering in my case can not be accounted for on the ground of my age. Indeed, it can not be accounted for on any other theory than that *this was a first case*. I received the virus into my system before it had become attenuated by having passed through a number of human organisms.

I had not seen nor handled a case of primary or secondary syphilis for two years previous to the accident by which I received the virus into my system; and, therefore, had had no opportunity to become inoculated from another person. The facts that I received the needle wound on April 24th, and operated in the two cases on the 25th, and that the primary sore appeared in the form of the lump on my thumb in about ten days (about the usual period of incubation) and the secondary symptoms in the form of the maculo-papular eruption within about nine weeks, traces it unmistakably to the cancer cases.

Neither one of the parties upon whom I operated had the least symptom of syphilis. The man whose rectum I curetted had been an inmate of the Missouri Pacific Hospital for about fifteen months, and at the beginning of that time had had an inguinal colotomy performed upon him, and the rectum was scraped out purely for the purpose of enabling his attendant to pack it with gauze, and thereby prevent the discharge from running over and excoriating the nates.

The lady had been operated upon two years previously by Mr. Lawson Tait (amputation of cervix) for malignant trouble, and there had been a return of it for more than one year when I curetted her. She was a religious and most pure and good woman and had not the mark of syphilis upon her person.

It may be asked (and the inquiry is a pertinent one), if these persons with cancer can inoculate another with syphilis, why do they not present symptoms of this disease? The answer is plain. These people are self-inoculated. As this virus is elaborated in the putrefactive changes that take place in the cancer of the uterus or rectum, they must receive this virus into the system by a slow process; and it may be (and this is a mere suggestion) that it is received before the perfection of the germ into its most virulent condition or form, and hence the process is somewhat akin to Pasteur's process of vaccination against rabies.

I shall be much obliged to any member of the profession who may know of a case similar to the ones mentioned in this paper if they will write me in full regarding the matter, giving me all the particulars they may know. I will not use the name of the physician who may have been the victim of such an accident, if requested not to do so by the physician giving me the information.

It is but truth to say that in the cases given herein of physicians who lived in cities remote from me I have relied upon the word of other physicians for the histories as given. If it should be that violence has been done to the facts in any case, the physicians who live in those cities (Louisville, Detroit, and Chicago) will recognize the cases upon reading this paper, and I trust that they will correct me in such particulars as may not be entirely correct, and that they, in the interest of scientific investigation, will give me the history as they know it to have occurred.

Note.—I have aimed to answer any criticisms that may be offered to the grounds assumed, the arguments made, etc., in this paper, so as to confine whatever discussion may arise in regard to my theory to as few persons and within as narrow limits as possible. But, since I wrote the foregoing (since it has been put in print, in fact), one other phase of the subject has been presented which I deem it best to refer to now. On my presenting this matter to a medical friend who is somewhat of an authority on syphilis, he said: "Why, doctor, your diagnosis was not correct!" I had not thought of this before. This is the last resort of the man who is an authority on any subject—after all argument has been exhausted, who has been beaten at every point, he simply calls in question your diagnosis. This is an argument that is hard to answer. It brings up the question of the relative ability of a man who has seen a case and one who has not, in making a correct diagnosis. I can only say that if the two cases mentioned were not *carcinomæ*, then I do not know what that pathological condition is. Mr. Lawson Tait had operated upon one of the patients. I lean on Mr. Lawson Tait and await the onslaught.

REVIEW OF THE SEVERAL METHODS OF OPERATIONS FOR HÆMORRHOIDS:

THE BEST OPERATION.

By J. COPLIN STINSON, M. D., C. M.,
SAN FRANCISCO.

In deciding on an operation for the permanent cure of hæmorrhoids, the problem is to restore the structures, so far as possible, to their normal positions, relations, and uses. Keeping this, the true solution, clearly before us, we have the key to the situation. At the present time several methods of operation are used: (1) Injections; (2) crushing; (3) ignipuncture; (4) ligature; (5) clamp and cautery; (6) removal of the pile-bearing area; (7) individual excision, with clamping of bleeding vessels only (immediate excision), ligating when necessary, with or without suture of the cut edges.

Reviewing these several operations, the question arises, Which is the best to adopt? We can only arrive at the very best conclusions by reviewing these several methods, keeping in mind that the points to determine the choice are: Which is the easiest, safest, quickest, least painful, has the speediest recovery, the fewest complications and sequelæ, calls for no secondary operations, and has no recurrences.

Before reviewing the several operations, I shall briefly describe the immediate excision method.

So far as I can find out from the study of the literature of the day, immediate excision was first done by Dr. Outerbridge, of New York. Dr. A. Earnest Gallant, of New York, in the October, 1894, number of *Mathews's Medical Quarterly,* stated that "Dr. Outerbridge since 1888 had given up the use of the ligature, clamp and cautery, etc. His experience with this operation numbers from a hundred and twenty-five to a hundred and fifty cases of all degrees, varying from the simple external 'tab' to the most severe case of internal hæmorrhoids, with prolapse of the whole hæmorrhoidal inch. For practical purposes in doing this operation Dr. Outerbridge divides the cases into two varieties:

"1. Cases with only external 'tabs' or with the more frequent arrangement of three tumorlike masses just inside the sphincter ani, usually considered most suitable for clamp and cautery or ligature. These may be dealt with in the following way: Grasp with a pair of thumb forceps or insert the point of a tenaculum into the most prominent portion of the tab or tumor, and make enough traction at right angles to the gut to clearly define the mass. Surround it with the blades of a pair of scissors (curved on the flat) pressed well toward the muscle, and with one or two cuts the diseased tissue is removed. This will leave an elliptical raw surface, the edges of which can now be united with a continuous catgut suture. Each distinct mass is amputated and sutured in the same way.

"2. Those cases where the whole 'hæmorrhoidal inch' is dilated and ordinarily considered as most successfully treated by Whitehead's method. These may be handled as follows: Having thoroughly dilated the sphincter, the hæmorrhoidal ring will protrude from the anus. With a pair of thumb forceps grasp a part of the mass, and with the curved scissors cut away a strip of mucous membrane and hæmorrhoidal tissue down to the muscle, following the line of the mucocutaneous junction all round the lumen of the gut. A second or third strip may be removed whenever the size of the mass necessitates. If external hæmorrhoids ('tabs') are also present, in order to prevent recurrence in that region, pruritus, and the numerous discomforts usually following the operation as ordinarily done, a strip of skin down to the sphincter ani is removed in the same way. The free edges of the skin and mucous membrane are now brought together with a continuous catgut suture. A double stitch may be taken at two or three points in the circumference of the bowel to interrupt the sutures and thus avoid the necessity of tying. Owing to the rapidity with which the diseased tissue can be removed and the suturing accomplished, the slight hæmorrhage which occurs is at once controlled without the use of artery forceps or the necessity of ligating bleeding points. Should bleeding occur at any point immediately after suturing, an extra suture at that point will at once control it. If during the removal of the mass any vessel bleeds excessively, it can be quickly controlled by at once beginning to suture."

The method of immediate excision I employ, and which I have found to be the most satisfactory, is performed in the following manner:

1. An anæsthetic should, as a rule, be administered; my preference is chloroform given by the drop method, but no general anæsthetic is really necessary, as the operation can be done with little pain. After disinfection, etc., of the field of operation the patient is placed in the lithotomy position, buttocks slightly elevated on a firm pillow, the legs kept in position by a Clover's crutch, sphincters thoroughly stretched, and the rectum and anus disinfected and dried with sponges. The stretching is the painful part of the operation, but it permits of easy exploration, good view, a ready control of any bleeding, and, in addition, there is little or no pain after the operation is completed.

2. (*a*) External piles are first removed. The pile is grasped with forceps and drawn out, exposing well its base; before excising, estimate the amount of tissues that should be left so that the cut edges will afterward fall accurately together; with sharp scissors quickly snip off the pile, the cut corresponding to the radiating folds of the anus. If anything bleeds, clamp the vessel with small forceps. Remove any other external piles in a similar manner; finally remove the forceps, if any have been used, in the order in which they were applied.

(*b*) Internal piles are next removed. The pile is grasped with forceps and drawn down well into view, exposing its base; estimate the amount of tissues that should be left, so that the cut edges will afterward fall accurately together; quickly snip off the pile, so that the cut edges correspond to the long axis of the bowel; if any vessel spurts, catch it at once with forceps; bleeding high up in the rectum can be readily located and vessels clamped by introducing a broad Sims speculum and drawing down the cut edges of the mucous membrane with forceps. Remove all other piles in a similar manner; finally take off the forceps in the order in which they were applied. If any vessel starts to bleed again after removal of forceps, clamp again and tie with fine catgut. All acute bleeding must be arrested. The cut edges may be sutured, using fine continuous catgut. If no sutures are used, the cut surfaces heal rapidly, owing to the method of excision and the peculiar arrangement of the rectal folds. If no anæsthetic is used, I would not advise suturing, as the inserting of stitches causes considerable pain, and also for the other reasons just mentioned. In those cases where there is a prolapse of the whole pile-bearing area the condition is best rectified by removing the excess of mucous membrane, etc., by making three snips with the scissors, the cuts being made equidistant from one another, corresponding to the long axis of the bowel and extending from the skin of the anus to the highest point of the prolapse within the bowel. This method is followed in order to preserve linear strips of mucous membrane, etc., and thus a normal rectum and normal muco-cutaneous orifice. Bleeding is dealt with as above described.

3. The parts are dried, covered with some mild antiseptic powder, such as aristol or dermatol, and a sterilized gauze pad, cotton, and T-bandage applied.

4. *After-treatment.*—Nothing special. Bowels may move naturally. If not, administer several days after the operation a cathartic—*e. g.*, compound licorice powder or castor oil; also giving before the bowels move a copious enema of soapsuds, containing, in addition, glycerin, half an ounce, olive oil, two ounces, Rochelle salts, two ounces. Afterward see that the bowels move regularly. There will be no difficulty with urination. The patient may be allowed up a few days after the operation, usually after the bowels move.

Review of the Several Methods of Treatment.—*Injections* present several objections. They may relieve, but will not cure. In a favorable case relief may last from two to four years; pain may be considerable; sometimes the injections are followed by great shock, severe pain, marginal abscess, sloughing, fistula, ulceration, inflammation, prolapse, strangulation, abscesses, perirectal inflammation, extensive gangrene, and even pyæmia. There may be decided vesical symptoms with diminished urinary secretion. In fact, several fatal cases following injections have been reported by Andrews. It is impossible to give any definite prognosis as to the length of time necessary to effect a cure, or the amount of suffering the treatment will entail. The treatment does not result in a radical cure, as the tumors usually reappear in from two to four years. On the other hand, injections have a few advantages: The patient avoids an anæsthetic, a surgical operation, perhaps confinement to bed, when he would be better off in bed, but he submits to an uncertain method, which he does not fear on account of his ignorance. The method has nothing to commend it to the adoption of the educated, level-headed surgeon.

Ignipuncture and *crushing* are both unsurgical, poor methods, and are far from satisfactory, as they do not either of them fulfill the indications for a permanent cure.

The ligature and clamp and cautery have many advocates. Both are, as a rule, curative, and one is about as safe as the other.

The ligature method is comparatively simple and easy of performance. As a rule, it is bloodless, but the operator may be called back to arrest the oozing of blood which may require gauze packing, which is a source of much pain. The ligatures, constricting masses of tissues containing nerves as well as blood-vessels, are productive of excessive irritation and spasm of the rectum and anus; sometimes they slip off, causing a hæmorrhage; or by the stump not sloughing off, owing to the ligature loosening and the constriction being removed, a cure does not result. Occasionally the ligatures do not slough off and have to be removed by traction or snipping with scissors. Pain subsequent to the operation is frequently very severe, especially when the bowels move. Frequently for several days after the operation there is fever ranging from 99° to 102° F. or higher; infrequently secondary operations are necessary; healing is delayed for days and perhaps weeks, owing to the sloughing of the stumps; and there is also usually some vesical disturbance that requires anodynes, poultices, and sometimes the use of the catheter.

The clamp-and-cautery method is a little better operation than the ligature; there is less pain, less subsequent trouble, less vesical disturbance, and a more speedy recovery. There are no strings, constricting nerves, blood-vessels, and other tissues of the rectum and anus, a fewer number of recurrences, and less frequent secondary operations. On the other hand, I believe the immediate risks are greater, as there is more danger of hæmorrhage after the cautery than the ligature. Again, it is somewhat difficult of execution and requires extra instruments and extra assistants, the cautery gets out of order so often, frequently just when one wants to use it; besides, there are many unnecessary manipulations. The burning of the stumps causes severe pain after the operation. Many patients complain very bitterly of the feeling of heat and burning in the rectum and anus, even after the stumps have been well irrigated and every precaution has been taken to prevent burning the skin, etc. Eschars mean sloughing, delayed healing, and large cicatrices, with possibly a slight stricture of the rectum and anus. Sometimes after healing is complete tags are left; these are generally annoying, and are at times the seat of subacute inflammation, which renders it often necessary to remove them by a subsequent operation. The extra instruments and extra assistants are additional expenses. In fact, I consider that as soon as immediate excision becomes well known the ligature and clamp-and-cautery operations will be things of the past. They are both unsurgical and have no place in the clean, careful surgery of the present day. By doing away with these operations, vital structures will be no longer unnecessarily constricted. At the same time we would also avoid mass ligatures, mass clamping, the cautery, sloughing, septic discharges, painful and sloughing stumps, exudates, and large cicatrices.

Excision of the pile-bearing area, or Whitehead's operation, or Outerbridge's modification thereof, do not appear to me to be as satisfactory as, and do not give a more permanent cure than, the ligature or cautery operation. They are bloody, tedious, take longer, and are more difficult of performance than any of the other operations. Normal structures are unnecessarily removed. They are also more painful, recovery is less rapid, and there are more vesical and other disturbances, so that occasionally the catheter has to be used. If primary union is not obtained between the skin and the stump of mucous membrane, the latter, tearing away from the stitches, glides back into the rectum, leaving a circular granulating wound, which, when healed, leaves a stricture of the rectum and anus. At times, even when primary union takes place, there is, as a complication, a condition resembling a slight but complete prolapse; instead of a normal orifice to the bowel, there is a ring of mucous membrane, half an inch wide, surrounding the anus, which causes great suffering, as it becomes raw and ulcerated from exposure and contact. The incision in such cases has been made outside the muco-cutaneous junction, and when this condition is rectified by another operation, there is, as a result, a mild stricture of the anus. In fact, the peculiar mechanism and important functions of the mucous membrane and submucous tissues of the rectum show that it is a highly specialized organ, which can not be dissected out without doing great or even irreparable damage.

Immediate excision with scissors or scalpel, clamping bleeding vessels only, and ligating when necessary, with or without suture of the cut edges, as I have described, I consider the best method of operation. It is perfectly safe, easily and quickly performed, may be done without an anæsthetic, and with no danger of accidents, as all bleeding can be arrested. Confinement to bed is necessary for a few days only; healing is quickest, as the wounds are in a healthy condition; there is no trouble with the bowels or bladder, and little or no trouble after the operation and during convalescence. It is a better operation than the clamp and cautery, ligature, and the other operations, as it has none of their objectionable features. There are no recurrences, no secondary operations, no danger of stricture of the rectum and anus, as only the excess or pathological tissues are removed, while wide strips of mucous membrane, corresponding to the longitudinal axis of the gut, are left. By this method the operative work is reduced to a simple procedure, requiring few instruments and little assistance.

In looking over my lists of cases in which I operated or assisted in an operation for hæmorrhoids while house surgeon at the Post-graduate Hospital, New York, during 1893 and 1894, and since I left that institution, I find they number a hundred and fifteen. The mortality in these cases was nil. As I have performed each of the operations reviewed a number of times, have observed cases that have been operated upon by others, and have followed the post-operative histories of a large number of cases, I can state that my objections to the several methods of operation and my preference for the immediate excision operation is based on clinical experience. In regard to the latter method, I assert positively that there is no danger from hæmorrhage, either primary or secondary. If there is excessive bleeding, it can be arrested by applying forceps to the vessels and ligating individually, if necessary, when the forceps are removed. However, it must not be forgotten that death from hæmorrhage has followed both the ligature and cautery operations, just as other fatal results have occurred in careless or incompetent hands. If men will operate and leave vessels bleeding without applying forceps, ligatures, or the cautery, the patients will die; but if the work of immediate excision is performed properly the operation is perfectly safe—in fact, as safe as any other operation in surgery.

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LEARNING TO SEE AT FORTY:

FIRST WITH ONE EYE, AND LATER WITH BOTH.*

By JAMES L. MINOR, M. D.,
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I don't know that my pretentious title is justified by the crude article which follows. It is based upon my experience with a patient forty years old, who had been blind from birth, and acquired his sight at my hands.

My first tests for vision, *his* first efforts to see, his first impressions of vision, and the processes by which conclusions were reached through his new sense of sight, may be an occasionally told tale, but his quickness and accuracy in reaching conclusions are certainly rare; and the fact that color perception and binocular vision were acquired without cultivation or experience is new, so far as I know.

The fields of vision, the color fields, the amount of vision in the periphery of the field, and the muscular condition are additions to our fund of information.

Some of his experiences as a blind man are so remarkable that I have briefly referred to them.

Mr. J. H. P., aged forty, who had been blind from birth, consulted me November 15, 1895, concerning his eyes. I found a dense, brilliantly white cataract in each eye, with perception and projection of light, but nothing more, in all parts of the field of vision. Tested with bright red, green, and blue transmitted and reflected lights, he showed no recognition of color.

He was a well-developed, healthy man. One brother was affected like himself, otherwise his family history was good.

He was a remarkable individual — quick-witted, shrewd, and observant, but uneducated. Thrown upon his own resources in early life, he had made his own way in the world, and accumulated some property as a farm laborer. He could cut wood, mall rails, split shingles, pull fodder and corn, pick cotton, etc., almost as well as his seeing companions. He had been storekeeper, illicit distiller and dispenser of whisky, United States prisoner, and a successful horse trader, telling the age, color, and other qualities of a horse by his sense of touch. As a sportsman, he followed the hounds on foot in their chase after opossums, coons, and even foxes, and was usually at the wind-up, often got the brush, and was never at a loss to reach home.

His sense of location and direction, and his recognition and avoidance of obstacles in his path, were unerring and uncanny, and were compared by himself and his friends to the instincts of certain animals.

He reached Memphis from the wilds of his country home, two hundred miles distant, at 11 P. M., and went at once to St. Joseph's Hospital, where I first saw him at two o'clock the next afternoon. The day had been cloudy and overcast, so the light could have given no indication of the points of the compass; and yet, when I asked him the direction of his home, after very slight hesitation, and turning back and forth a few times, he pointed directly south, the direction of his home. He was taken from his ward down a long hall, and, after two half turns, into a dark room, for ophthalmoscopic examination. After this, he was told to make his way back to his room. He did so without difficulty, avoiding obstacles placed in his path in the darkened hall, and going down the centre of the ward to his bed and chair, in spite of the fact that he was assured he was wrong. He could tell colors by touch. Blacks and whites were instantly recognized. Reds, greens, and blues were accurately selected without much fingering, whereas mixed colors were correctly described as light or dark. He could not explain his peculiar acquirements as to location and direction, he "jest knowed" where he was and which way to go; and obstructions in his path were recognized by the same vague but reliable process. Colors felt unalike, but the differences could not be explained.

He said he did not know or care anything about seeing, for he had always got along well enough as he was, but he had been so frequently urged to have something done to give him sight that he had come up to have one eye fixed, and, if he liked it, the other one might be treated later.

He urged objections to every condition imposed by the operation, but finally yielded, as if conferring a great favor upon me in being allowed to remove one of the cataracts. I operated on the left eye under cocaine, and succeeded in extracting, without an iridectomy or accident, a large lens, densely white, and of puttylike consistence throughout. With the exclamation, "I can see," he became a changed man. His one object in life became "to see." All objections to my directions ceased, and my suggestions became the laws of his life.

The eyes were bandaged, and he received otherwise the customary treatment for such cases. Progress was normal. The eyes were dressed from time to time as was deemed advisable, but he was not allowed to see until the bandage was taken off on the tenth day, in a moderately darkened room. The healing process had taken place with a minimum of inflammation. The ball was free from redness and presented practically the appearance of a normal eye. To ascertain what he could see, and at the same time to learn what impressions were conveyed to his mind by a sense that was entirely new to him, I made the following tests: Having previously satisfied myself that square and round objects were understood through his sense of touch, a square box and a round ball were submitted separately to his ocular inspection, for the purpose of getting his ideas of such *dimensions* when seen. The first tests were negative. He said he could see what was held before him, but had no idea of the shape. When pressed for some expression of opinion, he answered rather petulantly that he never saw anything before, and could not form an idea of such things unless he could get his hands on them. The third effort, however, was successful. He took a good look, closed his eyes, and after a few moments said he thought it (the box) was square, and in like manner the ball was pronounced round. He evinced much pleasure when allowed to verify these impressions by touching the objects with his fingers.

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* Read before the American Ophthalmological Society, July 21, 1898.

The bandage was reapplied, because I wished to control the use of his eye. The next day it was removed, and to get his impression of *size*, he was asked to indicate his idea of one foot, which he did correctly on his walking cane. A stick twelve inches long and one inch in diameter was then shown him, which, after some hesitation, was thought to be four inches long and the size of his finger. His mistake was quickly rectified when the stick was placed in his hands. To designate in *numbers* the objects held in front of him was a great puzzle. He knew there was a difference between one or more, but was at a loss to tell what it was. In the course of four or five trials, however, he was able to say that there was one, or that there were two, and finally mastered them up to five, but not beyond that number.

Tested as to colors, he recognized, not confidently, but without much hesitation, reds, yellows, greens, and blues. The others were called, correctly, light or dark. His appreciation of *shade* may be thus illustrated: As soon as I had finished testing his color perception he told me he had supposed there were only two kinds of people—the whites and the negroes—the former white, the latter black, in color; that he knew me to be a white man, and yet my face was not white when compared with my shirt front. When he saw a negro some days later, the contrast between the black skin and the whites of his eyes and his white teeth appealed to him strangely. He said the negro looked as if he was frightened.

That he was a close observer and reasoner may be thus illustrated: The same day that he was tested for color perception I showed him a glass tumbler, and asked him what it was. After close scrutiny and some hesitation he said he thought it was a drinking glass. He explained his reasons for thinking so by saying the shape of the object was that of a tumbler, outlining it by movements of his hand; and that he knew it was glass, because glass was clear—he could see through it.

I endeavored to get some idea of how *visual impressions appealed to him,* and his methods of reaching conclusions from them. It was this: He would take a good look so as to fix the image on his mind, close his eyes, and imagine his fingers were playing over the object or objects. Only after this process had been gone through could intelligent conclusions be reached.

As to his perception of colors, he had no explanation to offer, nor have I. It is simply a fact that pronounced colors were correctly recognized the first time they were seen, without previous visual knowledge or cultivation, by an eye forty years old.

I kept him under observation for a month longer, and, while incidents connected with the development of his sight were of much personal interest, they were otherwise unimportant. He had not entirely given up the method of reaching conclusions just described, but was less dependent upon it. Every new object seen, with which he had been previously familiar, continued to surprise him, as appearing to be one third the size of what he had supposed. His vision at this time was $\frac{20}{100}$ without correction and $\frac{20}{50}$ with a + 7.00 D. No. 4 J. could be seen with + 10.00 D. The ophthalmometer showed 2.00 D. of astigmatism, which glasses did not verify.

The fields of vision and of color were normal, as shown in Chart No. 1. Vision in the periphery of the field was also normal, the $\frac{1}{200}$ zone, extending to about forty degrees. He was satisfied with what he saw without glasses, and could not be prevailed upon to get or use them.

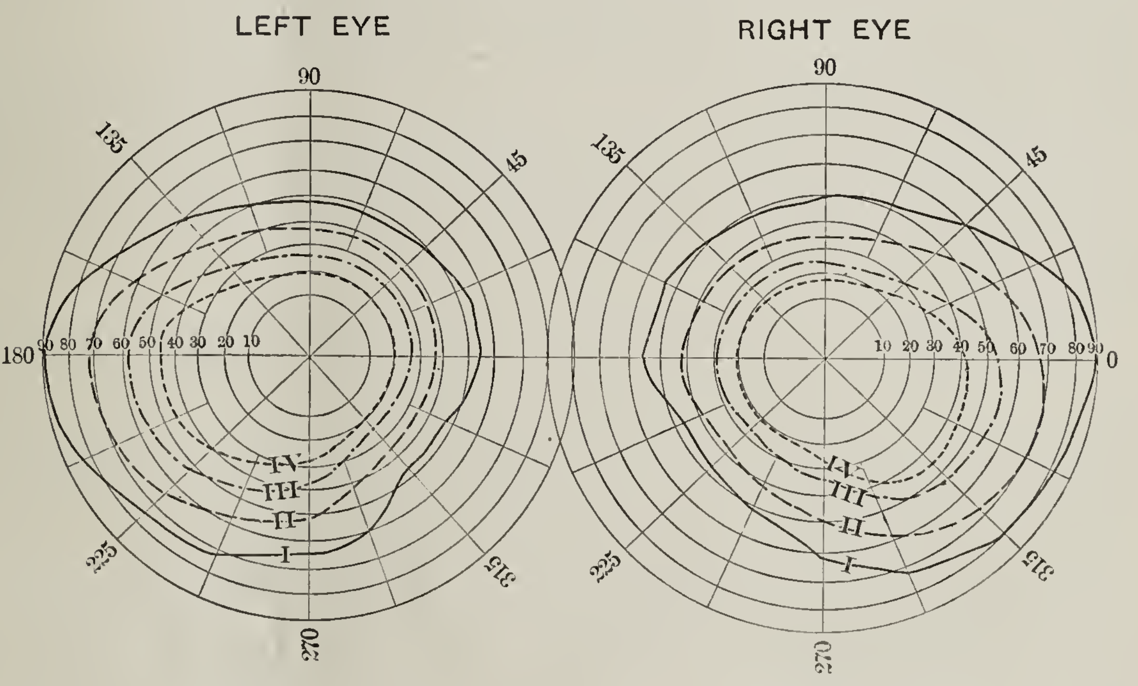

CHART 1 CHART 2

Chart of fields of vision and color.—I. Limit of field of vision. II. Limit of field for blue. III. Limit of field for red. IV. Limit of field for green.

The ophthalmoscope showed nothing unusual.

Mr. P. went home and quickly learned to work by eyesight—so much to his satisfaction that he returned to have the other eye operated upon one year later. He said he could see anything he wanted, but was unable to judge of distance, and that in some forms of work, where distance had to be considered—as in chopping wood—he could do better with his eye closed.

His remarkable sense of location and direction and his keen sense of touch had been largely lost, and he could no longer tell colors by feeling, with accuracy.

I operated on the right eye and found the same conditions and met with the same success as on the left. Ten days later, when he was first allowed to see with this eye, it was found that he could see and use it as readily as he had done the other. He was then allowed to look around with both eyes open, and said he saw comfortably and better than he had ever done. Both eyes acted in perfect harmony, and there was no diplopia; but a prism of five degrees, base in either direction, before either eye, caused double images. With a stereoscopic picture, in which two separated semicircles are made to appear as a circle when viewed through the instrument by a normal pair of eyes, he saw only the circle—showing perfect binocular vision. The eye was bandaged up, and two days later the bandage was removed and the muscular condition of his eyes was found to be as follows for twenty feet: Orthophoria; abduction, 2°; adduction, 4°; sursumduction, 1°; deorsumduction, 1°. The condition was practically the same for fourteen inches.

He volunteered the statement that he could estimate distances with much more accuracy and ease, and when told to quickly touch the point of a pencil held in front of him with his finger, he did so with precision when both eyes were open, but usually missed when either eye was closed or alone depended upon.

Three weeks later, vision in right, or last eye operated on: $\frac{20}{200}$; + 7.00 D. V. = $\frac{20}{40}$; + 10.00 D., No. 4 J. at eight inches. Left eye: Vision, $\frac{20}{200}$; + 7.00 D., V. = $\frac{20}{32}$; + 10.00 D., No. 4 J. at eight inches. While glasses sharpened his sight, they were uncomfortable, and were got under protest, to be later discarded, I learned, because they produced diplopia.

His field for vision and color was normal, as shown in Chart No. 2. His eccentric vision was also normal.

The ophthalmometer showed astigmatism, which glasses did not verify. The ophthalmoscope showed a normal fundus.

It is stated by Foster, in his work on physiology, that "if both eyes be removed from a newborn animal, not only do both optic nerves, and the greater part of both optic tracts, cease only to be further developed, and degenerate, but the . . . two corpora geniculata, the pulvinar on each side, and the two anterior quadrigemina do not develop. The development of these nervous structures seems to be largely dependent upon the functional connection with the eyes by the optic tracts and nerves."

And yet this pair of eyes, never depended upon, and forty years old, could see, could distinguish colors, and were possessed of binocular vision when the first efforts were made in that direction.

It is probable that the perception of light possessed by my patient may have kept these parts intact, but it is difficult to understand how they were ready to assume such perfect functional activity as was noted, if there is really as much in the theory of development being dependent upon functional activity as is currently supposed.

Foster further states that "Donders observed normal binocular movements in an infant one hour old."

CONGENITAL ABSENCE OF THE GLANS PENIS.

By IRA E. ATKINSON, M. D.,
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That the absence of the glans penis congenitally is a rare deformity I have no doubt. A careful perusal of a number of works on surgery, anatomy, and venereal diseases, and of several leading journals, fails to bring to light the report of a single case of congenital absence of the glans penis. Its extreme rarity leads me to report a case which recently came under my observation:

Mr. M., aged about forty years, consulted me for a trouble which he had diagnosticated as adherent prepuce. A careful examination revealed the true character of the malformation, an absence of the glans penis.

The root and body were normally formed, and of about the usual diameter and length.

The corpora cavernosa and corpus spongiosum, both apparently of the same length, ended together in a nicely rounded and slightly pointed "stump." The prepuce was rather long; the internal layer did not, however, resemble in character normal mucous membrane, except for a distance of perhaps an eighth of an inch from its juncture with the urethral mucous membrane.

The urethra, in the usual position in the body, was curved forward along the end of the penis, terminating in a round meatus near the centre of the end of the penis.

The patient sought relief, believing he had but an abnormally long prepuce adherent to the entire glans, which prevented him from passing a full stream of urine, and also because he did not seem to enjoy the same pleasurable sensation in coition that he imagined other men did.

CHLOROFORM FOR GENERAL ANÆSTHESIA.

By DAVID R. FLY, M. D.,
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In this day and time the use of an anæsthetic in all surgical operations of any magnitude whatever is an essential practice. It is also requisite for reducing dislocations; for taxis in strangulated hernia; for adjusting fractures; for breaking up adhesions; in parturition; in convulsions, especially in children; for diagnostic purposes, and various other conditions. It therefore behooves us to study and better understand the action and administration of these valuable and powerful agents.

There are two in general use. Which shall we employ in our practice? I answer the one which can be administered under the most varying conditions with the greatest safety and comfort to the patient. I believe chloroform more nearly approaches this ideal, and I am supported in this opinion by the large majority of the profession in the South.

All arguments for the use of ether and chloroform are based on their physiological action. Both produce equal anæsthesia. Ether is a more pronounced cerebral excitant, more irritating to the mucous membranes, and produces greater flow of the secretions, thus causing more stertorous breathing and more intense nausea, and is followed by the natural consequences of inflammation of the pulmonary, gastro-intestinal, and renal tracts. Ether is more stimulating to the heart, and can be pushed more rapidly and with less attention than chloroform. Chloroform lacks much of the exciting and irritating qualities of ether. The one great disadvantage, compared with ether, is the care necessary in the administration of chloroform. Both are dangerous to respiration, ether more so. Chloroform is more serious in its effect on the heart, unless cautiously administered. For these reasons the principal contraindications for chloroform are heart trouble, emphysema, with dilatation of the right side of the heart, fatty degeneration of the heart muscle, and valvular lesions without compensating hypertrophy. I would not hesitate to give this agent in valvular lesions with compensating hypertrophy. Ether, as well as chloroform, is also contraindicated in all these conditions. Such subjects are not in condition for any anæsthetic. It therefore follows that the contraindications to ether are more numerous: emphysema, acute and chronic nephritis, pneumonitis, extensive bronchitis, and bronchorrhœa. If given in the last-named trouble, the patient will absolutely drown in his own secretions. It should not be used also in valvular lesions of the heart without compensation, stenosis of the larynx and trachea, in children and old people, or soon after meals or at night near an open light, and under numerous other conditions. Thus, in general, chloroform is contraindicated only when all other anæsthetics are impossible, while ether seems contraindicated in all cases save those of perfectly healthy adults, and certainly in these chloroform is equally safe. I prefer chloroform for routine practice also, because I am more familiar with it and have made it a special study, having administered it almost daily for the past five years in the clinic and in private practice.

In this paper it is my purpose to discuss some of the practical features in chloroform administration. The first effect of chloroform is a sensation of irritation in the throat, a sense of the need of air, producing more or less cough, a sensation of suffocation which causes the patient to make some resistance. But this, unless the chloroform is too rapidly pushed, quickly passes away and the inhalation proceeds quietly. The next effect is a feeling of general exhilaration, increased circulation, a more rapid respiration, which may be of a sobbing or convulsive nature: the face flushes, the pupils dilate, and sometimes there is talking, laughing, crying, singing, praying, etc., indicating cerebral intoxication, this being more pronounced in persons of a nervous or hysterical temperament. This cerebral intoxication is manifested to a greater extent in the Irish than in any other race. Women and children and anæmic men usually take the anæsthetic very quietly, unless too rapidly applied. But if the patient is a robust male in full health, and especially if the chloroform is given too rapidly, the stage of insensibility is preceded by a condition of muscular rigidity and stertorous breathing, with more or less cyanosis. This, however, soon passes off, and the breathing becomes quiet; the muscles relax, the reflexes are lost, and the subject passes to complete insensibility. The functions of the brain are suspended, except the lower centres, which preside over circulation and respiration; the pulse may be slightly feebler or even stronger than normal, and the breathing is shallow and easy. This is the "operative stage" and should be maintained throughout the operation. If the anæsthetist is thoroughly familiar with his business this can be done. It is a source of great comfort to the surgeon to have a well-trained anæsthetist upon whom he can rely implicitly. If the patient is carried to the very brink of the precipice by a too profound narcosis, or allowed to become conscious enough to struggle, the surgeon is justly annoyed and irritated. He should be free of this care in order to give his undivided attention to the operative procedure.

What are the dangers to be feared from chloroform? First, paralysis of the cardiac motor ganglia by the first few inhalations in cases of abnormal susceptibility; secondly, in the stage of muscular rigidity from fixation of the muscles of respiration and mastication; thirdly, in the stage of complete narcosis and relaxation from both cardiac and respiratory failure. I have had some experience of cessation of respiration in this stage, but always succeeded in restoring the patient by lowering the head, drawing out the tongue, performing artificial respiration, and giving whisky hypodermically. I am satisfied that the greatest danger is from the heart, for it is said by most authorities that when heart failure occurs restoration is almost hopeless. I have not seen a case in nearly four thousand administrations.

I will now call your attention to the preparation of the patient before beginning the anæsthetic. Instruct the patient not to take any solid food for eighteen hours preceding the operation. He may, however, be allowed a glass of milk or a cup of coffee six hours before. Examine the physical condition to see that no contraindications exist. If the patient be nervous and especially afraid of the anæsthetic, it is a wise precaution to give hypodermically a fourth-of-a-grain tablet of morphine, and of atropine one one-hundred-and-fiftieth of a grain ten or fifteen minutes before commencing. This quiets the patient and stimulates the circulation, and also lessens the danger of shock and collapse. The clothes should be loosened about the throat and chest, and if the patient has any false teeth they should be removed. The anæsthetist should have within easy reach a pair of tongue forceps; a mouth gag or wedge-shaped piece of wood for the purpose of opening the mouth; two hypodermic syringes, one loaded with strychnine solution and the other with whisky; and a small glass of whisky and some nitroglycerin for hypodermic use. Smear a little vaseline over the patient's nose and mouth to protect them from the vapor of the chloroform. This may seem a trivial matter, but if the patient awakes, especially if she is a woman, and finds a small blister on the nose or lips, she is very apt to think unkindly of you, or at least to consider you careless, and will probably mention it to her friends. This little matter attended to, select a suitable inhaler, by preference the well-known "Esmarch's inhaler." If this can not be had, a folded napkin or towel, or a cone made of ordinary paper and lined with absorbent cotton makes a very good one. Drop ten or fifteen drops on the inhaler, holding it at first some distance from the mouth, and gradually lower it as the patient becomes tolerant, then drop ten or fifteen drops on the inhaler every three or four minutes until complete insensibility is produced. During the administration the operator should keep the under jaw pushed forward with the index finger of the left hand. This enables him both to prevent swallowing of the tongue and to feel the carotid pulse by means of the remaining free fingers. No operation should begin until the stage of complete insensibility is reached, because of heart paralysis by reflex action from peripheral irritation. The patient soon comes from under the anæsthetic on withdrawal of the inhaler, a little dizzy at first, but this soon passes off with the admission of fresh air. Unfortunately, most people suffer from nausea and vomiting, which cease in from one to twenty-four hours. For the relief of this condition the inhalation of vinegar is very efficacious in some cases.

In conclusion, I believe chloroform to be more widely applicable than ether. I believe it to be equally safe when properly administered. I believe its heavy vapors make it safer in the presence of open lights. And, finally, I believe it leaves the patient freer from vomiting and depression and without the possibility of dangerous complications, such as nephritis and bronchitis and other pulmonary involvements, which so frequently follow the administration of ether and are not usually attributed to it as a cause.

Therapeutical Notes.

The Treatment of Erectile Tumors by Interstitial Injections of Perchloride of Iron.—Auger (*Revue du praticien*, August) states that for thirty years he has employed this treatment without accident. If the tumor is small, he uses the following formula:

℞ Thirty-per-cent. solution of iron perchloride	25 parts;
Sodium chloride	15 "
Water	60 "

M.

The tumor is pierced with the hypodermic-syringe needle. If a drop of blood presents itself, the point of the needle is known to be in a sanguineous collection, and he injects a few drops of the solution. In a few months the tumor disappears; if it grows again, a second injection is given. It is rare for more to be required. If the tumor is large, one need not fear to inject fifteen, twenty, or even forty drops of the solution; or the following, which is more active, may be employed:

℞ Thirty-per-cent. solution of iron perchloride	25 parts;
Zinc chloride	3 "
Water	60 "

M.

The injection should be thrown in slowly and without any jerkiness. In the case of a large angeioma it is necessary to practise compression of the periphery of the tumor. During the injection the tumor swells, but does not become hardened by the coagulation of the blood until after about fifteen minutes; then the peripheral compression may be discontinued. For the first twenty-four hours the tumor grows larger and harder; then retrogression begins, but it is very slow and takes several months for its completion.

Tincture of Iodine in the Gastro-enteric Disorders of Children.—Grosch (*Riforma medica*, September 14th) says that the effects of iodine in gastro-enteric complaints of children are very rapid, and, while less so in adults, they are nevertheless very certain. The fever and diarrhœa cease, the sensorium recovers, the headache is alleviated. To children it is given in doses of from two to four drops in sugar water every eight hours for three days; to adults are given six drops three or four times a day.

In acute infective gastro-intestinal catarrh a tablespoonful of the following mixture is given once or twice in the twelve hours:

℞ Tincture of iodine	15 to 18 drops;
Simple syrup	300 "
Distilled water	2,250 "

M.

Mixture for Flatulent Dyspepsia. — Farquharson (*Journal de médecine de Paris*, September 25th) recommends the following:

℞ Bicarbonate of sodium,	of each 120 grains;
Powdered sugar,	
Aromatic spirits of ammonia	40 drops;
Peppermint water	8 ounces.

M.

A tablespoonful to be taken after each meal for flatulent dyspepsia.

Treatment of Diarrhœa.—Dr. T. B. Greenley (*Journal of the American Medical Association*) finds the following prescription almost a specific, especially in the summer complaint of children:

℞ Paregoric	2 ounces;
Extract of witch hazel	1 ounce;
Carbolic acid	1 drachm;
Fluid extract of kino	2 drachms;
Jamaica ginger	2 "
Precipitated chalk	1 ounce;
Simple syrup	to make 8 ounces.

Mix thoroughly and always shake the bottle well before dosing. For an adult a teaspoonful is a dose, to be repeated at intervals of three hours, until desired effects result. Dose for children in proportion to age.

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SODIUM BICARBONATE BY INTRAVENOUS INJECTION AS A PREVENTIVE OF DIABETIC COMA.

Some time last year Dr. R. Lépine published in the *Lyon médical* an account of the case of a diabetic who had been in imminent danger of an attack of coma, but had been saved from it by an intravenous injection of three hundred grains of sodium bicarbonate. In the same journal for July 31st he records another instance of the successful employment of this device for warding off fatal coma. The patient was a man, thirty years old, whose diabetes was of unknown origin. He was very feeble, the patellar reflex was abolished, the pulse was frequent, and Gerhardt's reaction (a deep-red coloration of the urine on the addition of a little iron perchloride) was as intense as possible. His mean daily excretion of urine amounted to about five quarts; each quart contained a little more than seventy-five grains of urea and from nine hundred to a thousand grains of sugar. In view of the intensity of Gerhardt's reaction, he was subjected to a pronounced alkaline treatment, being made to take daily nine hundred grains of sodium citrate and about a hundred and eighty grains of sodium bicarbonate. He was allowed leguminous vegetables in abundance. In spite of this treatment, there was no improvement; the man lost weight, and on the 13th of July the depth and frequency of his respiration (thirty-two a minute) were striking, the pulse was 108, but there was no fever. The quantity of urine voided was smaller than usual.

In the presence of these symptoms, and thinking that within forty-eight hours the patient might fall into coma, Lépine lost no time in administering an intravenous injection of two quarts of sterilized water containing in solution three hundred grains of sodium bicarbonate. The infusion was conducted a little too rapidly, and in consequence, on auscultation of the heart, a galloping action of that organ was recognized, but there were no subjective cardiac symptoms and the galloping ceased in a few minutes as the result of simple suspension of the infusion. The author thinks it was due to momentary overcharging of the ventricle. The results of the procedure were most satisfactory; the patient passed nearly six quarts of urine in the next twenty-four hours and the pulse fell to 68. The man's general condition was good and his appetite had returned. The amount of sugar in the urine was progressively augmented. The secretion remained acid, although its acidity was somewhat diminished. Lépine infers from the urinary analyses that the first effect of the infusion was a great elimination of salts of beta-oxybutyric acid. The acetonuria present in this case was less marked than it usually is in cases of the kind, but on the day after the infusion the urine contained over fifty grains of acetone to the quart, and on the following day it contained less than a grain.

Of course, says M. Lépine, the patient was not cured, but he was evidently saved from an imminent attack of coma. His diabetes still persists, with all its possibilities.

THE TREATMENT OF WHOOPING-COUGH BY THE INHALATION OF MEDICATED OXYGEN.

In a thesis presented to the University of Paris, and quoted in the *Gazette hebdomadaire de médecine et de chirurgie* for October 2d, Dr. M. Lacroix gives the results of his experience in the treatment of twenty-five cases of pertussis by inhalations of oxygen medicated with certain antispasmodics. The substances used were bromoform, bromide of camphor, and cherry-laurel water. The apparatus employed consisted of a bag containing the oxygen to which is attached a rubber tube conducting the gas into a reservoir, which he calls the saturator. This reservoir contains pieces of pumice stone which are saturated with the medicaments to be used. From the reservoir is an outlet tube furnished with a bone mouthpiece. The pumice stone is placed in a glass and is saturated little by little with the medicaments, the whole being stirred the while with a glass rod. It is then replaced in the saturator, and at each sitting a pinch of bromide of camphor is added. When the stone fills the apparatus a tampon of absorbent wool slightly compressed, and intended to stop the aspiration of particles of pumice or bromide of camphor, is placed on top. When bromoform is used, it is previously dissolved in the cherry-laurel water. Dr. Lacroix uses ten grammes of each, but the quantity used may be varied according to circumstances.

The mouthpiece is placed in the patient's mouth, and a slight pressure of the oxygen bag sends the gas through the saturator, and the gas thus becomes impregnated with the vapors. The taste of the mixture is said to be slightly disagreeable, but is nevertheless well tolerated by children. M. Coyon has treated at the Hôpital Trousseau over a hundred cases in this manner, without observing any pronounced dislike on the part of the patients. Dr. Dutremblay, on the other hand, finds a mask more convenient, and that method could be employed if the child refused to submit to treatment. The saturator needs renewal about every four or five days.

About forty-eight quarts of oxygen are used daily in four inhalations—viz., twelve each time, about 8 A. M., midday, 4 P. M., and 8 P. M. The treatment is given without regard to either the access or the time of feeding. Dr. Dutremblay, however, divides the doses, and gives a few quarts of inhalation after each access, and this method would probably be advisable in private practice.

The advantages alleged for this treatment by Dr. Lacroix are:

1. It modifies the accesses of cough, diminishing them both in number and intensity.

2. It obviates complications, such as bronchopneumonia, hernia, prolapse of the rectum, epistaxis, vomiting, constipation, fœtid stools, etc.

3. It strengthens the organism, relieving the general condition, and placing the organism in good form to resist the invasion of infectious diseases so frequent after whooping-cough.

The method seems to commend itself as rational, not difficult of application, and well worthy of a trial in this obstinate and distressing malady.

MINOR PARAGRAPHS.

AN UNCONSCIOUS ACCOUCHEMENT.

There is recorded in *Médecine moderne* for August 31st a case of accouchement in which the mother appears to have been unconscious of her delivery. The pains, which had been regular, gradually grew fewer, and the doctor retired, giving instructions that he was to be summoned about two hours later. On his return, the patient declared that the pains were strong, but the midwife assured the doctor that they were not strong enough to justify the anticipation of a speedy accouchement. The doctor caused the patient to be uncovered, when great was his astonishment to find the child lying between the mother's thighs, not breathing and motionless, the head plunged in a flood of amniotic fluid. A hot bath and alcohol friction to the spine recalled the infant to life. The child weighed somewhat under seven pounds. This recital is not without interest from a medico-legal point of view.

GELATIN IN HÆMATEMESIS FROM ULCER OF THE STOMACH.

The *Lyon médical* for September 18th quotes the *Union pharmaceutique* for August as authority for saying that M. Poliakow, of Moscow, prompted by the hæmostatic action of gelatin in metrorrhagia, epistaxis, etc., has successfully administered it in a case of hæmatemesis due to round ulcer of the stomach. A young girl of twenty-two, who had suffered from cardialgia with pyrosis for some years, had almost daily hæmatemesis notwithstanding an absolute regulation of the diet, complete rest in bed, and the administration of large doses of subnitrate of bismuth. Alarming cardiac symptoms set in. M. Poliakow prescribed a ten-per-cent. solution of gelatin, of which the patient took about six ounces three times a day. On the following day the hæmatemesis stopped, and in the four following weeks, during which the administration of gelatin was continued, only two or three attacks, less bloody in character, and stopping immediately on the administration of the gelatin, occurred. At the time of reporting, we are informed that no trace of hæmorrhage or gastric pain remained, and that the patient was able easily to digest boiled milk, eggs, and meat, while her general condition was markedly ameliorated.

THE DOCTOR IN GENERAL LITERATURE.

Occasions for us to record the successful efforts of medical men in general literature have grown more frequent of late, we are happy to be able to say. The most recent production of the sort is by a well-known Cincinnati physician, Dr. Whittaker.* The adventures of a young Russian exiled to Siberia, whither he is followed by his Greek sweetheart, form an interesting story on which are strung many curious bits of information on the most diverse subjects, together with no little ingenious speculation. The book is most scholarly, and we hope that it will be followed by others by the same accomplished author.

EXPERT TESTIMONY IN MALPRACTICE SUITS.

An esteemed correspondent informs us that in one of the circuit courts of the State of Missouri, several weeks ago, a suit for malpractice was on trial, and eight of the most prominent surgeons of St. Louis testified as experts. Among other instructions the following was given to the jury: "In determining the question as to whether or not the defendant exercised such skill and care in the treatment of the plaintiff's broken arm as, under the law, he should have exercised, you are not bound by the testimony of witnesses who have testified before you as experts, but you may disregard all expert testimony or any part of it that appears to you to be unreasonable." The jury awarded very heavy damages, and our correspondent wishes to know if we think the instruction quoted was fair. We think it would be very apt to prejudice the jury against the defendant; consequently we do not think it fair.

THE MEDICO-HISTORICAL JOURNAL *JANUS*.

We have before commended this new journal. We are glad to learn of its prosperity, as is shown by the fact that it is soon to be published monthly. It has been fitly described as a "bridge" connecting modern medicine with such subjects of research as the history of culture, archæology, ethnography, and philology.

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* *Exiled for Lèse Majesté.* By James T. Whittaker. Παθήματα μαθήματα—Herodotus. (Sufferings are Lessons.) Cincinnati: Press of Curts & Jennings, 1898. Pp. 362.

RUPTURE OF THE VAGINA DURING LABOR.

Everke (*Monatsschrift für Geburtshilfe und Gynäkologie,* vii, 2; *Centralblatt für Gynäkologie,* September 17th) reports five cases of colpaporrhexis occurring during labor. Three of them appear to have been due to violence of the pains, and two to overdistention. The laceration should be closed with sutures, preferably by the sero-serous method, as soon as labor is completed. The greatest danger is that of infection of the abdominal cavity; prolapse of the intestines and hæmorrhage are hardly to be feared.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 29, 1898:

DISEASES.	Week ending Oct. 22.		Week ending Oct. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever................	122	24	73	23
Scarlet fever................	84	6	108	6
Cerebro-spinal meningitis.....	0	0	0	6
Measles......................	57	4	57	1
Diphtheria...................	118	28	132	18
Croup........................	12	5	8	9
Tuberculosis.................	166	130	217	154
Yellow fever.................	0	0	1	1

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 1st inst., the following subjects were to be presented for discussion: Gonorrhœa, by Dr. W. H. Heath—discussion by Dr. Harrington and Dr. Green; Surgical Kidney, by Dr. M. Hartwig—discussion by Dr. Park, Dr. Heath, Dr. Parmenter, and others.

A French Decoration for a New York Physician.—We learn that the French minister of public instruction has sent the decoration of *officier d'académie* to Dr. Wilson-Prévost, of New York.

The German Medical Society of the City of New York.—At the next regular meeting, to be held on Monday evening, November 7th, Dr. Willy Meyer will show Nitze's improved cystoscope for catheterism of the ureters and Harris's instrument for the separate collection of renal urine; Dr. Max Einhorn will read a paper On Membranous Enteritis and its Treatment, to be discussed by Dr. A. Jacobi, Dr. A. Rose, Dr. M. Gross, Dr. M. Rosenberg, and others; Dr. H. J. Boldt will read a preliminary report On the Action of Stypticin in Uterine Hæmorrhage; and Dr. Leonard Weber will read a paper On the Treatment of Acute Articular Rheumatism on the Theory of its being an Acute Infectious Arthritis.

The Origin of Spectacles.—Dr. Edmond E. Blaauw, of Buffalo, writes: In your issue for September 8th you quote the *Southwestern Medical Record* for August, in which Dr. E. P. Daviss says that "it is to Charles II of England that the world owes the discovery of lenses as an aid to vision."

Allow me to refer to Dr. J. Stilling, *Grundzüge der Augenheilkunde* (Vienna and Leipsic, 1897), page 81, where we find the following sentences: "For the first time Konrad von Würzburg and Roger Bacon (and previously the Papist Amiss) refer to the use of magnifying glasses for reading and writing. The invention proper of convex glasses happened in the beginning of the fourteenth century, and is ascribed to the Florentine Salvino d'Armati, as his well-conserved epitaph to-day shows. The invention was nothing else but two ordinary magnifying glasses connected with a joint and kept in the hand for reading, etc., and the concave glasses are first to be found in the middle of the sixteenth century."

According to this, it would seem that the use of a pair of glasses is at least a hundred years older than Dr. Daviss would have us believe.

Cobra Bite treated with Tobacco Ash; Recovery.—Dr. Tricamlall Mayanlall (*Indian Medical Record,* September 16th) says that while attending to the roof of her house on the morning of July 7, 1898, Tijee, a Hindu female, aged twenty-three years, was bitten on her right wrist by a cobra. The wounds bled pretty freely, but as the woman was in a semiconscious condition when brought to the dispensary at about noon, her face was freely douched with an infusion of *neem* leaves for nearly fifteen minutes. This rallied her somewhat, and at 1 P. M. she was sufficiently conscious to complain of feeling drowsy and asked us not to disturb her.

A quarter of an hour later she was made to swallow sixty grains of tobacco ash—the residue obtained by smoking tobacco mixed with treacle and certain aromatics, and consumed in a *hookah* or Indian pipe—and this was repeated thrice, at half-hour intervals; but at 2.10 P. M. she vomited a quantity of clear watery matter, and an hour later sat up, saying she felt less drowsy, though there was a good deal of nausea and headache. She was given some neem leaves to chew, and the tobacco ash reduced to twenty-grain doses at forty-five-minute intervals till 7 P. M., when the giddiness left her and she was given some milk to drink. At 10 P. M. she was given her *last* dose of twenty grains of tobacco ash—making in all three hundred and sixty grains—and kept on milk diet for the remainder of the night, during which she was not allowed to close her eyes. No further treatment was necessary, and the woman left the dispensary well on the morning of July 8th.

Dr. Mayanlall has successfully used tobacco ash in *five* other cases. A curious feature in this case was that when the woman chewed the *neem* leaves at 2 P. M., she said they tasted sweet, though at 4 P. M. she recognized their natural bitter taste.

Intestinal Antiseptics.—Riegner, of Senator's clinic (*Deutsche medizinische Wochenschrift,* June 23d; *Gaillard's Medical Journal,* October), says that from experiments it becomes obvious that antiseptics behave differently in relation to the stomach and intestine. Thus menthol is an excellent gastric, but an inferior intestinal, antiseptic. These questions can not be definitely settled by laboratory experiments, but must be determined by practice. For instance, a disinfectant is useless if too poisonous. Again, a gastro-intestinal antiseptic must be insoluble. This insolubility is also a guarantee against intoxication. Extensive contact with the intestinal contents is desirable, and hence the antiseptic should be given in frequent and small doses. In motor insufficiency of the stomach, salicylic acid, menthol, and thymol have been shown to be of clinical value by Strauss. Among intestinal antiseptics Strauss has shown menthol to be worthy of recommendation. Thymol is inferior to menthol, and must be given on a full stomach to avoid irritation. Actol must be given in capsules or pills which are not soluble in the stomach. Both bismuth salicylate and bismuth β-naphthol are worth trying in flatulency. Sodic salicylate and chinosol are too soluble. Washing out the stomach and bowel is an important measure. Salicylic acid, menthol three grains and a half, thymol a grain and a half, may be added to nutrient enemata. The author comes to the conclusion that these antiseptic agents have a practical if somewhat restricted value.

Poisoning by "Headache Powders."—Dr. Robert W. Greenleaf (*Boston Medical and Surgical Journal,* October 13th) records the case of a woman to whom he was called in consultation by Dr. Coggeshall. He describes her condition as follows: "The symptom which especially attracted our attention was the extreme degree of cyanosis. This was of a peculiar bluish tinge. It was most marked in the fingers and lips and it spread out into surrounding areas in a diffuse fashion. Her pulse was weak, but otherwise she did not appear so ill as the degree of cyanosis would lead one to expect. Examination of the heart, lungs, and urine did not reveal a sufficient cause for her condition. A few râles from a chronic bronchitis and a weak heart were the only noteworthy signs excepting the cyanosis.

"The immediate treatment," he says, "consisted of rest and aromatic spirits of ammonia. Under these her strength gradually returned."

It appears that the patient had bought a packet of powders purporting to be a positive cure for sick and nervous headache. Analysis showed that each powder contained three grains of acetanilide and two grains of phenacetine, with a little caffeine. She had taken five of these powders during the night, and had thus ingested in all fifteen grains of acetanilide and ten grains of phenacetine.

A Plea for Respect in Professional Conversation.—Dr. Voelcker (*Lancet,* October 8th), in an address at the opening of the Middlesex Hospital, London, gave his listeners the very needful caution that the student should be very careful of the way in which he spoke of medical matters in lay circles. The public, he said, were inclined to regard everybody connected with a hospital as a "doctor," and the loose and random talk of an irresponsible student acquired the weight attached to a medical opinion. The public, though much informed, was not well informed on hospital matters, and modern sensational journalism, while it attracted readers, gave them a very false impression of actual facts. It was easy to give a gruesome account of any operation and to mistake calmness for indifference, interest for curiosity, and satisfaction for "gloating," but it was incumbent on the student, both from his sense of loyalty to his hospital and the knowledge of the high aim of the profession he had chosen, to avoid anything which might give those outside any cause to accuse him of callousness, cruelty, or any behavior unworthy of a gentleman.

Changes of Address.—Dr. F. R. Calkins, to Watertown, New York; Dr. Arba R. Green, to 25 Second Street, Troy, N. Y.

The Medical Society of the State of New York.—The next meeting of this society will be held at Albany, from January 24th to 26th, inclusive, 1899. The business committee is as follows: Chairman, Dr. Edward B. Angell, Rochester, N. Y., and Dr. James M. Winfield, Brooklyn, N. Y. Members desiring to present papers are requested to notify the chairman of this committee.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending October 27, 1898:*

McIntosh, W. P., Passed Assistant Surgeon. To rejoin station at Louisville, Kentucky. October 26, 1898.

Stoner, J. B., Passed Assistant Surgeon. To rejoin station at Buffalo, N. Y. October 27, 1898.

Geddings, H. D., Passed Assistant Surgeon. To await orders at Lenoir, N. C. October 27, 1898.

Young, G. B., Passed Assistant Surgeon. To rejoin station at Delaware Breakwater Quarantine, Lewes, Dela. October 24, 1898.

Stimpson, W. G., Passed Assistant Surgeon. To assume temporary command of service at Memphis, Tenn. October 26, 1898.

Eager, J. M., Passed Assistant Surgeon. To inspect ports of Brownsville and Corpus Christi, Texas. October 24, 1898. To proceed to Laredo, Texas, for special temporary duty. October 26, 1898.

Gardner, C. H., Passed Assistant Surgeon. To rejoin station at Baltimore, Md. October 27, 1898.

Oakley, J. H., Passed Assistant Surgeon. To proceed to Chattanooga, Tenn., for special temporary duty. October 22, 1898. Upon completion of duties at Chattanooga, Tenn., to rejoin station at Evansville, Ind. October 27, 1898.

Cofer, L. E., Assistant Surgeon. To proceed to San Diego Quarantine, Cal., as inspector. October 27, 1898.

Cumming, H. S., Assistant Surgeon. To rejoin station at New York, N. Y. October 27, 1898.

Lavinder, C. H., Assistant Surgeon. To proceed to Egmont Key, *via* St. Petersburg, Fla., for temporary duty. October 27, 1898.

Parker, H. B., Assistant Surgeon. Assigned to duty as sanitary inspector on the United States transport *Minnewaska.* October 24, 1898.

Von Ezdorf, R. H., Assistant Surgeon. Granted leave of absence for fifteen days on account of sickness. October 27, 1898.

Society Meetings for the Coming Week:

Monday, *November 7th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *November 8th:* Southern Surgical and Gynæcological Society (first day—Memphis); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Society of the County of Rensselaer, N. Y.; Newark, (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Camden, N. J., County Medical Society (semiannual—Camden); Norfolk, Massachusetts, District Medical Society (Hyde Park); Northwestern Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *November 9th:* Southern Surgical and Gynæcological Society (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Societies of the Counties of Albany and Allegany (quarterly), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

Thursday, *November 10th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; New York Physicians' Mutual Aid Association (annual); Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private—annual); Pathological Society of Philadelphia.

Friday, *November 11th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *November 12th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Died.

Cheesman.—At Garrisons-on-Hudson, on Tuesday, November 1st, John Cummings Cheesman, son of Dr. Timothy M. Cheesman, in the twelfth year of his age.

Haynes.—In Los Angeles, California, on Tuesday, October 18th, Dr. Francis L. Haynes, aged forty-eight years.

Obituaries.

COLONEL GEORGE E. WARING, JR., C. E.

There have been few men without their own circle whose lives have been more precious in the eyes of American physicians than that of Colonel Waring. We had hoped that this week we should be able to announce his convalescence from the attack of yellow fever which he contracted on his recent official visit to Cuba; but Providence has ordained to the contrary, and it is our sad duty to record his death, which occurred on Saturday, October 29th. Although he was in his sixty-sixth year, his death must be set down as untimely, for he was in the zenith of his powers, and the years that still seemed to remain to him—for his physical vigor was not perceptibly impaired—promised more even than he had accomplished.

Colonel Waring was educated as a civil engineer, and he had already won distinction by the system of drainage which he established in the Central Park and by his artistic adornment of its mall with trees when he entered the volunteer army in the civil war as major of the Garibaldi Hussars. He subsequently raised a squadron of cavalry, the Fremont Hussars, in New York, and afterward became the colonel of the Fourth Missouri Cavalry.

Early in his career Colonel Waring turned his attention to sanitary engineering, and to that pursuit he devoted his chief attention to the last. He may be said to have won his spurs by establishing in the city of Memphis a system of drainage calculated to protect that city against further outbreaks of yellow fever, a purpose which it appears to have answered. As commissioner of street cleaning of the city of New York, under Mayor Strong's administration, he achieved wonders and added largely to his laurels. Other commissioners before him had striven honestly to clean the streets, but they had been hampered by political feudalism and by failing to perceive that the people wanted clean streets and were willing to pay for them. Waring would take office only on the express understanding that he should be utterly unrestrained by political considerations, and he understood the people better than to take it for granted that they were niggardly in the matter of appropriations. In short, he was a man rather than an excuse-seeker; hence his success. It is beyond doubt that he contributed materially to reduce the death-rate of New York.

Colonel Waring was not unknown in literature. Many years ago he brought out a charming book of sketches entitled *Whip, Spur, and Saddle,* he was the author of many valuable magazine articles, and not long before his death he translated and edited a learned Dutch treatise on aeronautics.

Colonel Waring was a man of striking personality. He was fine-looking and possessed of great calmness and dignity. He was warm-hearted, and in his domestic life he was most lovable.

DR. FRANCIS L. HAYNES.

Dr. Francis L. Haynes, of Los Angeles, died in that city on October 18th. He was born in Pennsylvania in 1850. He graduated at the University of Pennsylvania as doctor of medicine and bachelor of philosophy when only twenty years of age. He practised in Philadelphia until 1887, when he removed to Los Angeles on account of ill health. He was professor of gynæcology in the medical college of the University of Southern California. He held a high position in that city and was very widely respected. The cause of his death is said to have been embolism of the brain.

Letters to the Editor.

THE CHLORINE TREATMENT OF DIPHTHERIA.

348 West Forty-sixth Street,
New York, *November 1, 1898.*

To the Editor of the New York Medical Journal:

Sir: I notice with pleasure that in the *Journal* of October 29th you mention Dr. Bracelin's method of treating diphtheria with a chlorine preparation.

I am sure the profession will be interested in the announcement you make, stating that the matter has been taken up by the New York Board of Health.

Allow me to predict that as soon as this remedy is fully tested it will be found that Dr. Bracelin has done a great service to the profession and, above all, to humanity.

I think I was the first, or among the first, in the city to use this remedy, and took great pains to thoroughly investigate the matter before I used it in my practice. In addition to my personal research, I wrote to over fifty physicians in the West who, it was asserted, had used the remedy, and their replies were unanimous in indorsement of the remedy, and many stated that if I once used it I would not consent to be without it.

The statement of the sanitary bureau of the health department for the week ending October 22d, printed on page 634 of the *Journal,* shows a death-rate of nearly twenty-four per cent., and on the same page is shown a death-rate of only four per cent. under the chlorine treatment, as reported by the Kingston Avenue Contagious Disease Hospital of Brooklyn.

May we not safely say that there is hope that this dread plague, diphtheria, may lose its terror when treated by so simple and harmless a method as that advocated by Dr. Bracelin?

I read with much interest the letter you published from Dr. Bracelin last March.

P. DAVID SHULTZ, M. D.

POTSDAM, N. Y., *October 31, 1898.*

To the Editor of the New York Medical Journal:

SIR: In your edition of October 29th, page 634, is a paragraph on the use of chlorine in the treatment of diphtheria and a reference to a letter in your issue of March 5th. Now, in the letter of March 5th, the author says: "Mix the solution of chlorinated soda, standardized to 2.6 per cent. available chlorine, seventy parts, with the corrective, thirty parts." He then says the corrective is made of menthol, camphor, eucalyptol, and salicylate of menthol dissolved in alcohol and water, but does not give the amount of any of the drugs or the quantity of the alcohol and water. I should like to know the formula so as to be able to use it if I have occasion. Can you in your *Journal* give me the desired information?

H. D. BROWN, M. D.

⁂ We think that Dr. Bracelin would be conferring a benefit on the profession by supplying us with the answer to our correspondent's query.

FIVE CASES OF HYDROPHOBIA, WITH TWO DEATHS.

NAGASAKI, JAPAN, *September 20, 1898.*

To the Editor of the New York Medical Journal:

SIR: In your issue of July 9th last appeared an article by Dr. Douglas, on a case of hydrophobia, which I read with unusual interest, little imagining that within a week after the *Journal* had reached here not less than four cases would come under my observation. On August 2d a dog which was under treatment for rabies by a veterinary in Shanghai either broke away or was allowed to escape. Before the dog could be caught and killed, V. M., a boy aged ten years and a half, received a slight abrasion on the side of the hand. Mrs. S., in her heroic efforts to save her little children, was badly lacerated on both arms, the fangs in one instance penetrating the integument and causing subsequently extensive ulceration through to the opposite surface; a Japanese, the nature of whose injuries I did not ascertain, was also attacked and infected, as was another dog. This second animal within a few hours bit a native Chinese and R., a constable, who succeeded in killing the beast on the spot. On August 8th the three Europeans and the Japanese arrived in Nagasaki, and the same day received the first injections at the local Pasteur Institute, which is conducted exclusively by Japanese. I may state here that the patients were compelled, under threat of dismissal, to promise not to be treated by any other physician. On August 22d the Chinese died in Shanghai, with all the symptoms of acute hydrophobia. During the night of August 26th, at 1 A. M., I was hurriedly summoned to see the boy, V. M. During the treatment he had been out every day, was full of life and spirit; and, as the summer was very warm and heavy with excessive humidity, he used to go swimming every afternoon. On this particular morning he complained of not feeling well. Toward the afternoon his fever and restlessness increased, and then, to the mother's consternation, he stated that he could not swallow any liquid. The medical director saw him at frequent intervals, and just previous to his departure and to my arrival, had given him two injections, of the nature of which I am ignorant. I found the little patient tossing about from one side of the bed to the other, with a wild, terrified expression on his countenance, both pupils dilated and irresponsive to light, a constant frothing or rather bubbling of saliva at the mouth, which he kept repeatedly wiping away with a towel, and his pulse light and bounding, 140 to the minute, the respiration over 40 and very superficial. It was impossible to take his temperature. In response to my questioning, he replied quite rationally, but this soon gave way to incoherent rambling. He presented altogether a most distressing sight. Realizing the utter hopelessness of the situation, I nevertheless deemed it my duty to try to make his few remaining moments less agonizing. Within fifteen minutes I procured from the druggist a mixture containing potassium bromide five grains, and chloral hydrate three grains, which I injected into the rectum. By this time, however, the radial pulse had disappeared and pulsation was to be felt only in the femoral artery. It was impossible to count, and had that elusive character which often precedes dissolution. The convulsive movements subsided, the respiration ceased, and with another sigh the manly little fellow gave up the unequal fight, an hour and a half from the time of my arrival. The following evening I was called to see R., the constable. It seemed to me as if every muscle in his body was convulsed, a typical case of universal clonic spasm. Withal he was cool, spoke to me regarding some business affairs, and asked me to promise to kill him when his condition became hopeless. A large dose of potassium bromide eventually had the desired effect of putting him to sleep, and he has since returned to duty.

Mrs. S. fortunately is gifted with an excellent temperament. The death of her little friend, who was greatly attached to her, while causing her grief, produced no symptoms of nervous collapse. All treatment for the bite ceased two weeks ago; after the boy's death, the doctor deemed it advisable to continue the injections beyond the usual time. She tells me there are times when she experiences the sensation of her spirit being separated from the body. As described, the attacks, if they may be so styled, are infrequent and begin in the præcordial region, and thence radiate over the entire body, rather resembling an epileptic aura. She does not like to be alone—otherwise she feels well. The Japanese patient has also been discharged, and up to date has had no untoward symptoms. It would be interesting to determine the cause of failure in the case of young M. His injury was of the slightest character as compared with those received by the other victims, but his death was caused by rabies. Could the virus have been insufficiently attenuated for a child of his age? Not being familiar with the *modus operandi* of the Nagasaki Institute, I can shed no light on the question. The managers assert that so far they had had no failures. Patients have come to them from Vladivostock and China, as well as from Japan, and the results have been uniformly good. Judging from a recent case in China, the future of the remaining patients is not altogether reassuring. One of the commissioners of customs, a European, was bitten by a mad dog. Through some untoward delay, he did not arrive at Saigon, where there is an institute conducted by French physicians, until twenty-three days had elapsed. Two hundred and seventeen days thereafter he died in intense agony, a victim of hydrophobia.

The moral to be drawn from the foregoing history is one that directly concerns municipalities and their governing bodies, the medical profession only indirectly. We point out the sources of danger, but the power to remove them is beyond us. The laws concerning the muzzling of dogs, and the destruction of curs and other dogs found at large, should be stringently enforced. China and, to a lesser degree, Japan are infested with mangy disgusting mongrels. I am personally cognizant of the fact that poodles and other varieties of canines are being constantly taken over to America from both countries. In my judgment, this procedure should be interdicted.

Robert I. Bowie, M. D.

A CASE OF TRANSVERSE PRESENTATION WITH PROLAPSE OF THE ARM AND FUNIS AND PLACENTAL HÆMORRHAGE.

Newark, N. J., *October 20, 1898.*

To the Editor of the New York Medical Journal:

Sir: The interesting point in the case I am about to relate seems to me to be the entire absence of shock.

On October 14th, at about midnight, I was called in haste to see Mrs. S., thirty-two years old, who was in labor with her third child. I found her lying on her back with a severe placental hæmorrhage. The child's left arm was protruding from the vagina, and the funis was prolapsed. She was suffering from severe pains and weakness, but there was no sign of exhaustion or shock. The pulse was 120, and the action of the heart was weak. Pulsation had ceased in the funis, showing that the child was dead. I at once gave the woman chloroform, a drop at each inspiration, until twenty drops had been given, and then quickly performed bimanual podalic version, using all antiseptic precautions. The head was extracted by the Smellie-Veit method. I then separated the placenta completely from the lower uterine segment. The hæmorrhage still continued, owing to uterine inertia, and I gave fluid extract of ergot, a drachm every two hours for four hours, followed by hypodermic injections of a sixtieth of a grain of strychnine and the application of cold to the abdomen. This stopped the hæmorrhage.

The next morning the patient's temperature was 100°, and her pulse was 104. She was weak but calm. I continued the use of ergot. On the second day her bowels moved and her temperature was normal. On the fifth day the secretion of milk made its appearance, and she is now rapidly convalescing.

Robert Amedo Giuliana, M. D.

Book Notices.

BOOKS, ETC., RECEIVED.

Operative Gynæcology. By Howard A. Kelly, A. B., M. D., Fellow of the American Gynæcological Society, Professor of Gynæcology and Obstetrics in the Johns Hopkins University, etc. With Twenty-four Plates and Five Hundred and Ninety Original Illustrations. Volume II. New York: D. Appleton and Company, 1898. Pp. xiii–551.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M. D., Fellow of the Royal Society, Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician in Chief to the Johns Hopkins Hospital, Baltimore, etc. Third Edition. Entirely revised and enlarged. New York: D. Appleton and Company, 1898. Pp. xvii–1181.

King's American Dispensatory. By Harvey Wickes Felter, M. D., Adjunct Professor of Chemistry, Pharmacy, and Toxicology, and Demonstrator of Anatomy in the Eclectic Medical Institute, Cincinnati, Ohio, etc., and John Uri Lloyd, Ph. M., Ph. D., Professor of Chemistry, Pharmacy, and Toxicology in the Eclectic Medical Institute, Cincinnati, Ohio, etc. Entirely rewritten and enlarged. Eighteenth Edition—Third Revision. In two Volumes. Volume I. Cincinnati: The Ohio Valley Company, 1898. Pp. x–901.

Histology, Normal and Morbid. By Edward K. Dunham, Ph. B., M. D., Professor of General Pathology, Bacteriology, and Hygiene in the University and Bellevue Hospital Medical College, New York. Illustrated with Three Hundred and Sixty-three Engravings. Philadelphia: Lea Brothers and Company, 1898. Pp. 7 to 448. [Price, $3.25.]

Traumatic Separation of the Epiphyses. By John Poland, F. R. C. S., with Three Hundred and Thirty-seven Illustrations and Skiagrams. London: Smith, Elder, and Company. New York: G. P. Putnam's Sons, 1898. Pp. xxxi–926. [Price, $18.]

A Treatise on Diseases of the Ear, together with a Brief Sketch of the Anatomy and Physiology of this Organ. By Albert H. Buck, M. D., Clinical Professor of the Diseases of the Ear, College of Physicians and Surgeons, New York, etc. Third Revised Edition. New York: William Wood and Company, 1898. Pp. xii–592. [Price, $3.50.]

Skiagraphic Atlas showing the Development of the Bones of the Wrist and Hand, for the Use of Students and Others. By John Poland, F. R. C. S. London: Smith, Elder, and Company; New York: G. P. Putnam's Sons, 1898. Pp. 40. [Price, $1.75.]

Student's Histology. A Course of Normal Histology for Students and Practitioners of Medicine. By Maurice N. Miller, M. D., Late Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Revised by Herbert U. Williams, M. D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Third Revised Edition. Profusely Illustrated. New York: William Wood and Company, 1898. Pp. xiv–259. [Price, $2.]

Clinical Lectures on Mental Diseases. By T. S. Clouston, M. D. Edin., F. R. C. P. E., Physician Superintendent of the Royal Edinburgh Asylum for the Insane, etc. Fifth Edition. Philadelphia: Lea Brothers and Company, 1898. Pp. xii–727. [Price, $4.25.]

Contributions to Orthopædic Surgery. By A. Sidney Roberts, M. D., Late Surgeon to the Philadelphia Hospital, Orthopædic Surgeon to the Out-patient Department in the University Hospital, etc. With a Brief Biographical Sketch. By James K. Young, M. D., Professor of Orthopædic Surgery, Philadelphia Polyclinic, etc. Philadelphia, 1898. Pp. 3 to 298.

A Manual of Venereal Diseases. By James R. Hayden, M. D., Chief of Clinic and Instructor in Venereal and Genito-urinary Diseases at the College of Physicians and Surgeons, New York, etc. With Fifty-four Illustrations. Philadelphia: Lea Brothers and Company, 1898. Pp. ix–17 to 304. [Price, $1.50.]

Diet and Food, considered in Relation to Strength and Power of Endurance, Training, and Athletics. By Alexander Haig, M. A. and M. D. Oxon. F. R. C. P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women, etc. With Five Illustrations. London: J. and A. Churchill; Philadelphia: P. Blakiston's Son and Company, 1898. Pp. vii–86. [Price, $1.]

The Medical Register and Directory of the Indian Empire. By James R. Wallace, M. D., F. R. C. S. I., Editor *Indian Medical Record.* Second Edition. Calcutta: Barker Brothers, 1898. Pp. 228.

Notes on Disinfectants and Disinfection. By A. G. Young, M. D., Secretary of the State Board of Health of Maine. Reprint from the Tenth Report. Augusta: Kennebec Journal Print, 1898. Pp. 218.

The Transactions of the Society of Anæsthetists. Volume I. London: The Medical Publishing Company, Limited, 1898. Pp. 170.

Cleft Palate; Treatment of Simple Fractures by Operation; Diseases of Joints, Antrectomy, Hernia, etc. By W. Arbuthnot Lane, M. S. London: The Medical Publishing Company, Limited, 1898. Pp. 278. [Price, 5*s.*]

Diet for the Sick. Contributed by Miss E. Hibbard, Principal of Nurses' Training School, Grace Hospital, Detroit, and Mrs. Emma Deant, Matron of Michigan College of Medicine Hospital, Detroit. To which have been added Complete Diet Tables for Various Diseases and Conditions as given by the Highest Authorities. Third Edition, revised and enlarged. Detroit: The Illustrated Medical Journal Company, 1898. Pp. 5 to 103. [Price, 25 cents.]

Die mikroskopischen Untersuchungsmethoden des Auges. Von Dr. S. Seligmann, Augenarzt in Hamburg. Berlin: S. Karger, 1899. Pp. xvi–240. [Preis, Marks 6.]

Affections chirurgicales du tronc—statistique et observations. Par le Dr. Polaillon, Chirurgien de l'Hôtel-Dieu, Professeur agrégé à la Faculté de médecine de Paris, etc. Paris: Octave Doin, 1898. Pp. vi–843.

La Chirurgie intramédiastinale postérieure. Avec figures dans le texte. Par Dr. J. Potarca (de Bucharest). Paris: Carré et C. Naud, 1898. Pp. 110.

Ensayo de una Higiene de la Intelegencia. Contribución al estudio de las relaciones que existen entre lo físico y lo moral del hombre, y manera de aprovechar estas relaciones en beneficio de su salud corpórea y mental. Por el Doctor Nicasio Mariscal y García, Director-Jefe del Laboratorio Central de Medecina legal, etc. Madrid: Ricardo Rojas, 1898. Pp. 551.

Miscellany.

Grape Cures.—The *Lyon médical* for September 25th, quoting the *Journal des praticiens* for August 20th, says that there exists some analogy between the composition of milk and of grape juice. Grape juice has been recommended by some authors in diseases of the heart, catarrh of the bladder, and atonic dyspepsia with constipation. M. Piatot advises that from four to five pounds a day be eaten; Dujardin-Beaumetz simply instructs the patient to eat to repletion, or until there is distention of the stomach; while Trousseau and Pidoux advise the ingestion of from about three to nine pounds daily, discarding the stones and the skins. It is advised to begin with a daily dose of about a pound, eating them by preference in the morning as being then more purgative and diuretic.

The Difficulties of Defæcation in Infants.—At the recent annual meeting of the American Medical Association Dr. T. C. Martin (*Gaillard's Medical Journal,* October) read a paper upon the difficulties of defæcation in infants, in which he stated that it is generally recognized as a fact that infants and young children strain at stool. The infant and young child strain violently at expulsion of semisolid fæces because of the imperfect development of the anatomic features concerned in the mechanism of defæcation. These are:

I. The infant's lower gut is muscularly deficient.

II. Its mobility within the abdomen is obstructive to defæcation.

III. The rectal valves are obstructive.

IV. The infant's anus, not being sufficiently expansible, is also obstructive to defæcation. Records of post-mortem observations were read and specimens of rectums exhibited which proved that:

I. The muscular development of the adult rectum and lower sigmoid is plainly apparent, and a deficient muscularity is observable in the infant specimens. In the infant gut the intrinsic power of peristalsis is not present in that degree necessary to it as a component expulsory factor.

II. The mesoperitonæum of these parts in the adult is, relatively, considerably shorter than that in the infant. The adult gut is slightly tortuous; that of the infant is much angulated. Mobility and angulation of the infant gut conspire to obstruct the passage of formed fæces.

III. The rectal valve appears to bear the same proportion to the gut in both adult and infant, but when the difference in muscular development in the two is noticed, the disproportionate great resistance of the valve in the infant rectum becomes an obvious fact.

IV. The anal expansibility is adequate in the adult, but because of the greatly contracted bony pelvic outlet it is deficient in the infant, and constitutes an obstinate obstruction to the passage of semisolid fæces.

Correlative to these facts, it must be recognized that the adult rectum has resident within its own wall a powerful expulsive muscular mechanism; that in the adult the shortening of the mesentery holds the upper rectum steady under the applied auxiliary forces; that in the adult the flexures of the sigmoid are not necessarily obstructive, though in a desirable measure retardative; that in the adult the incline of the lower sacrum and coccyx behind, and the development of the uterus and prostate and their inherent supports in front, provide the lower rectum with a firm funnel-like arrangement which guides the fæces directly upon the os internum of the anus; that the rectal valves may divide the fæces into portions to facilitate their separate successive discharge, and finally, in sequence, that the physiological descent of the entire pelvic floor reduces this last possible resistance to the minimum in adult defæcation.

Infantile straining, the ruptures and prolapses, constipation, retention of fæces, and the multitudinous consequent ills demand study, and this investigation forces the conclusion that the individual's escape is ultimately assured by the process of development, but that, for the normally formed infant, the physician will find the solution of the problem of difficult defæcation in the liquefaction of the fæces.

An Instance of Apparent Infection with Cuban Fever by a Fly Bite.—Dr. Frank Donaldson, assistant surgeon, First Volunteer Cavalry (*Medical News*, October 15th), says that an instance of apparent transmission of the Cuban fever by infection from a fly bite occurred after the regiment was mustered out. A lady who was helping him nurse in the regimental hospital was taken a few days later with what proved to be a typical case of Cuban fever. He was absolutely at a loss to account for it. She had been perfectly well, had not been in a malarious district, and had spent the summer in the North. During several days while at Camp Wikoff they had had a terrible visitation of flies and the men in the hospital had complained that their bite frequently drew blood, and on several occasions this lady had called his attention to the fact that blood had followed the bite of one of the flies. She was at the time of writing in hospital and the disease was running a typical course.

Immunity the Fundamental Principle Underlying all Treatment of Tuberculosis.—Flick (*Maryland Medical Journal*, vol. xxxix, No. 19; *Memphis Medical Monthly*, October) says:

Certain axioms can be formulated out of our present clinical and laboratory knowledge of germ diseases. These are: 1. That all germ diseases are due to the parasitic life of living organisms. 2. That there is in all living organisms an inherent power of self-protection against parasitic life. 3. That the power inherent in the human organism protective against disease is potent in direct ratio with normal physical development and a normal standard of health. 4. That a proper soil for a given disease germ must exist in a prospective host as a prerequisite to the establishment of the disease. 5. That the soil necessary for the subsistence and development of any given disease germ in a host may become exhausted. 6. That the normal physical development and normal standard of health, with the consequent relative resisting power to disease, are closely related to nutrition in the individual and in the ancestry from which the individual has sprung. 7. That congenial soil for a disease and inherent resisting power to it may both exist in their fullest intensity in the same individual at the same time.

Of no germ disease, he says, have we, probably, as exact and intimate a knowledge as of tuberculosis. We can therefore lay down the following additional axioms about it as the basis of a study of its treatment: 1. That tuberculosis is essentially a local disease, and as such is slow in exhausting the soil in the host in whom it colonizes. 2. That tuberculosis, as a disease in its complete symptom-complex, is a series of colonizations, each colonization, in the complete cycle of its existence, constituting a minor attack of the disease. 3. That each colonization which runs its course leaves the system of the host less competent to battle against a subsequent attack. 4. That every successive colonization is more extensive and more devastating than the preceding one. 5. That when a colony has been established, cure can only take place either through the phagocytic powers of the blood by destruction of the bacilli before the circulation is cut off from the deposit, or through the defensive powers of the system by necrosis and ejectment of the mature bacilli or by encapsulation. 6. That during the process of necrosis and ejectment of the mature bacilli reinoculation may take place.

Upon the general and special axioms here laid down the scientific treatment of tuberculosis must be based, and the fundamental principle that grows out of them is that immunity must constitute the basis of all treatment. Immunity, being conditioned upon soil, is therefore of a twofold nature—natural and artificial immunity—the former being that condition of the system in which there is something present in the blood or tissues which inhibits the colonization of disease germs; in other words, it is the innate resisting power to disease; the latter being that condition of the system in which the specific pabulum for the disease germs has been taken out of the blood or tissues either by a resistance to implantation of the germs or by a successful struggle through an actual colonization of them. Immunity is not a fixed absolute condition, but varies from a slight temporary resisting power to an absolute permanent impediment to disease.

With tuberculosis natural immunity is strong, but artificial immunity is exceedingly difficult to establish. As a rule, natural immunity from tuberculosis goes hand in hand with normal physical development and a normal condition of health, and this is true to a much greater degree of tuberculosis than of most germ diseases. Complete artificial immunity is very seldom attained, although a very high degree of artificial immunity may be reached by certain families. Artificial immunity in the individual is sometimes acquired in bone tuberculosis, and possibly also in glandular tuberculosis.

Could the natural immunity of the individual be maintained at a normal standard, a very large number of cases would undoubtedly recover, as artificial immunity would ultimately be acquired, and the germs would no longer find congenial soil for the establishment of new colonies. There are really very few cases of tuberculosis in which recovery does not take place from the first attack, and in many cases complete restoration to health follows a second, a third, and even a fourth attack, but unfortunately after each attack there is a lower physical tone, a lower natural immunity, and recovery is slower and less complete, with the chances of ultimate absolute recovery greatly diminished.

In the treatment of tuberculosis the great and important object should be the maintenance of natural immunity and the establishment of artificial immunity. Everything possible should be done to maintain the normal standard of health, first, by preventing waste of force, and, secondly, by stimulating the organs which have to do with nutrition. To prevent waste of force it is necessary to suspend all activity over and above that which is necessary for a normal circulation and the proper action of the emunctories. Overwork among the poor and overexercising among the well-to-do are serious impediments to recovery. Next in importance to prevention of waste of force is stimulation of nutrition, so as to make up for the ravages of the disease. Tuberculosis being a parasitic disease, and one which usually attacks some important part of the machinery of the body concerned in nutrition, there is bound to be a loss in nutrition and a deterioration from the normal standard of health. In proportion as this loss can be repaired will treatment of the disease be successful. An ample supply of easily digested food given at frequent intervals will probably give the best results.

How to Avoid Tuberculosis.—Dr. H. Tucker Wise (*Medical Record*, October 22d) summarizes a paper on this subject as follows: To maintain health and ward off a recurrence of the malady, the following vital points may be summarized to impress them upon the attention: 1. A generous dietary of nitrogenous food. 2. Free ventilation of dwelling and sleeping rooms by open windows with wire-gauze blind. 3. Adequate house heating in winter. 4. Boil all milk or cream previous to use. 5. Try and obtain eight hours' sleep every night; if not sound sleep, contract the hours to seven and rest in the day. 6. If debilitated with weak digestion, take rest in the recumbent position a quarter of an hour before and after meals. 7. Wear the loosest clothing possible, especially round the waist and lower ribs, to afford absolute freedom in respiration. 8. Take systematic daily exercise in the open air on foot. 9. If means and station in life admit of a long holiday from time to time, live during fine weather in a tent in the open air or in a summer house for most of the day; and, if unemployed, pursue a hobby to occupy the mind.

The Alternating Administration of Drugs by Rotation.—Dr. W. Ewart (*British Medical Journal*, October 1st), in a paper read before the British Medical Association, said that there was no novelty in the occasional interruptions for rest in the monotony of prolonged courses of treatment. Indeed, with some drugs, a periodical rest had been recognized as an advantage, with others as a necessity. Nevertheless, at least in Great Britain, the prevalent method of administration was one in which the gradual development of a toleration for the remedy which was continuously administered for prolonged periods was not always taken into practical account.

1. Some drugs—and these were chiefly the stimulants and the sedatives—lost more and more of their effect the longer they were continued.

2. Other drugs, being slowly eliminated or distinctly cumulative, acquired through prolonged administration an increased activity, and in some instances a modified, and sometimes a dangerous, action.

3. The most active dose, in the case of any stimulant or sedative, and in that of many tonics, was (putting aside summation of doses or of their effects) the first dose.

These considerations had led the writer more and more to the adoption of a principle which might be regarded as novel, less in itself than in its practical application, that of a systematic "rotation of drugs," which, not unlike the farmer's "rotation of crops," rested as well as fertilized.

Without advocating an excessive polypharmacy, he believed that patients might often be placed with advantage under the joint influence of several drugs; but he also believed that they would derive most benefit from a frequent renewal (thanks to intervening breaks) of the first impression which had been produced by each drug. An alternating rotation—daily, tertian, or of any other period—of the drugs to be administered would work in that direction, not with one drug only, but more or less in the case of each of the remedies included in the series.

The same practical rules and management could not be consistently applied to all groups of remedies, nor even to the several members of each group; and this remark unfolded at once the wide scope of this subject; but the present being merely a preliminary communication, its details could not be gone into. It would suffice to call attention to the chief clinical point interesting every practitioner—namely, to the opening which the adoption of this method would supply for almost unlimited ingenuity and judgment in varying the combination of drugs and the order and periodicity of their rotation, to suit the individual cases.

The Rash of Varicella.—Dr. Audeoud (*Archives de médecine des enfants*, September), in an exhaustive paper, arrives at the following conclusions: 1. The existence of a rash in varicella has been actually and fully demonstrated. More than thirty cases of it have been published, and this number would certainly be greater if attention were more drawn to the phenomenon. 2. The rash presents itself under divers aspects: scarlatiniform, morbilliform, purpuric, hæmorrhagic, or polymorphous. The first is much the more frequent form, appearing in five sixths of the cases. 3. The diagnosis, difficult in the cases of preeruptive rash, is to be made by the habitual absence of general grave phenomena, the mode of onset, and the rapid extension of an erythema of short duration not followed by desquamation, the appearance or coexistence of the characteristic vesicles of varicella, and the rapid trend of the disease toward cure. Considerable elevation of temperature may precede the rash, but it is transitory. 4. The prognostic value of the rash is *nil*, save in the case of the hæmorrhagic variety, which indicates a grave general condition. The rashes have no influence upon the course of the disease. 5. The rash does not afford any special therapeutic indication, except in the hæmorrhagic form, which calls for supporting and stimulant treatment.

The Use of Antitetanic Serum in Tetanus.—Dr. S. J. Mixter (*Boston Medical and Surgical Journal*, October 6th) records a very severe case of acute tetanus treated successfully in the Massachusetts General Hospital by antitetanic serum.

The hypodermic injection of the State board serum producing no effect, on June 24th one hundred cubic centimetres of Gibier's serum were infused into the median basilic vein without disturbance. An infusion in the afternoon of two hundred and fifty cubic centimetres of the State board serum was followed by severe convulsions with diaphragmatic and pharyngeal spasms, extreme cyanosis, and absence of pulse. By the quick use of chloroform and hypodermics of cocaine and strychnine the patient came round. On the 25th two hundred and forty cubic centimetres were given at 10 A. M., and repeated at 11.30 P. M., without bad results. On the 26th four hundred and eighty cubic centimetres were infused. On the 27th the same amount was administered, and again on the 28th, on the latter occasion being followed by severe contractions, with collapse, cyanosis, and rise of temperature and pulse. Full anæsthesia was induced and caused subsidence of symptoms. On the 29th the patient was much better and no infusion was made. On the 30th one hundred cubic centimetres were infused, and were repeated on the next three days. From this time on relaxation progressed, and on July 31st patient was convalescent.

On this case Dr. Mixter remarks:

"The following points suggest themselves: The case was in no sense one of chronic tetanus; all others occurring at the Massachusetts Hospital that have approached this in severity have died. As the treatment varied from that of other cases only in the large doses of antitoxine given, it seems probable that this was responsible for the recovery.

"Since the experiments on animals show that the antitoxic serum has little or no power over the disease when it has become well established, it is important to begin the dosing at the earliest possible moment. When injected, the serum should be heated to about 1° F. above the rectal temperature; if more than this, the body temperature will rise; if less, the heart will be slowed and collapse may occur.

"The best way to administer the serum is by intravenous infusion. Hypodermic injection is slow and painful, and it is not absorbed if given by the mouth or rectum.

"The physiologists urge as an objection to the transfusion of a large amount of animal serum, the danger of thrombosis and embolism, although in this case these accidents did not occur. There did seem, however, to be some danger from overloading the heart, from the variation in temperature between that of the body and that of the serum, and also from the anæmia and hæmorrhagic tendency consequent on the injection of so large a quantity. (In all, this patient was given 3,400 cubic centimetres, averaging about 285 cubic centimetres daily.) It is evident that a more highly concentrated serum would obviate these difficulties. The dose of serum in this case had to be regulated on the supposition that the strength was one unit to the cubic centimetre, which was the actual strength at the time it was last estimated by Dr. Smith.

"Paraldehyde, twenty minims every hour, and bromide of sodium, twenty grains every two hours, were valueless. Morphine sulphate, a fourth of a grain hypodermically, every three hours, caused no diminution in the number or severity of the spasms, but did give rest and sleep between them. Chloroform and Schleich's anæsthetic were too depressing for a heart already overtaxed. Ether alone was safe.

"This case is probably the first one in this country, at least it is the first one thus far reported, in which an attempt was made to give five hundred units, the amount advised by Behring, at one dose, and to inject it directly into the blood stream. The success of this case certainly points to the possibility that in the cases reported heretofore the dose has not been sufficient, and demonstrates the practicability of the intravenous infusion of five hundred cubic centimetres of animal serum in cases where it is necessary.

"Although the preparation of a stronger serum is much to be desired, it is evident that success can be attained with the present preparation if used in sufficiently large amount."

The Influence of Coitus with White Men in Inducing Sterility in Aboriginal Women.—Dr. Sarsfield Cassidy, of New South Wales (*Medical Council,* October), says that it is well known in that country and established beyond doubt that an aboriginal native woman of Australia will never bear children to an aboriginal man after she has once had offspring by a white man. It has been tried in vain to find an instance where the aboriginal woman, having returned to the black man's camp, though sound in mind and body and absolutely free from any disease whatever, and having lived there with black men whose power of reproduction was beyond dispute, did not nevertheless remain absolutely barren.

If, says Dr. Cassidy, the diseases of civilized life were communicated to the woman before her return to the gunyah of the black man, thereby placing her *hors de combat* in the work of reproduction, the problem might be easily susceptible of solution; but it has been proved, he says, over and over again that the woman being absolutely sound and the man entirely able, no results follow their union even under the most favorable circumstances. Should she, however, return among white folks, she conceives with evident ease. The black man does not taboo her during her stay with him, but, on the contrary, on account of her mixing with the whites, he treats her with special friendship and ardent affection.

We may add that such is also the case on the west coast of Africa, where the black woman who has lived with a white man is especially favored by the native males.

Curious Effect of a Head Injury.—The *Boston Medical and Surgical Journal* for October 6th records a case of unusual neurological interest which has been under treatment for some time past at St. Vincent's Hospital. Dr. T. H. Curtin states that the patient, William Larsen, a Norwegian, was admitted on September 5th in a state of coma, a block from a derrick on one of the piers having fallen upon his head and crushed in the right side of the skull, the fracture being nearly three inches across. Most of the third frontal convolution of the brain had been destroyed and it was not expected that the man could survive more than a few hours; but two days after the fragments of bone had been removed, the edges trimmed, and all pressure removed from the brain, he recovered consciousness. The effect of the injury upon memory and speech was watched with special interest, and it was at first found that while he seemed rational and nearly normal in his understanding of what was said to him, all his answers to questions were in an unintelligible gibberish. After a few days, however, the condition of the brain had so far improved that his speech became entirely coherent; but the remarkable circumstance was noted that he could no longer speak in his mother tongue, but only in English. Before his accident, it was ascertained, he could talk fluently in both Norwegian and English. Another feature of the case was the development of great emotional sensitiveness, so that if any one conversing with him smiled, he was moved to laughter, and if the person looked depressed, he began to weep. He recognized his acquaintances immediately, and talked with interest of his plans for the future.

The Treatment of Bronchitis.—Quincke (*Berliner klinische Wochenschrift,* June 13th; *Gaillard's Medical Journal,* October) draws attention to the fact that in bronchitis, as in the case of collections of pus, the object of treatment is to facilitate the draining away of the exudation. This is, however, possible in bronchitis only to a limited extent. Cough, and especially the act of vomiting, assists to this end. The same object has been attempted by means of the elastic corset, respiratory exercises, etc. Often in the early morning the bronchitic brings up a large quantity of sputum by the help of more or less persistent coughing. Quincke recommends that at this time the patient should lie as flat as possible for a couple of hours, so as to assist the draining of the secretion into the large bronchi, and hence its expectoration. The patient becomes accustomed to the position, even though with some difficulty, and can expectorate by turning the head to one side. After a few days the foot of the bed may also be raised from eight to twelve inches. In suitable cases the author says that in from two to four weeks there is a considerable diminution in the sputum. This mode of treatment is adapted to cases of chronic bronchitis which have led to a cylindrical or sacculated bronchiectasis in the lower lobes of the lung. It is of no avail in cases of diffuse, and especially recent, bronchitis, with general secretion, or in cases of abscess cavities communicating laterally or incompletely with the bronchi, or of cavities with irritating contents. It may be difficult to distinguish between these conditions in practice, and this mode of treatment may help in the diagnosis. The number of suitable cases is not large, but at times the results are remarkable.

Dislocation of the Heart from Indirect Violence; Spontaneous Reduction.—Dr. F. A. Seymour (*Southern California Practitioner,* September) records the following extraordinary case: At about seven o'clock in the evening of a slippery winter day in 1878 a group had gathered in a lecture room, when Mr. L. joined the circle. He was in his usual health. Remaining a few minutes, he left for another engagement, promising to rejoin us later. At 9.45 P. M. he returned. His aspect was startling. His complexion, ordinarily pale, had now the pallor of death. His black eyes, usually flashing, had an intensified brilliancy as if by contrast with their surroundings. His step was steady, his voice clear, and he did not give evidence of pain. Dr. Seymour's impulse was to assist him to a seat at once, but he showed no inclination to sit.

After a brief interchange of courtesies, in company with some member of his family, he went home. At 11.45 P. M. the doctor was called to see him, when he recounted the evening's experience. On leaving the church, as his feet touched the icy walk, they slipped forward, throwing the upper portion of his body violently backward. With all the force at command he resisted the backward impulse, and by a rotary motion succeeded in avoiding an otherwise heavy fall, and so recovered his footing. Proceeding at once toward the place of his second engagement, he was conscious neither of pain nor faintness, yet had a peculiar sensation of discomfort in the region of the heart. A block and a half distant, a long, steep stairway led up to the office of a medical acquaintance, to whom he recounted his accident. The doctor gave him a prescription which, he subsequently told Dr. Seymour, contained the tinctures of digitalis and iron. He stated that the patient's countenance had impressed him as it had impressed Dr. Seymour later in the evening, and that as the patient left the office he had followed him to the stairway, apprehensive lest he fall, but that his step had been firm to the bottom.

The patient had retired immediately on reaching home, but by reason of the cardiac discomfort had been unable to sleep. His countenance had not changed in aspect, but as he lay, he was singularly serene. His pulse was peculiarly arrhythmic. It could not be counted. The intervals of absolute quietude between spasms of beating were distressingly prolonged. The pulsations themselves were tumultuous. Auscultation furnished no clew to the condition. To distinguish the first from the second sound was an impossibility. The sensation imparted to the ear was as that of a small animal struggling with spasmodic violence to escape from the grasp of a powerful hand. These efforts were irregular in intensity and duration, lasting about fifteen seconds, followed by a despairing pause of ten seconds, and then reversing the order. Every struggle seemed to give promise of relief. Digitalin in those days was not an available drug, nor were the salts of strychnine. The hypodermic syringe was employed for the relief of pain only. The patient was at once plied with the tincture of digitalis to the limit of supposed safety. Repeated examinations showing no change, about 1 o'clock A. M. Dr. Seymour asked that the physician first casually consulted be called. Just before his arrival, half an hour later, the patient said, "It's all right now," and auscultation showed no trace of irregularity, nor of any of the abnormities of five minutes previously. Soon afterward he fell asleep and rested well until daybreak. Under the doctor's restrictions he remained in bed during the next day, although he felt fully able to attend to business.

At the time of the next visit, 8 A. M., the following day, examination found no indication of the six hours' storm of the night before. The condition had evidently been a rotary twist, but whether from right to left, or the reverse, defied most solicitous diagnostic effort.

Being intimate friends, as well as maintaining the relation of physician and patient, the doctor met him often for several years afterward, but never knew him to have any cardiac difficulty. Both removing from that locality to different cities, the doctor and his patient maintained correspondence until two years ago, when one morning, after rising at his usual early hour, the latter went into his parlor. Not responding to the breakfast call, he was found dead on a lounge, as if he had quietly fallen asleep. It was stated that he had died of "heart disease."

It would have been a mournful satisfaction, says Dr. Seymour, to know what relation, if any, existed between the accident of twenty-three years before and the finale.

Aboriginal Australian Obstetrics.—Dr. Sarsfield Cassidy, of New South Wales (*Medical Council,* October), says that among the Australian aborigines, in order to expel the afterbirth, an old woman possessed of very fat, soft hands massages the mother around the waist, gives her frequent drinks of cold water in which some blue-gum leaves are steeped, and also keeps sprinkling cold water over her from her mouth. As soon as the placenta is removed two logs are placed side by side, a foot apart, a few large stones are piled between them, then some embers are laid on, some eucalyptus leaves on the embers, and water is sprinkled over all. The mother stands astride those logs, an opossum rug over her, covering her completely, and there remains for two hours, the steaming process continuing all the time, eucalyptus water being given her from time to time to drink. Should the mother get weak, additional leaves are put on and a kind of bed is formed, the mother lying on it, and the steaming is thus continued. After this all hæmorrhage is checked and the woman is able to walk about as if nothing had happened. Should the placenta remain adherent, the massage and steaming are kept up until it is either expelled or the mother succumbs.

If the placenta is expelled, but hæmorrhage or pain continues, the mother is then tabooed; she is not allowed to return to the general camps; strict isolation is practised, prospective mothers are kept from her, under pain of death, and steaming is almost constantly continued. Three months thus pass, her only attendant being an old woman whose sole duty is to bring her food and cold drinks and keep the fires going. What do you think of this? asks Dr. Cassidy. Has not Lister been long ago anticipated, and can we improve on this treatment?

Mental Capacity in Will Making.—Johnson (*Canadian Journal of Medicine and Surgery,* July; *Montreal Medical Journal,* September) says that a medical man should never consent to make a will for a patient, and he should remember that if he signs his name as a witness, he not merely acknowledges that the testator did sign the will, but that he was in a fit and proper condition to do so. If a medical man is asked to decide whether a dying person is or is not in a fit state of mind to make a will, it is as a rule only necessary to ascertain whether the sick person can clearly and rationally answer a few questions put to him or can repeat unaided the provisions of the will he wishes to make. In the case of feeble-minded persons a private interview should be insisted on, when the patient may disclose the existence of any undue influence. He discusses the wills of insane persons as well as wills of persons incapacitated by drunkenness, delirium, the stupor induced by narcotics, and similar conditions.

The Sanitary Management of our Army.—Two notable letters appeared in the *Sun* for October 26th. The first, by Mr. Frank J. Harvey, a hospital steward stationed in the West Tampa Hospital, was as follows:

"It might interest your readers to hear the impartial statement of one who has had unique opportunities to see and judge of all or most of the transactions going on in the two army corps (Fifth and Fourth) which have come here to Tampa and gone since the early part of May.

"Nearly sixteen years ago I completed a term in the hospital corps of the British service and enlisted in Uncle Sam's service under an assumed name, like many others, for, whatever the impressions may be now, at that time the *status quo* of a soldier in the eyes of the average individual was not such as one might feel elated over. Hence I have had those years of experience in the English service and nearly nine years in the American, and may seem fairly qualified to judge of the relative efficiency of the two services.

"Now, in the first place, I would say that at the commencement of this war with Spain the regular army, with its twenty-five thousand men and officers, could not have reached a very much higher state of efficiency. Things in general seemed to me to have been worked down to a very fine point in the various departments during my nine years of experience with Uncle Sam. The physique of the men in particular struck me as being superb, making manifest the successful workings of the system in operation at the time. But this system, though more than successful when applied to twenty-five thousand men, was not equal to the sudden demand made upon it at the commencement of this war. The regular troops, which came here in May and which formed the Fifth Army Corps, were such as any American might feel proud of; but in the general mix-up of regulars and volunteers it would be hard to expect the same high degree of efficiency. Nevertheless the volunteers, coming from counters, factories, etc., with no particular military training to fit them for field work save an occasional march in some region adjacent to their homes, have done remarkably well. If, however, it is desired to form the nucleus of an army for times of peace, upon which to build in times of war an army equal to the increased demand, without sacrificing its efficiency, it might be well for those concerned in reorganizing the scheme to give some attention to the English system of 'reserves,' first, second, and third class. These number thousands of men and are more efficient than hastily improvised soldiers, being men of a military training of one or more terms in the army, according to their class. Such a system is even more applicable to this country, which needs only training to fight its wars, with its schools serving the double purpose of garrisoning forts.

"Now, as to the discrepancies in the way of supplies and general care of the soldiers which are complained of. Sufferings were due, first, to inadequate knowledge in the selection of certain camps, which proved more swampy than other adjacent points, though the general selection of grounds was the best practicable. Next, and by no means the least, was the inadequacy of men trained in the making out of necessary requisitions for supplies. I am not an adept myself in this matter. On the contrary, the demands of subsistence, quartermasters', and other departments in this particular have nearly worried me to death, but the making out of a common 'ration return' even has proved too much for some of my contemporaries. It is hard to get trained men in times of war if the exigencies of war are not prepared for in times of peace, but the system which worked so well in peace did not contemplate such colossal demands as are made upon it at present.

"The supplies were ample, particularly the commissary. Indeed, I have thought what a picnic the English soldiers with whom I served in Egypt in 1882 would have had if they had been fed as are the soldiers of this war. It was noticeable that the regulars did not complain. The only complaints I heard were from volunteers, even when they had fresh bread and meat instead of 'hardtack and bacon,' little of which has been seen in this war so far. The only instances of hunger I have witnessed were in cases of typhoid fever, when to give solid food would have been sure death. Still, strange to say, we have received no little censure in this matter, not only from relatives, but even some newspapers ignorant of the circumstances."

The other letter, signed "Old Sojer," reads as follows:

"In view of the allegations regarding sickness and death from disease in our army, it is interesting to compare the figures with those of the sick returns of the British force in northwestern India between June 19, 1897, and April 6, 1898.

"There were in the field 18,688 British troops, 41,677 native troops, and 32,696 others, or a total of 93,061. There were 41,055 admissions to hospital and 1,602 deaths, which is 17.20 deaths per thousand, or 1.72 per cent.

"In our Spanish war 2,910 died of wounds or disease, about one per cent. Had the percentage of deaths from disease in our army been as great as in the British expedition, the deaths would have been 4,702, whereas they are alleged to number 2,467 officers and men.

"It will be seen that despite the thorough organization and equipment of the British expedition, and although it marched and camped in an elevated, mountain country, our medical service makes a better showing than the British and our death-rate is not as high as that of the British.

"It is reported that the very greatest care was taken of the troops in India. Their rations were plentiful, their uniforms suitable, their water purified, and their camps kept clean. Nevertheless, 4.58 per cent. of the force was always sick and 10,000 had to be sent to the base hospital at Nowshera.

"Such is war in a hot climate, and whether our troops were in Cuba, Porto Rico, or the Philippines, or in our own home camps, they were all in a hot climate last summer. Our people, never before having had the experience the British have often had, feel injured, but without just cause."

St. Louis Medical Society of Missouri.—At the last regular meeting, on Saturday evening, October 29th, the following papers were to be read: The Radical Treatment of Hypertrophied Prostate by Electro-Incision; Demonstration of the Freudenberg-Bottini Incision; Report of Cases, by Dr. Bransford Lewis; Infection in the Toilet, by Dr. M. F. Engman.

The Christian Science Fraud.—We learn from the *Lancet* for October 15th that Major Cecil Lester, instructor in military topography at the Royal Military College, Sandhurst, England, who was suffering from tuberculous peritonitis, and had been subjected to palliative treatment by Dr. Clarke, principal medical officer at the same institution, discarded all treatment and placed himself under the care of a Mrs. Grant, a "Christian scientist." He died a month later, and Dr. Clarke properly refusing to give a death certificate an inquest was held and an autopsy ordered. On this case the *Lancet* has the following pertinent editorial remarks: "On October 5th Major Lester died, and Dr. Clarke, not having seen the patient for a month, rightly and properly refused to give a medical certificate of the death. A post-mortem examination testified to the accuracy of the medical diagnosis and the jury found that the deceased died from tuberculous peritonitis. They added the following riders to their verdict: '1. The jury express their entire satisfaction with the treatment and action of Dr. Clarke and Dr. Gillespie throughout the entire case. 2. The jury also desire to express their sense of abhorrence at the so-called treatment of the deceased by Mrs. Grant as representing the Christian Scientist Society in not using material means for the alleviation of his suffering.' Dr. Clarke's high repute and the close attention which he gives to his cases in the office which he has so long and so honorably held are in themselves a guarantee that no consideration or kindly thought was likely to be overlooked in the efforts made on behalf of his suffering brother officer. Fortunately, the case is not one where the skill or the treatment of the medical advisers was at any time in question. They themselves recognized the fact that, humanly speaking, recovery was well-nigh hopeless and scarcely to be expected, and they said so honestly to the anxious relatives. It is not for us to say that at this stage of apparently hopeless despair it was unnatural in the relatives to wonder if there was anything more that they themselves could do; nor as a mere matter of sentiment dare we blame them for cherishing at a sorrowful crisis what Major Lester's father, General Lester, described to the jury as a 'rational and reasonable hope' that there might be something in the 'Christian science' treatment which would lead to recovery. But the contemplation of his deathbed leads us to pass briefly in review the reasons given by the exponent of the Christian science treatment for the hope that is in Christian science treatment—an excellent and taking phrase, but surely a misnomer from beginning to end. Mrs. Grant told the jury that she gave no material remedy to alleviate the pain. Where was the treatment? Mrs. Grant told the jury that she had no experience in the treatment of peritonitis; yet she commenced her treatment directly she got the telegram and before she had seen the patient. Where was the science? Mrs. Grant, 'taking up the right thought of the omnipotence and love of God,' told the jury that she did not believe that suffering was sent by God, and she contended that Jesus Christ never sent the sick to physicians. If the agony at Calvary for man's redemption was a God-sent reality, and if the miraculous healer told the Pharisees that 'they that be whole need not a physician, but they that are sick,' where is the Christianity of the Christian scientist?

"The Christian scientist talks as if his (merely human) activities were set in motion and pervaded by an atmosphere of Divine potentialities. In an almost flattering way he, as it were, 'stands in' with God, or, as Coroner Roumieu bluntly put it at the inquest, he 'tries to usurp the special power which Christ had.' We feel it, further, to be our duty to point out that apart from evils which may result to individual members of the community from it, the Christian science treatment is neither more nor less than a *fin-de-siècle* fad, a drawing-room cult, and that it is the counterpart of the culpable negligence which has brought the Peculiar People of the less educated classes within the range and operation of the criminal law of the country."

On top of this comes the report of the recent death of the well-known and widely respected writer, Harold Frederic, also under the hands of a "Christian scientist," but in his case autopsy proved that the disease was not an incurable one. It is appalling to think that people of intelligence can place such dangerous confidence in a base and degrading imposture. Such results as follow Christian science treatment are the effect simply of "suggestion," and can therefore only occur in cases of a nature able to be benefited by suggestion. And adequate medical training is needed even to enable those conditions to be recognized.

The University of Havana.—A Philadelphia correspondent of the *Evening Post* regards it as certain that Dr. John Guitéras is to resign his Philadelphia professorship and accept the chair of medicine in the University of Havana.

Original Communications.

IS APPENDICITIS A SURGICAL DISEASE?

By CARL BECK, M. D.,
NEW YORK.

APPENDICITIS is an inflammation of the vermiform process due to infection. Is such infection due to the invasion of a specific bacterium, or to the cooperation of two or more different species? The question is not yet settled; but the majority of observations point toward the ubiquitous *Bacterium coli commune* as playing the main part in the infection. Other species are found in the colon: the *Streptococcus lanceolatus,* the *Bacillus pyogenes,* the different varieties of proteus, the *Bacillus subtilis,* and sometimes staphylococci. Streptococci are found more frequently, the liquefying as well as the non-liquefying type. Regarding the repute of the streptococcus, it is no more than natural that there is an inclination to hold it responsible to a great extent for originating appendicitis, especially in its highly virulent forms.

Welch maintains that it is the combined influence of the colon bacterium and streptococcus which causes appendicitis, and that the failure to discover streptococci on the artificial soil does not necessarily prove their absence. The colonies of the *Bacterium coli commune* grow so rapidly, and are so overshadowed, that they are overlooked. So it might be that from the standpoint of the companionship of two different types of bacteria the higher toxic potency of the various types of appendicitis could be explained.

Whether each of these bacterial species alone will originate appendicitis, or whether two or more associated species together are required, has as yet not been practically demonstrated. Theoretically, there seems to be no reason why each pathogenic species alone could not produce the infection. It is a well-known fact that the virulence of the *Bacterium coli commune* sometimes may become enormous. According to Lesage and Macaigne (*Archives de méd. expériment. et d'anatom. pathol.,* 1892), it produces but insignificant effects if grown on a healthy surface, but causes the most intense reaction when isolated from tissues which have undergone pathological changes. Thus its virulence is the higher as the disease is graver in which this bacterium is found. The fact that cultures taken from a case of cholera showed a high virulence, while those taken from a pus focus were weak, is in entire accord with this theory. It will be reserved for the cooperation of surgeons possessing bacteriological knowledge to appreciate these different theories so far that practical results can be deduced from them.

One of the greatest difficulties in estimating the toxic dignity of the *Bacterium coli commune* is caused by its not representing a distinct uniform species, but a whole series of different subspecies, which, while alike in many respects, still show a few small but nevertheless well-marked diversities. The great difficulties of differentiation may best be illustrated by the fact that Park goes even as far as to maintain that the *Bacterium coli commune* should probably be identical with the *Bacillus neapolitanus Escherich,* the *Bacillus fœtidus Passet,* the *Bacillus aerogenes,* and a variety of other forms.

It is well known that the much-debated *Bacterium coli commune* is the most common inhabitant of the intestines of man, as well as of many animals, such as the dog, cat, goat, hog, cow, mouse, rabbit, etc. Thorough examination reveals the presence of this ubiquitous bacterium in the oral cavity of almost every healthy person. As long as the mucous membrane of the intestine is normal, it causes no disturbance whatsoever. But as soon as there is the slightest erosion of the epithelium, it will readily be absorbed. This will happen so much the easier when there are other disturbances in the intestinal tract.

According to Gilbert, Roger, and others, it forms very virulent tissue-change products, which are probably rendered innocuous by the liver, or more so by the bile. There is no better proof for the fact that disturbances of circulation offer a most provoking moment for infection than the experience that in hernial incarceration it is found, having advanced as far as to the serosa. That abrasions of the mucous membrane are the avenue for the invasion is evidenced also by the frequent presence of the *Bacterium coli commune* in dysentery, typhoid fever, and cholera. And there is hardly any other organ of the human body where the chances of a circulatory disturbance and of the abrasion of the mucous membrane are offered with such frequency as in the vermiform process. We need only to consider its situation above the ileo-psoas, a muscle so extensively used, the length of its channel, which is in no proportion to its small calibre; furthermore, the shortness of its mesenteriolum, and last, but not least, its low power of expulsion. Remembering the scantiness of its muscular tissue—there is but a small circular layer—this lack of expelling power can be well appreciated (Fig. 1).

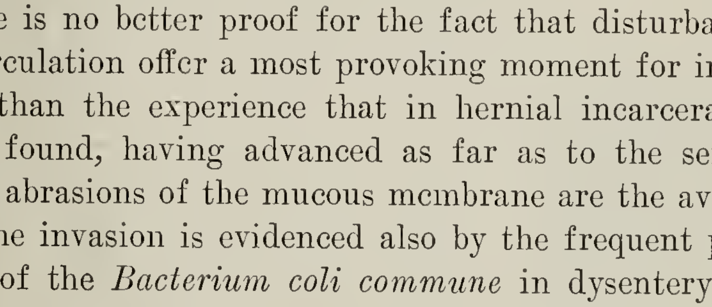

FIG. 1.—Section through normal appendicular wall.

A certain amount of circulation, however, in the vermiform process must be possible. I have made it a rule for several years (see *Journal of the American Medical Association,* December 28, 1895) to examine the vermiform process in each case of abdominal section.

I have repeatedly found masses of moderate hardness, probably fæcal concretions, in individuals who had never up to that time and have not since then shown any symptoms of disease of this organ. Slight pressure sufficed to void such contents into the cæcum.

Appreciating the fact that in the majority of cases the vermiform appendix reaches as far as the true pelvis, it can easily be explained how kinks and twists are caused, which are apt to prevent mechanically the evacuation of the appendicular contents into the cæcum. The limits of this work forbid my entering into the various occasional causes more particularly. I shall only remark that, regarding my own experience in two hundred and seven cases of appendicitis, I feel justified in emphasizing the rarity of real foreign bodies. Only twice have I found real foreign bodies in the appendix—once the traditional grapeseed, and another time a few cumin seeds. Fæcal concretions are frequently found—I have seen them forty-two times—almost always in the gangrenous form.

FIG. 2.—Fæcal concretion from a gangrenous appendix.

There is another ætiological factor the pathological significance of which has, so far as my knowledge goes, as yet not been studied—namely, the right floating kidney pressing the appendix, if directed backward toward the ileum.

In the case of two men, one being thirty-three and the other nineteen years of age, slight pain existed for years, the intensity of which increased gradually. In both cases it was located partially in the lumbar and hip-joint region, and partially in the right iliac fossa, so that lumbago as well as coprostasis was repeatedly diagnosticated. In the case of the nineteen-year-old patient even coxitis had been thought of, because the right leg appeared to be slightly shortened. In both cases a skiagram had been taken, which illustrated the integrity of the bones. Having been able to palpate a slight resistance in the depth of the iliac fossa, I thought of chronic appendicitis, and opened the abdomen. In both cases a movable kidney was discovered, which reached down into the fossa, pressing the appendix against the ilium at each inspiration. After their removal, both appendices, which appeared normal on the outside, showed strictures and contained a small quantity of discolored and decomposed fæces. Nephropexy was performed at the same time and up to date, fifteen and ten months after the operation, no pain was noticed by either of the two patients.

In the case of a lady, thirty years of age, on whom I operated in the second attack I found the appendix buried by the side of the cæcum in such a manner that at first sight there seemed to be no appendix at all. It was only after some search that its structure could be identified, for it had almost become an integral part of the cæcum. Close examination revealed a deep-seated kidney pressing the cæcum down against the ilium. The appendix, which was directed backward, had been pressed against the ilium so that it had become flattened, and at the time of the first attack the serous surfaces of the appendix and cæcum were fused together, the appendix being imbedded in a groovelike depression on the cæcum. By careful dissection with a grooved director it was enucleated. At its tip there was a small perforation containing thick, yellow pus. It was removed, the stump was tied, and the wound was treated by the open method. The patient recovered. In this case there had been digestive disturbances for years, and at one time cholelithiasis had been suspected.

Edebohls, to whom we are so very much indebted for the discovery of the means of palpating the appendix, mentions the frequent occurrence of appendicitis in connection with floating kidney in general, attributing the pathological change of the appendix to the dislocation of the duodenum and pancreas and compression of the superior mesenteric vessels between the head of the pancreas and the bodies of the spinal vertebræ. But it seems to me that the deeply situated movable kidney exerts its pathogenic influence directly upon the appendix.

Thus disturbances of circulation may be produced which, while in themselves of a slight nature, are still sufficient to cause swelling and obstruction, even after the original cause, the twist, the kink, or the compression have again ceased to exist. The swelling of the mucous membrane is usually at the spot where its circular duplicatures are found, as, for instance, above Gerlach's valve, which corresponds to the ostium of the appendix at the cæcum. Naturally, the appendicular secretion is apt to be retained below there. The further consequences are its decomposition and irritation. The presence of fæcal concretion may represent an additional ætiological factor as a mechanical insult. As alluded to, the contractility of the appendix is slight under ordinary conditions. How much more its contractility will be impaired, if there be a swelling, and a swelling means the presence of œdema, can easily be imagined.

And, moreover, how fruitful a field for the development of bacteria is this hollow organ, which resembles a cæcum in miniature. Its comparison with the tonsil in view of its glandular richness, unequaled by any other portion of the intestinal tract, is quite obvious. To appreciate the analogy, there is no need to go as far as Golouboff (*Berliner klinische Wochenschrift*, 1897, No. 5) did, who regards appendicitis as of epidemic origin, just like a tonsillar angina. But by considering that the appendix is in itself a large blind alley, while the tonsil is a conglomeration of many small blind alleys, by further realizing that both organs touch the two body cavities abounding more with bacteria than any other, the comparison can not be helped. There are a few other factors pointing to the similarity—namely, the well-pronounced predilection for an early age, especially in the male, and the early manifestation of the inefficiency of their expulsive power against bacteria invasion, according to their anatomical structures.

For a better understanding, the anatomical relations, as shown in Fig. 1, should be recalled. There we have to deal with a mucous membrane containing little epithelium and a glandular and submucous layer, the latter showing traces of a muscularis mucosæ. Then follow the circular and longitudinal stratum, which are protected by the subserosa and serosa.

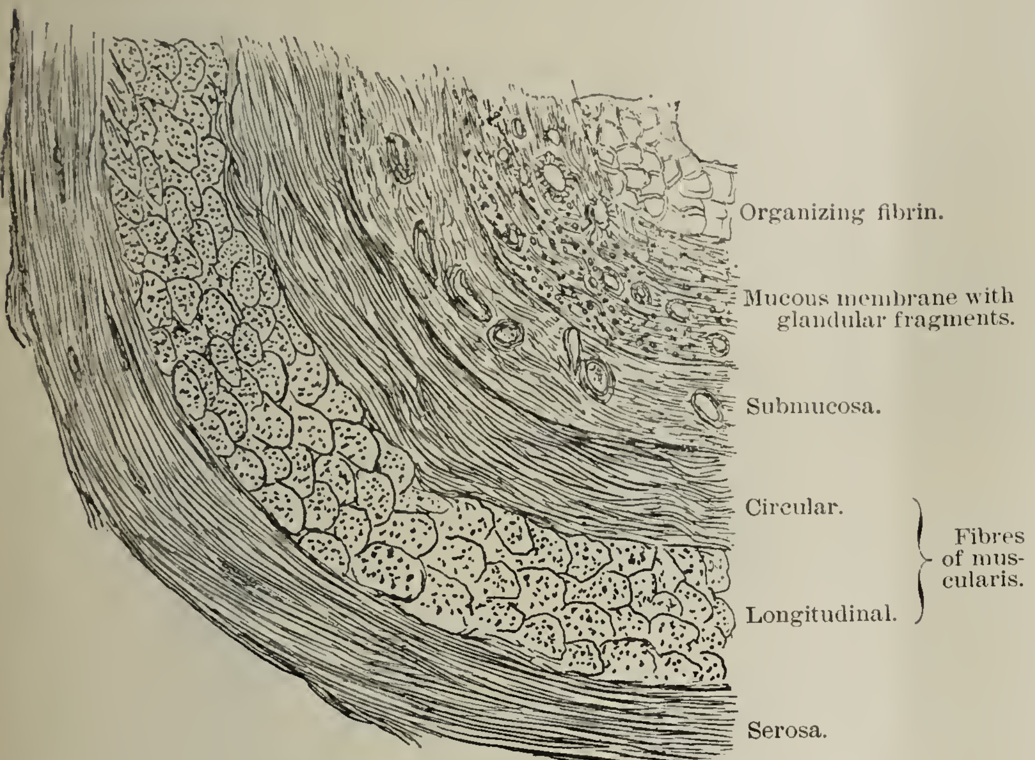

Fig. 3.—Appendix wall in simple appendicitis.

There can be no doubt that once in a while the irritating contents force their escape into the cæcum, and it is then that from a clinical standpoint the diagnosis "colic of the appendix" will be made. But in far the greater majority of cases the invasion of bacteria into the submucosa means the breach being shot, and then there is no further halt to the progression of the infection.

The muscularis rapidly being permeated, the subserosa and serosa are attacked soon. Accordingly the wall of the appendix becomes thickened. The contents of the channel become mucopurulent. This anatomical condition corresponds to what from a clinical standpoint is usually called "*appendicitis simplex.*"

Microscopically the vessels of mucosa and submucosa appear to be dilated and filled with red blood-corpuscles. In the tubular glands there is an accumulation of large cells and in the interstitial tissues there is an infiltration of embryonic cells. The infiltration with small cells proceeds to the muscular stratum and forces its fibres asunder, thereby causing complete paresis of the muscularis. Now the subserosa and serosa participate, too, showing considerable multiplication of their endothelial cells. There also fibrinous exudate may organize, laying the foundation for partial obliteration. The muscular tissue, originally so scanty, may also participate in the proliferation and hypertrophy (Fig. 3).

In this stage resolution takes place frequently—that is to say, the *acute process subsides*. But, according to my mind, *restitution to perfect integrity seldom occurs.* Sometimes the serosa may remain intact, but in most cases it will become adherent to the adjoining intestine, or to the omentum, or to the abdominal wall.

The mucosa may, except at a few cicatricial points, the sequelæ of erosions, appear to be normal. But these scars are the originators of strictures (Fig. 4), which cause stagnation, and stagnation again may cause dilatation on other points. Thick mucous plugs, tightly crammed in, and organizing fibrinous exudates, obstructing the lumen, are then found there (Fig. 3). The submucosa and mucosa become thickened and hypertrophic, thus enlarging the dimensions of the whole appendix.

Sometimes there results a progressive tendency to obliteration. This has been described most pictorially by N. Senn as appendicitis obliterans.*

It goes without saying that all these conditions must necessarily provoke recurrence of an inflammatory process sooner or later. It is only when total shrinking of the appendix takes place, so that it is degraded to a simple, bandlike, functionless appendage, that such recurrence will fail to set in again. Thus the spontaneous cures are explained.

In periappendicitis there is an adhesive peritonitis, combined with the formation of fibrino-plastic exudation.. There a resolution may take place in the same way as described in simple appendicitis—namely, the exudation may be absorbed and the acute inflammatory symptoms subside. The appendix of course remains in the same condition as if there had been an appendicitis simplex which had advanced as far as to the serosa, plus the adhesion of its serous coat to the neighborhood, in which it sometimes appears like a mummy baked in lava. It does not need urging that under such circumstances recurrence of inflammation is provoked to a higher degree than in simple appendicitis, mechanical causes now also being added.

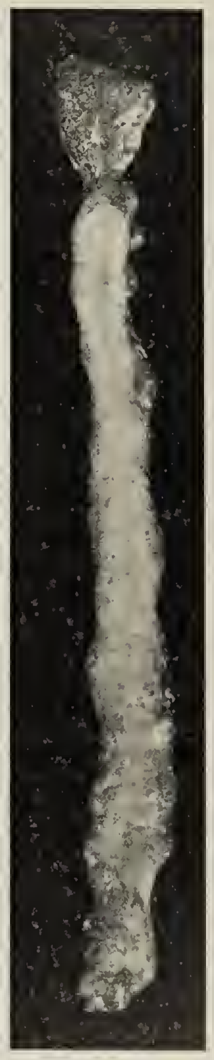

Fig. 4.—Long strictured appendix removed in chronic appendicitis.

But very frequently resolution does not take place at all and the inflammatory process proceeds further. This can take place in different ways:

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* *Journal of the American Medical Association*, March 24, 1894.

The inflammation may encroach upon the tissues situated nearest to the serosa, and the exudation, originally having been of a serous character, becomes purulent. It may safely be assumed, however, that the exudation, which microscopically appears to be of a serous character, contains pyogenic bacteria *a priori*, the same as in serous pleuritic effusion, which "turns over into pyothorax" (*periappendicular abscess*).

Or, the inflammation reaches the peritonæum by way of the lymph vessels as a true lymphangeitis. I used to term this variety, in proportion to its propagation, either *circumscribed* or *progressive phlegmonous appendicitis*.

Or, the secretion of the appendix becomes purulent (*pyappendix*). Then in the vast majority of cases perforation takes place under successive distention of the walls and pressure necrosis. The perforated area may at first not be larger than the head of a pin and may enlarge gradually. Accordingly the pus may enter the peritoneal cavity slowly or rapidly.

Naturally, the peritoneal area adjoining the nearest perforated spot is highly irritated by the preceding inflammation, and therefore most susceptible to the further reception of the infections (*appendicitis suppurativa perforativa*).

But there may also be a suppurating nucleus, which, by forming adhesions and pushing them before itself, at last generates a partition-like, shut-off pus focus. Then the membranes, originally very thin, have a chance to distend gradually and gain strength by additional adhesive formation (*encysted, isolated appendicular abscess*).

Finally, there may ensue ulceration of the mucous membrane, which deepens gradually in a funnel-like shape. The blood-vessels, possessing but scant anastomosis, are only too readily inclined to the formation of thrombi or emboli, so that there results an anæmic infarct; in other words, necrosis of the muscularis and serosa—*i. e.*, a perforation hole. Great credit belongs to G. R. Fowler for having studied the significance of anastomosis formation in this most important relation.

The experience of many authors, my own included, shows the great predilection for perforation at the proximal end of the appendix—that is, where there is the scantiest arterial supply. Kinks and adhesion with the adjacent tissues are factors favoring inflammation. Fæcal concretions are to be regarded as the results rather than the causes of preceding pathological processes in the appendix.

This type, which is to be called *gangrenous appendicitis*, can be the direct consequence of the perforation form. But it can also encroach upon the appendix in its whole extent at once. Then the organ is found in the midst of decomposed pus, mutilated into a greenish-black band-shaped fragment, the connection of which with the cæcum is entirely severed.

In all these various types of a suppurative character a spontaneous favorable termination may occur, just the same as it occurs in infectious processes in other parts of the body. But it can not be disputed that such occurrences are extremely rare. The abscess may be evacuated through the abdominal wall, as well as through the intestine, the latter possibility being the most frequent. It may also happen that pus foci, especially if encysted, are absorbed after being thickened and having undergone fatty degeneration. This can be expected so much easier if the bacteria contained by the pus died out, so that the pus lost its virulence. If the appendix be gangrenous, however, such possibilities can but very rarely be expected.

It is evident that these various types can not always be kept asunder, but that one often passes into another. This consideration leads us to the most important point, that the difference of type mainly depends upon the stage in which the appendix is made accessible to ocular inspection. This being possible only after the abdomen is opened, it is self-understood that the different pathological conditions vary in proportion as they devolve upon an advocate of early or late surgical interference.

If the abdomen is opened at an early stage, the following state is often found:

The cæcal surface, as well as the adjacent intestines, show absolutely normal conditions. After the caput coli is lifted off, the appendix is found to be a rigid, firmly outstretched organ of the circumference of an index finger. It may properly be called an appendix in a state of erection. By thin fibrinous exudations it becomes adherent to its vicinity. Its general color is dark red, but in some places there are yellow-grayish foci, just like those seen in panaritium which is near perforation, the appendix wall having become so thin by ulceration that it is translucent, and the intra-appendicular pus is visible. But there are no well-pronounced external signs of perforation (Fig. 5).

Such an appendix, after being removed, shows its interior filled with a decomposed pulp of an offensive odor, which mainly consists of pus, blood coagula, and necrotic fragments from the mucous membrane. The muscularis is necrotic in various spots and the serosa is extensively inflamed. This condition represents a true empyema, or, as we may properly term it, *pyappendix*, analogous to pyothorax, pyosalpinx, etc. (Fig. 6).

If in such cases operative steps are omitted the lapse of an hour may cause a small-calibred perforation, followed by fulminant sepsis, or slow-forming gangrene may come on, with the same final result.

On the other hand, the increase of the intra-appendicular pressure may have succeeded in extruding the appendicular contents into the cæcum. But even under such apparently favorable circumstances it certainly often happens that the appendicular walls being so much infected, the near tissues have absorbed so much virus that further peritoneal infection can not be stopped even by eliminating the original noxiousness.

We have to consider, in conclusion, what is called "*chronic appendicitis*," the frequent result of an appendicitis which took a "favorable course" after internal treatment.

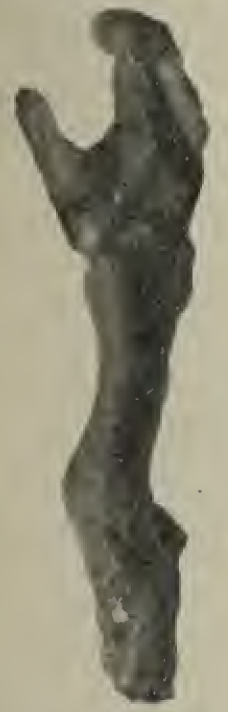

Fig. 5.—Pyappendix, removed during an acute attack.

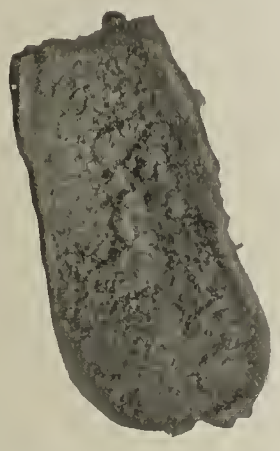

Fig. 6.—Beginning perforation in pyappendix; extensive necrosis of mucosa and muscularis eleven hours after the beginning of the first clinical symptoms.

This type, which is also frequently termed relapsing appendicitis, is characterized by a thickening of the whole sac, which is filled with a copious quantity of viscid mucus, sometimes mixed with pus. At some points there are ampulla-like dilatations, due to the presence of turns, kinks, or strictures in the canal. Thus the expulsive power, so small in itself, on account of the scantiness of muscular elements, is so much more diminished that decomposition of the contents and renewed inflammatory manifestations must necessarily follow.

It is customary to theoretically distinguish this type from recurrent appendicitis, defining recurrent appendicitis to mean that after an acute attack and the disappearance of symptoms, a second attack takes place after a free interval, while in relapsing appendicitis there is no free interval, the patient never being completely normal and there being a tendency to numerous exacerbations.

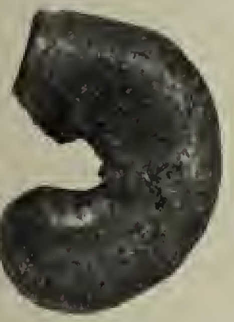

Fig. 7.—Fibrous degeneration of appendix. Tubercular ulcer. (Caseous focus on the tip.)

This differentiation, however, is a rather arbitrary one, and while it seems to be justified clinically, it can not be upheld from the standpoint of pathology; and the term "chronic appendicitis" may properly cover both conditions.

Among the rarer types there may be mentioned the *actinomycotic* and the *tuberculous* appendicitis. The latter undoubtedly represents a much more frequent variety than is generally assumed. Tuberculous appendicitis has not infrequently been demonstrated on the autopsy table as a participating manifestation of general tuberculosis. In connection with peritoneal tuberculosis it has not been observed so often (Fig. 7).

The following cases of this type seem to me deserving mention:

Case I.—A boy, eight years of age, suffering from the caseous form of peritoneal tuberculosis, which was extensive and well marked. I found a retroperitoneal caseous stratum of the thickness of an index finger; and laparotomy revealed diffuse tuberculosis of the peritonæum, intestine, and mesentery. On the basis of the appendix, which was deeply imbedded in adhesions, there was a cheesy focus of the size of a cherry. The patient recovered from the effects of the extensive operation, which consisted in the thorough removal of the foci, but four weeks thereafter he succumbed to general tuberculosis.

Case II.—In a girl of thirteen years, in whom exploratory laparotomy had revealed tuberculosis peritonei (light ascitic form), a tuberculous appendix was discovered. The patient, being of a rather delicate constitution, had complained of pain in the hypogastric region more than a year before the operation. Various members of the fraternity had diagnosticated dyspepsia, stomachal catarrh, chlorosis, endocarditis rheumatica, etc. Six months before the operation was undertaken the patient was taken sick, having swallowed a large quantity of lemon kernels. According to the statement of a most reliable colleague, the patient's symptoms had then consisted in nausea, pain in the right iliac fossa, fever, and meteorism, so that the diagnosis of appendicitis had been made. The treatment was expectant. After two weeks the acute symptoms disappeared, but an exudation of the size of a man's fist remained in the right iliac fossa. Pressure there yielded a slight painful sensation. The abdomen was distended; there was constipation; nausea and fever were absent. The explorative laparotomy, performed in the linea alba, showed an innumerable quantity of nodules, ranging from the size of a pinhead to that of a pea, disseminated over the peritonæum. The apex of the appendix, which was thickly adherent to the right ovary as well as to the colon, showed three nodules. In the small pelvis were a few teaspoonfuls of light serum. Recovery took place without reaction. Six years have elapsed since, and the patient has remained perfectly well.

But there is undoubtedly a primary form of tuberculous appendicitis, and I trust that the daily progressing capacity for recognizing the various types of appendicitis, which is gained and trained by the autopsy *in vivo*, will soon furnish much more abundant knowledge of it. I can not help thinking that in former years, when my experience in appendicitis was more limited, I have operated upon cases which gave me a suspicion in this direction; but various unfavorable circumstances prevented a sufficiently thorough examination into the possibilities of tuberculosis. Recently, however, I had a chance to examine and to operate upon two well-marked cases, which seem to me of interest.

Case III.—A girl of two years was seized with slight peritoneal symptoms on October 27, 1897. According to the family physician's report, the ileo-cæcal region had been particularly sensitive on touch. Treatment consisted in opium and ice bag. The elevation of temperature, as well as the meteorism and the tympanitic sound, soon disappeared again, but a slight nausea persisted. Finally, the patient had nearly fully recovered, when suddenly, on November 17th, she became seriously affected with peritoneal symptoms. There was intense vomiting and persistent obstipation, as well as an elevation of temperature. Soon thereafter collapse supervened, so that intestinal constriction caused by adhesions, such as often develop after peritonitis, was thought of.

November 18th I found the following state present: Poorly nourished child, showing the well-marked symptoms of collapse. Pulse, 160; temperature normal; meteorism. A dull area, comprising the whole right iliac fossa, was clearly distinguished from that of the tympanitic abdominal sound.

Diagnosis.—Gangrenous appendicitis after previous simple appendicitis. Immediate operation at St. Mark's Hospital. After having opened the abdomen in the ileo-cæcal region the intestine was found to be of a dark-red color and covered partially with fibrinous exudation. Between the anterior surface of the cæcum and a loop of the jejunum was a fresh adhesion, which caused the jejunum to bend in to such an extent that it could easily explain the obstruction. The adhesions were loosened under great difficulties, the surfaces bleeding profusely. Now, between this area a thick string, reaching from the cæcum to the spinal column, having about the size of a man's thumb, was brought into view. After being shelled out from the surrounding tissue, this string proved to be the appendix, surrounded by numerous glands. In the adjacent portion of the jejunum small nodules, from the size of a pinhead to that of a lentil, were found. The anæmic, yellowish appearance of these nodules contrasted strongly with the dark red tint of the intestine. Iodoform gauze packing. Fatal termination, five hours after operation, under symptoms of grave collapse. Examination of the lacerated appendix revealed the presence of a small caseous focus in the thickened wall. Altogether, fourteen glands had been removed, three of which had undergone cheesy degeneration. The presence of tuberculous bacilli was not demonstrated, but the macroscopical conditions were so well developed that there could hardly be any doubt as to the presence of tuberculosis. No abnormities were found in any other organ of the body.

CASE IV.—A man, twenty-six years of age, of a very delicate constitution, highly anæmic, suffered from disturbances of the stomach and intestine for years. Last year one of his two brothers died from pulmonary tuberculosis; the other one has recently had hæmoptysis. The painful attacks, which could be localized above the large curvature, and which took place spontaneously as well as on pressure, together with the presence of pyrosis, nausea, hyperacidity, and obstipation, pointed toward the existence of a stomachal ulcer, although hæmatemesis was absent. All these symptoms yielded pretty quickly after the usual treatment for gastric ulcer was instituted. At the end of November, 1897, there were renewed pain in the right iliac fossa, fever, vomiting. The family physician diagnosticated catarrhal appendicitis. The treatment consisted in ice bag and opium. Two weeks later the patient was again able to get up, but he failed to recover completely. There were also slight symptoms characteristic of stomachal ulcer. In the middle of December he had a second violent attack of the same kind as in November. Medicamentous therapeusis again. After a few days apyrexy, with renewed disturbances in stomach and intestine.

On December 25, 1897, after being admitted to St. Mark's Hospital, the patient showed a moderately distended abdomen, tenderness in the pyloric region, and well-marked pain in the right iliac fossa. Resistance and dullness correspondingly.

Diagnosis. — Chronic appendicitis. On December 26th oblique incision in the symphysis-rib line. The omentum, which is found covered with small nodules, tightly adheres to the cæcum, so that it must be divided to permit access to the appendix. Situated crosswise toward the spine the appendix is found imbedded in glandular tissue, indiscriminably changed into a hard band. Great technical difficulties presented themselves in shelling out the glands, which had partially undergone caseous degeneration. The microscopical examination, while in favor of tuberculosis, did not discover bacilli, nor did the fæces contain any tubercular bacilli. I availed myself of the opportunty of the intra-abdominal examination of the stomach to make a careful search, but neither by inspection nor palpation could I find anything abnormal. The patient recovered slowly.

Now, four months after operation, he has a moderate appetite, and is free from fever and pain. He is still very anæmic, but there are no positive objective signs of any disturbance.

Whether ulcus ventriculi really existed in this case I do not regard as proved. Without denying the possibility of it, I am inclined to consider all the more or less vague stomachal symptoms as indirect expressions of the diseased appendix, the ulcerative process perhaps having existed for a long time without causing well-marked local manifestations.

In regard to the study of *actinomycotic appendicitis*, which I never had a chance to observe, I refer to the excellent essays of Barth, on abdominal actinomycosis (*Verhandlung der freien Vereinigung der Chirurgen Berlins*, 1890, Jahrg. 32, S. 29); Partsch, on human actinomycosis (*Sammlung klinischer Vorträge*, S. 306, 307); Lanz, on perityphlitis actinomycotica (Bern, 1893); Braun (*Correspondenzblätter des ärztlichen Vereins von Thüringen*, 1897); and Israel (*Verhandlungen der freien Vereinigung der Chirurgen Berlins*, 1895, S. 115).

Wherever mixed infection with pyogenic bacteria has taken place the picture of the disease is veiled, and the chances are that thus the character of this type is generally overlooked, the clinical picture of it not essentially differing from that of common appendicular suppurative processes.

There are also carcinomatous or sarcomatous affections of the appendix. In a case of intra-abdominal adenocarcinoma I was able to detect secondary nodules attached to the serosa of the appendix.

In a case of fibrocarcinoma I noticed a retrograde perforation caused by carcinomatous ulceration, the latter having corroded serosa and muscularis, so that the mucosa could be lifted up by a probe introduced from without.

(*To be continued.*)

THE DIAGNOSTIC AND THERAPEUTIC RELATION OF ELECTRICITY TO THE DISEASES OF THE CENTRAL NERVOUS SYSTEM.*

By A. D. ROCKWELL, M. D.

I PROPOSE to consider in this paper the diagnostic and therapeutic value of electricity in the organic and structural diseases of the brain and spinal cord.

I have not chosen this subject because it offers the best field for electro-therapeutic work—for it is one of the most uninviting and barren of results. I have chosen it because I have frequently found the most extraordinary and unjustifiable misconception of the rôle electricity should play in brain and spinal-cord diseases respectively, and have read of results in hemiplegia ascribed to electrization that known pathologic conditions and experience both contradict.

It has been no unusual thing, on the other hand, to see patients suffering from so-called irritative brain lesion, with marked muscular irritability, who have been subjected to persistent faradization to their great discomfort and detriment, and I have known cases of infantile paralysis where the flickering vitality of the paralyzed and atrophied muscles has been totally extinguished by violent attempts at contraction with the galvanic current.

Electricity has served us well in many ways, and we should be careful not to ask of it more than it is capable of giving, nor to ignorantly abuse its powerful aid. It is manifestly beyond the scope of a single paper to treat of the relation of electricity to each individual disease due to disorder of the central nervous system, and I shall therefore limit my remarks in the main to pathologic conditions. The terms organic and structural as applied to diseases of the brain and spinal cord are not infrequently misapprehended and misapplied. Generally speaking, when we say that a disease is organic, we mean that it is visible to the naked eye, and when structural, that the pathologic changes become apparent only through the aid of the microscope—while there is still another class of diseases that may be termed nutritional. Some of these are even more hopeless than either organic or structural diseases, and yet neither the microscope nor other methods of precision have revealed those molecular changes in nutrition that must be the underlying causative factors in such nutritional diseases as the general paralysis of the insane and paralysis agitans. With what are commonly termed organic diseases, and especially the coarse organic changes in the brain and spinal cord, we have little to do, and in these conditions electricity is for the most part relegated to diagnostic uses.

Whatever good is derived from the use of electricity is confined mainly to certain structural changes of the spinal cord.

In considering the diagnostic value of electricity in diseases, both organic and structural, of the central nervous system, we are to remember that muscular paralysis is due to changes somewhere along the path between the cortical motor cells of the brain and the muscular fibres, and that quite different effects follow according to the location of the pathologic change along this path. The pyramidal cell of the cortex has short branching processes called dendrons. These dendrons are made up of fibrillæ, which, after leaving the cell, pass down to the cord under the name of axis-cylinder process or axone. These unite with the short processes of the spinal-cord motor cell, constituting the lower segment of the course along which flow motor impulses.

Beyond lie the posterior roots, connected with this lower segment by its fibrillæ, and with the muscular fibre by the great axis-cylinder process. While loss of muscular power (paralysis) indicates disease either of the upper segment (cortical motor cell) or of the lower segment (spinal-cord motor cell), eliminating always causes of a purely peripheral character, impaired muscular nutrition, as indicated by atrophy and lost faradaic irritability, is the result of damage to the lower segment, to the motor cells of the gray matter of the spinal cord. While disease of either segment, then, may result in motor paralysis, that of the upper segment, or cortical motor cells of the brain, interferes not greatly with nutrition or reflex action, except to increase it, while disease of the lower segment, or the motor cells of the gray matter of the spinal cord, results in loss of reflex action, impaired nutrition, and muscular wasting. As a rule, the faradaic current is sufficient for diagnostic purposes, while the galvanic current is especially valuable as an aid to prognosis. If the paralyzed muscle contracts normally to the faradaic current, we know that the muscular fibre is well nourished, and that the central pathologic change (eliminating, of course, a peripheral causation) involves either the brain or the white substance of the cord. If farado-muscular contractility is lost or distinctly diminished, it is probable, although by no means certain, that there is degeneration of the muscular fibre, and that this degeneration is due to disturbance of nutrition somewhere in the tract between the multipolar cells in the anterior cornua and the peripheral nerve distribution.

Paralysis from Brain Disease.—Hemiplegia is the symptom of special interest in considering the relation of electricity to brain lesions, although it is difficult to see how it can be of very much service in any other way than by its generally invigorating effects, or its power to hasten absorption.

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* Read before the American Electro-therapeutic Association, September 13, 1898.

By the rapid change of potential in the use of static electricity we attain this end of invigoration more perfectly, perhaps, than by any other method. Through molecular agitation we excite and quicken both metabolism and nutrition. The distinguishing features between paralysis from brain and spinal-cord disease are, as a rule so clearly defined that it is unnecessary to call upon electricity as an aid to diagnosis. Still, it is an interesting fact to note, and to be borne in mind, that after an attack of hemiplegia, whether due to direct damage to the cortical gray matter of the brain from hæmorrhage, to embolism, or tumor, the nutritional disturbance of the paralyzed limbs is very slight, and any disturbance of muscular irritability is in the direction of an increase and not a decrease. Whatever decrease of muscular irritability subsequently occurs is due to atrophy from disuse and not from any direct disturbance of nutrition. The faradaic current, therefore, may be used to advantage sometimes to retard this wasting through disuse, but neither current possesses any value in directly restoring motility to the paralyzed members. This improves only as the brain clot is absorbed and contracts. The interesting question arises, Is electricity of any value in hastening this process of absorption? Much doubt has been thrown upon the generally accepted idea that the galvanic current directly affects the brain, but the experiments in proof of this negation are far from conclusive.

At all events, clinical experience so positively demonstrates the therapeutic value of galvanization of the head in certain symptoms of central origin, that it is difficult to believe that these good results depend upon reflex effects alone, as suggested by those who doubt its direct effect. If, however, the galvanic current does directly affect the brain, the impression made must necessarily be so inconsiderable, through the rapid divergence of its lines of force, as to have only the slightest possible local influence.

Theoretically, its absorptive power over a distant blood clot should be almost nil—and, practically, it is doubtful if much good comes from it. This, at least, has been my experience. In any recent case of hemiplegia, therefore, and especially when there is an increase of muscular irritability, electricity is of doubtful value, and in ignorant or careless hands may do harm. In old cases, however, where from disuse there is atrophy associated with decreased muscular irritability, there can be no objection to its use, and its tendency certainly is to improve nutrition.

One need not hesitate in these cases also to apply the galvanic current directly to the head in a longitudinal direction, in order to avoid the apparent circulatory disturbance and the dizziness which result from transverse galvanization. If it does no good, it need do no harm, and in a pathologic condition where our therapeutic resources are so limited it is rational to employ any method that offers any hope whatever. Disease of the nerves of special sense, especially of the olfactory nerve, resulting in anosmia, has been known to accompany hemiplegia, and I myself have seen two cases of this kind, in one of which electricity was distinctly beneficial.

In this case the nerve elements were, without doubt, structurally perfect and only functionally inactive, and were capable of responding to the galvanic stimulus. I can not dismiss this subject without referring to a form of hemiplegia from which patients occasionally recover with such promptness, and in which electricity has been known to prove of such value, as to completely negative the idea of an organic or structural causation. We know very little about spasm of the vessels as a cause of hemiplegia, but there appears to be no other cause to which to attribute these sudden and transient attacks, several of which it has been my fortune to see. One of these cases, in which a post-mortem was finally held, fell under my observation a long time ago.*

The attacks were intermittent in character, resulting in partial hemiplegia, which would soon pass away. A post-mortem examination revealed various abnormal conditions of the brain, but neither hæmorrhage nor occlusion of any vessel, rendering it probable that the cause was spasmodic. An interesting point connected with the case was the fact that the galvanic current applied for the purpose of affecting the vasomotor system resulted in an immediate cessation of these attacks. For three months they did not again occur, when one, unusually violent, proved fatal.

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* Observations on Hemiplegia, based on Eighty-one Recorded Cases, with Special Reference to Cerebral Localization. *Medical Record*, April 29, 1882.

Paralysis from Spinal Disease.—We have seen that in organic brain disease the very limited indications for the use of electricity are found mainly in the later stages of hemiplegia from cerebral hæmorrhage. In spinal disease the outlook is somewhat better. It is indeed considerably better, although, as in the pathologic conditions of the brain, its range of usefulness is limited. In all the acute inflammatory conditions of the spinal cord and in primary spastic paraplegia, electricity is not only useless, but in inflammatory conditions may easily do harm. The function of electricity is to maintain nutrition; and in chronic dorsal myelitis, where the limbs are well nourished and the reflex action excessive, electricity is contraindicated. It overstimulates the sensory nerves and increases reflex action. It is in the paralysis depending on cornual myelitis—the poliomyelitis anterior both of childhood and the adult—that electricity finds its greatest field of usefulness in structural diseases of the cord. It is only in the early stages that there is any difficulty in diagnosis.

Within ten days, diminution, then complete loss, of faradaic irritability supervenes, and this, together with the characteristic muscular atrophy, renders the diagnosis unmistakable. The faradaic current is alone sufficient for the diagnosis, since complete loss of faradaic irritability is sure to be associated with the reactions of degeneration elicited by the galvanic current alone.

Faradaic irritability is lost from many causes, and this complicates somewhat the regional diagnosis.

Disease of the gray matter, of the nerve roots, the nerve fibres in their course, or of the extreme nerve periphery, all result in loss of faradaic irritability, and this loss, considered alone, simply proves that the nerve endings have lost their susceptibility to faradaic irritation. For this reason, neuritis has not infrequently been confounded with myelitis. The loss of faradaic irritability is the same in the various forms of myelitis and in neuritis, but from very different causes. In myelitis, loss of faradaic irritability is due to the lost influence of the diseased nerve cells on the motor nerve fibre. In multiple neuritis, this lost irritability means damage to the nutrition of the motor nerve fibre so profound as to completely obliterate its vital influence. Notwithstanding, however, the similarity of the electric reactions in the two diseases, their other symptoms, both objective and subjective, are so dissimilar that there ought to be little difficulty in distinguishing between them.

Muscular fibre deprived of its nerve supply fails to react under any faradaic stimulation. It reacts only to galvanic stimulation, and the progressive decrease in galvano-muscular irritability indicates accurately the stage of muscular degeneration. In paralysis from disease of the motor cells of the cord, we find at first, but only for a brief period, a distinct increase of irritability. From the fact that this increase of irritability develops slowly, it is evident that it is due to a progressive degeneration of the nerve endings rather than loss of nerve impulses. If the muscular fibres preserve their transverse striation, as indicated by their reaction to galvanic stimulation, there is hope of ultimate recovery, or at least of improvement; but when this reaction progressively grows less and is finally lost, the transverse striations have been replaced by granular and fatty degeneration, and no treatment can hope to be of service.

In interrogating the muscles of children, it is of the utmost importance to eliminate, so far as possible, all pain and even discomfort, if we would make our examinations in comfort and for the best interest of the patient.

The rapid interruptions which make up what is termed the faradaic current do not affect the muscular fibre, but only the more sensitive nerve structure. They give no time for a distinct muscular contraction. The isolated faradaic shock is not only less painful, but is more effective. This statement in regard to pain, however, refers only to conditions of disease. In health, the isolated faradaic shock causes more pain than when rapidly interrupted. As to the electric treatment of poliomyelitis, both in adults and children, I have no hesitation in claiming for it a decided value, a value beyond that of any other remedy, although in the child there is far more hope of improvement, and in some cases of complete or approximate recovery, than in the adult. Cases of complete recovery of poliomyelitis anterior in the adult, especially if the disease has persisted and has been progressive for a number of months, occur rarely, and many of those cases that have been reported as such were undoubtedly cases of multiple neuritis, the symptoms of which were formerly so often mistaken for those of cornual myelitis. One great hindrance to the proper and persistent use of electricity in cornual myelitis is the very natural inference based on known pathologic conditions. In the disease variously known as poliomyelitis, chronic muscular atrophy, and infantile paralysis, the cells of the anterior cornua in greater or less number are either supposed to be destroyed or in process of destruction, and it is held to be irrational to suppose that electricity or any other remedy can repair such damage. That electricity is incapable of restoring a cell once destroyed is quite true, but that it is incapable of doing anything to arrest the further progress of a cell on the road to destruction, or of preserving perhaps contiguous healthy cells from degeneration, clinical experience abundantly disproves. I have little doubt that direct spinal galvanization is of some service in aiding nutrition in these cases, that in a slight degree the current acts directly on the diseased nerve tissue. This method, however, is powerless to accomplish the greatest good.

The vitality of an organ is proportional to the activity of its function, and the cessation of voluntary functional activity and the loss of electric response tell the tale of cell deterioration. The vitality of a cell is, without doubt, often quickened by artificial excitation of the muscular fibre nourished by it. The vital functions of the trophic cells are stimulated into increased activity, and there is a mutual action and reaction between cell and muscular fibre. Let me repeat that the abolition of all faradaic irritability in these cases does not necessarily indicate that there is marked nutritive impairment of muscular fibre. Absence of response to the faradaic current means damage to the nerve endings, which may or may not result in degeneration of the muscular fibre. Absence of galvanic irritability alone is positive indication of damage to the muscular fibre, and it is the galvanic current alone that in any way influences favorably the nutrition of the trophic cells. It is far better to use no electricity in infantile paralysis without muscular response than to use the faradaic current, since it is a fact of observation that used with any persistency or strength its tendency is harmful.

It is not my purpose to burden this paper with cases illustrative of the value of electricity in poliomyelitis, and especially in the infantile form, notwithstanding the wealth of material at hand; but, in closing, I may be permitted to present one case, not of poliomyelitis, but of transverse myelitis. I present it not because of a recovery, or anything approaching a complete recovery, but because it illustrates well what I have been contending for—namely, the power of electricity, in directly exciting the functional activity of the muscular fibre, to indirectly improve the nutrition and augment the vitality of the spinal nerve cells in connection with these fibres.

The case, that of a boy aged sixteen, was referred to me by Dr. Charles McBurney. Two years before, following a comparatively slight attack of *grippe*, he suffered from acute myelitis, associated with paralysis of the sphincter ani and extreme muscular atrophy. He regained power over the sphincter ani, but the atrophy remained unchanged and resulted in a permanent luxation of the knee joint, well illustrated in the radiograph on page 692, which I was permitted to take.

In testing the muscles of the leg, I found, as was to be expected, an entire absence of response to the faradaic current. To the galvanic current the response was so feeble as to render it impossible to elicit the reactions of degeneration, although it is to be presumed that they were present. But week by week, as these atrophied muscles were submitted to the galvanic stimulation, the readiness of response increased, the atrophied muscles perceptibly enlarged, and with this enlargement came increased strength. For six months after recovering from the acute attack this patient had been in an osteopathic institute, and had improved somewhat because of or in spite of their peculiar methods of massage, but during the many months preceding the electric tests absolutely no progress had been made. It was impossible to doubt, therefore, that the treatment alone was responsible for this rapid improvement in nutrition.

THE GENERAL HEALTH AND THE UPPER AIR-PASSAGES.*

By J. C. MULHALL, M. D.,

ST. LOUIS.

When Morell Mackenzie passed through our country he was asked in St. Louis by a newspaper reporter to what causes he attributed the vast prevalence of chronic nasal catarrh in the United States. He answered, "The variability of your climate and the Macadam dust in your atmosphere."

Several years ago I published a paper in the New York *Medical Record* called Diet and Exercise in the Treatment of Simple Chronic Inflammation, in which I took occasion to express the view that the factors mentioned by Mackenzie were minor ones, and that our triad of national diseases—catarrh, dyspepsia, and nervous prostration—were due to our national bad habits.

A factor in the ætiology of chronic nasal catarrh admitted by all authors is anatomical abnormity in the nose, the most common of which is thickened or deviated sæptum. This is a factor which obtains alike in all nations. I therefore submit that the plus factor which makes this disease so much more common among Americans is the bad hygiene which prevails among us. I make bold to say that, atrophic rhinitis barred, the general health of every child who has chronic rhinitis is at fault, and that in the vast majority of cases this is due to faulty hygiene. Two lines of thought are suggested by the title of this paper: one, that diseases of the upper air-passages may produce disturbances of the general health, and the reverse, and it is to the latter to which I believe we specialists do not pay sufficient attention, and to which, therefore, I address my remarks. L. Duncan Bulkley has lately published his experience in the cure of acute rhinitis by the administration of bicarbonate of sodium. I can corroborate his successful results, especially in one class of subjects—namely, those the subjects of the uric-acid diathesis. From sixty to a hundred grains of bicarbonate of sodium taken in twenty-four hours in the early stage of a rhinitis in such individuals will completely abort the cold in the head. To go a step further, let me adduce the following case:

Mr. J. M. H., a wealthy manufacturer, a member of the same club as myself, where I had therefore occasion to observe his dietetic habits, after years of procrastination, finally came for the relief of certain symptoms which he desired cured, more because they were offensive to polite ears than that they annoyed him—namely, a constant desire to hawk and spit, and what have been called "posterior explosions"—namely, a sudden explosive effort of air to dislodge tenacious mucus stretching from the sæptum to the posterior end of the inferior turbinate. I found general turgescence of the turbinate tissue in the alternating stage, with here and there a knot of thickening on the sæptum. The mucus was white and, as I have often noted in uric-acid subjects, extremely viscid. He was plethoric, ate meat three times daily with his pint of champagne with dinner, and took no exercise except an hour each day on his horse. He was in a state of hypernutrition, and where would we expect veins to be more readily engorged than in the ill supported vessels of the nasal erectile tissue? I explained the loss of vascular equilibrium to Mr. H.; that the disease was *a tergo;* that he needed no local treatment, but merely a system of diet and exercise, whereby the expenditure of force would dispose of the fuel ingested. He winced when asked to bid adieu to alcohol, to eat meat but once a day, and to spend so much of his valuable time in walking, and was seduced from these hardships very readily by a friend who urged him to come to his doctor, who had sawed away some bone in his nose, burned some other spots in there, and had done him a world of good. I did not see Mr. H. professionally for six months, when he paid me another visit and frankly related his experience. The sæptal knobs had been sawed away, he had undergone a half dozen galvano-cauterizations, any amount of spraying, and now, two months after the last operation, was, if anything, worse than ever. He had returned to me impelled by several motives: to get rid of his nasal symptoms, to satisfy an intelligent curiosity aroused by contemplation of the two different plans of treatment, and by the thought that perhaps the blood-vessels in his brain might be in the same condition, for the words *arterial tension* I had used in our first interview refused to leave his memory. He most faithfully obeyed instructions, even came to take great pleasure in his daily three-mile walk, and was rewarded by an almost complete disappearance of the nasal symptoms.

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* Read before the American Laryngological Association at its twentieth annual congress.

I mention this case at length, because I believe it to illustrate a very common error in the treatment of chronic inflammatory trouble of the upper air-passages. The specialist in question is a very bright man, has a large *clientèle,* but has never had the advantage of a large experience in general medicine. Even with specialists who have had such training and who keep *au courant* with general medicine by reading several journals devoted to it and by attending medical societies, there is an innate tendency to drift into narrow channels, aided, no doubt, largely by the hurry of a large practice.

A physician this winter brought me his four-year-old boy, saying that no sooner had the child recovered from an acute rhinitis than he was seized with another. He had remarked that these attacks were very violent, both nostrils becoming completely engorged and remaining so several days. The boy was also subject to almost maniacal fits of temper. It was readily demonstrated that these were uric-acid explosions, for not only did he by proper treatment cease taking colds, but it was found that his temper was of average amiability. A good saline purge, the exhibition of alkalies, and an exclusive milk diet soon worked wonders. The father remarked that in his practice he did not lose sight of the uric-acid diathesis, but that it had not occurred to him to think of this in his own child.

A far more common factor with which we have to do in inflammatory diseases of the upper respiratory tract is self-intoxication of gastro-intestinal origin. Therein chiefly lies the secret of the prevalence of nasal catarrh among Americans. There are four candy shops here to one in any other country, and the abuse of the American stomach begins in childhood. This is the country of ice water, of the midday dinner, after the hurried "eating" of which the American plunges into business. Here the pie is ubiquitous, the chicken is fried, the breakfast is a failure without hot bread; coffee is consumed three times daily; cereals are smothered in cream and sugar, and everything is done in a hurry, except walking, for the American doesn't walk—he has not the time. And so, between his kitchen and the street car, he becomes a dyspeptic. The nation is young; it is absorbed in the accumulation of riches. It has not yet had time to contemplate its health. It is hardly necessary for me to point out the rôle which intestinal ptomaines play in the maintenance and causation of the various diseases of the human body, especially of two, neurasthenia and nasopharyngeal catarrh. The surgeon is careful to sweep out the intestinal tract before he operates, for he knows that there is infection from within as well as from without the body. How unkindly even a simple cut in the integument will heal in one suffering from ptomaine intoxication, and how much more kindly it will heal after a mercurial followed by a saline purge! Let a well-trained vocalist, especially the tenor and soprano, whose upper air tract is in a normal state, become what we commonly call "bilious," and he is at once utterly unable to sing. I have found that they themselves distinguish this from having taken a cold, and treat themselves to starvation and a good purge. All the great opera singers will tell you that they owe the integrity of their voices principally to two things—careful dieting and an abundance of outdoor exercise. If this is true, how careful we should be in these two points in the treatment of those whose upper air organs are not in a state of integrity!

I am not unmindful of the important part played in the ætiology of chronic nasal catarrh by deflected sæpta, spurs, or other obstructions. *Ubi irritatio, ibi fluxus* is a valuable pathological maxim, but, inasmuch as Americans do not suffer this way more than other nations, and that we do suffer vastly more from nasal catarrh, other ætiological factors must be sought. Even after the correction of these deformities, in countless cases the catarrh is not cured. Moreover, let us bear in mind the following clinical fact: A patient at the age of thirty will tell you that only within the last two or three years has he suffered nasal symptoms. One finds a sæptal spur. Now, this spur has been there many years. Why did it not occasion symptoms years before? Because some other factor has within these last two or three years been added to the sæptal spur, some other factor that has damaged the general health. Mr. P. came to me from Hannibal, Missouri, his anxiety aroused because triweekly treatments for a period of five months had not cured a throat trouble. I found a simple chronic pharyngitis, a simple rhinitis, and a sæptal spur. He was six feet two inches, and weighed two hundred and fifty pounds. His throat symptoms dated back two years. To be brief, I found by dint of leading questions that five years before he had weighed two hundred pounds and had gradually added the fifty pounds. He was now fifty-two years of age, and up to the age of forty-seven had been a carpenter, working vigorously at his trade, earning his bread by the sweat of his brow, and had no occasion to consult a doctor. Some mining shares he had suddenly became very valuable and made him a wealthy man, and he laid down the hammer, saw, and chisel and began to live on the fat of the land. I found other ailments. He had piles, an uncertain stomach, mental irritability, partial insomnia. The one picture was frugal diet and hard manual labor, the other was a luxurious table and no exercise. The lesson is obvious. I touched neither his sæptal spur nor his pharynx. I wrote him out a diet list and prescribed morning and evening a half hour's exercise sawing wood with the old-fashioned sawbuck. He obeyed instructions, so literally that he lost thirty pounds in thirty days. To descend to vulgar detail for a moment, I know nothing that will encourage eliminations better than sawing wood. The position encourages massage of the internal viscera, compresses the liver, empties the gall bladder, and forces along the contents of the colon. It was not long before vascular equilibrium was restored and all of Mr. P.'s ailments had vanished.

I use this homely illustration with a purpose, and this is, that if you do not prescribe exercise as carefully as you would a drug, if you do not write out in detail the foods to be avoided, your patient, not knowing exactly the kind and amount of exercise to be taken, will diet and exercise at random.

In the paper I mentioned I have related this case, as well as the lesson afforded by pugilists. Most of these, as a consequence of a barroom life, cheap cigars, overeating, vast quantities of alcohol, and inactive life, suffer from chronic nasopharyngeal catarrh. If you will but take occasion to examine one, when he has earnestly trained for a fight, you will find that his nasopharyngeal symptoms have disappeared. He no longer hawks and spits and suffers from stuffy nostrils. It is the same story. He has through training eliminated all obnoxious material from the body and secured perfect vascular equilibrium.

I appreciate the important part which chronic nasal disease plays in hay fever, and yet, in my experience, had I to choose between general treatment and local treatment, I would select the former.

In an article, The Purulent Catarrh of Adolescents, written two years ago, I have shown that until these children are taken away from books and piano, allowed to remain in the open air most of the day, dieted carefully, and given iron, no progress whatsoever will be made in the cure of the disease, no matter what local methods are employed. I admit the difficulty of inducing the average American to adopt such habits as would perfect his general health. When you have told him how much time he must devote to exercise each day; that he must have a cold friction each morning; that he must diet in a certain way; that he must cut down his tobacco and alcohol within certain limits, in order to cure an affection which does not threaten life, he very commonly prefers the disease. On the other hand, he need not expect a cure of, for example, chronic nasal catarrh, unless he perfects the general health. The responsibility of failure to cure lies with the patient, not with the art of medicine. I regard all treatment short of this, and the surgical treatment and simple cleansing, as superfluous and money-making. Thousands of vaseline sprays are sold every year, and yet short of their palliative effect they contribute nothing in a curative way. I have never yet seen an astringent or an antiseptic of any service in chronic nasal catarrh. How is it possible for them to do good if the pabulum is from within? Were it a local specific affection, like a gonorrhœa, such treatment would be intelligible. Prophylaxis must begin in childhood. Thousands of mothers need to be taught that sleeping in an artificially heated bedroom, above all in the deadly furnace heat, debilitates the respiratory mucous membranes; that the nearer the approach to constant outdoor life the more perfect the health; that physical degeneracy begins when one gets in the house; that the head covering should be one which permits the air to touch the scalp; that the best preventive of sweating feet is an uncovered foot; that heavy woolens next the skin is bad hygiene; that three meals a day are sufficient; that candy should never be permitted except just after a meal; that hot breads are an abomination; that whole wheat flour makes good tissues; that rubber shoes and throat mufflers are mistakes.

Of all the problems concerning the general health of which we should be masters, that of diet is certainly the most important. The beautiful complexion of the British maiden is vastly more due to the simplicity of her diet during childhood than to the mildness and softness of the British atmosphere; and let me say, to use plain language, that whatever improves the outside skin will perform the same duty for the inside skin, the mucous membranes. Notice the satin skin of the pugilist when he has completed his training. He has by exercise eliminated that which was foul, and by rigorous diet introduced nothing that could contaminate.

Let me illustrate this once more. I was called to see a man, aged sixty-eight, a sufferer from myocardial degeneration. There were general anasarca, ascites, great dyspnœa, and frequent attacks of Cheyne-Stokes respiration. He had been sitting day and night in an armchair for three months. There was utter loss of appetite, a foul tongue, and great abdominal pain from flatulence.

Four different physicians had failed to relieve him. They had exhausted the virtues of the various heart tonics. Not one had apparenty recognized that ptomaine intoxication was the barrier to success in treatment. He was given two tablespoonfuls of sweet buttermilk every hour as exclusive diet; a grain of calomel three times daily, until twelve grains had been taken, both as intestinal antiseptic and diuretic; and every other morning a teaspoonful of compound jalap powder. In a few days the tongue became clean, the bowel symptoms vanished, diuresis was reestablished, and digitalis and strophanthus, which before had failed, now soon brought about cardiac compensation. And so may I say that nasal compensation can not be brought about by local remedies until first ptomaines or other poisons have been swept from the system.

While not strictly germane matter for the contemplation, perhaps, of this association, I can not forbear using the occasion to address the profession at large concerning one system of treating what is embraced, roughly speaking, in a general way under the heading dyspepsia—namely, the Salisbury method, which comprises an exclusive beef diet, the drinking of hot water, and selected exercise. When I first inquired of old practitioners, a dozen years ago, I was answered with a shrug and a sneer and the insinuation that Salisbury was a charlatan. However, when two personal friends, prominent citizens of St. Louis, reduced to emaciation by chronic gastric catarrh and despairing of a cure at home, went to New York and returned home in a few months pictures of health, having been treated by Salisbury, I became a convert. I wish to say that in properly selected cases this method is absolutely curative, and still the plan is in the hands of almost as few as it was a dozen years ago.

Many of the affections of the upper air-passages are tinctured by neurasthenia.

The same symptom has a vastly different significance in the neurotic and the phlegmatic. Given exactly the same sign of disease in these two, and it may in the one produce all kinds of symptoms and in the other not a symptom, and so must we not forget to address our treatment to the general nervous constitution as well as to the local sign. A sæptal spur is a vastly different thing in a neurotic and a phlegmatic. Who would amputate an elongated uvula which created no symptoms?

Dr. Mays, of Philadelphia, has adduced very powerful arguments that pulmonary consumption is a neurosis. If this is true, it is easy to conceive how many minor affections of the upper air-passages have to do with a neurotic element. I do not mean such troubles as the paræsthesias of the hysteric, but actual, visible inflammatory troubles.

I do not pose as a monitor to this association. I only take occasion through it to address many of the younger specialists in our department, who are apt to forget the individual as a whole in the treatment of a part.

Away with the spray, long live the general health!

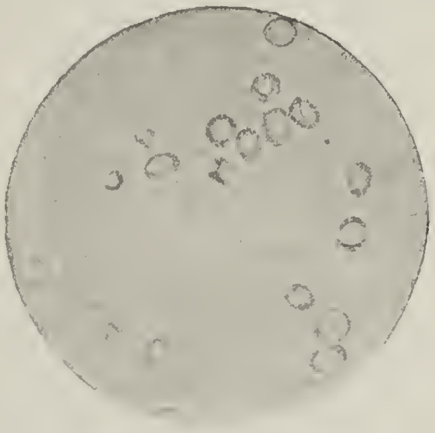
TWO CASES OF PERNICIOUS ANÆMIA TREATED WITH NUCLEO-ALBUMIN.

By EPHRAIM D. KLOTS, M. D.

Case I.—Esther E., aged nineteen years; single; German-American; student of violin.

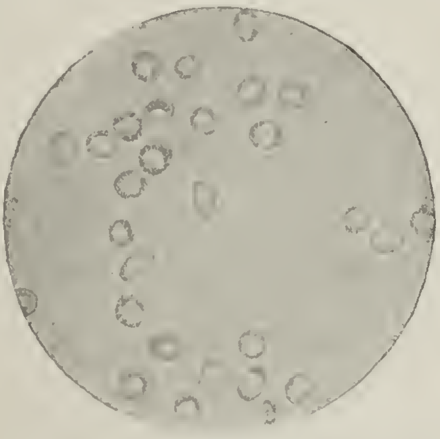
Family History.—Her father and mother are alive and healthy. Two brothers and two sisters are alive and healthy. One brother died of typhoid fever. An uncle died of phthisis pulmonalis.

Past History.—In early childhood patient had scarlet fever and measles, otherwise she was always in good health. She began menstruating when fourteen, and was perfectly regular for two years and a half. She was not anæmic, although she never had much color. Was buoyant, active, and healthy. About two years ago she commenced to lose strength, became listless, and felt sick most of the time, without apparent cause. There was some loss of appetite, but she lost no weight. At various intervals she took Blaud's pills, the tincture of the chloride and various other preparations of iron without benefit; on the contrary, with a disturbance of digestion. Her anæmic condition became more and more pronounced.



Case I.—Photomicrograph of blood taken from the patient previous to treatment, unstained and diluted with a hundred volumes of Haeni's solution.

Condition Previous to Treatment.—Appetite poor; eats no breakfast, excepting a cup of weak coffee with milk. Even this is often vomited. Headache almost every morning, which generally passes away toward midday. Has not menstruated for six months. Considerable dyspnœa after moderate exertion. Often wakes up in the middle of the night with cardiac palpitation.



Case I.—Photomicrograph after treatment.

At times there is some œdema of the ankles, but never enough to cause discomfort; she has lost no weight.

Uranalysis: Specific gravity, 1.018 to 1.020; reaction acid; quantity, forty to fifty-five ounces in twenty-four hours; urea, 1.65 per cent.; no glucose. In two out of five examinations there was a trace of albumin with very few hyaline casts.

Temperature was always found to be normal; pulse rather thin, wiry, 98 to 108.

Physical Examination.—Nourishment good, muscles rather flabby. Skin pale, yellowish. Mucous membrane very pale. Whites of eyes yellowish. Pupils dilated. Lungs and abdominal organs apparently normal. Mucous membranes of external genitals excessively pale. Uterus retroverted, but freely movable. Right ventricle of heart slightly dilated. Heart's action accelerated but regular. Blowing systolic murmur heard over base.

On January 26th patient commenced taking hæmaboloids, half an ounce four times a day, with the following results of blood examinations:

	Hæmoglobin.	Red B. C.	White B. C.	Weight.
January 26th....	41 per cent.	1,985,000	4,250	129
February 3d.......	44 "	2,190,000	4,250	128
February 17th....	49 "	2,640,000	4,500	129
February 26th....	54 "	2,765,000	4,500	129
March 9th........	61 "	3,040,000	4,500	129
March 17th.......	64 "	3,210,000	4,500	131
March 28th.......	69 "	3,640,000	4,500	130

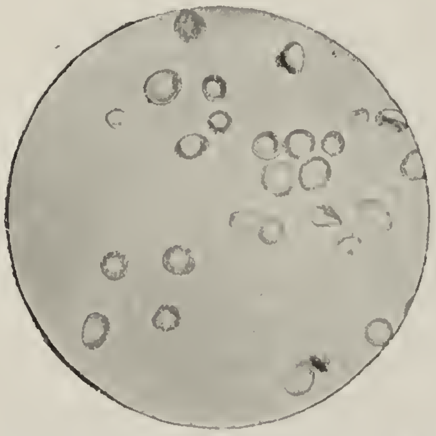
On March 11th patient began menstruating, the flow lasting three days.

The mucous membranes have deepened in color and assumed an almost normal tint. The skin and general appearance of the patient have improved coincidently with the improved condition of the blood. The blowing systolic murmur is still heard over the base of the heart, but the heart's action is stronger. Pulse 81, with good impulse.

CASE II.—Mrs. L. B., American, aged thirty-eight. Three children; youngest child four years old.

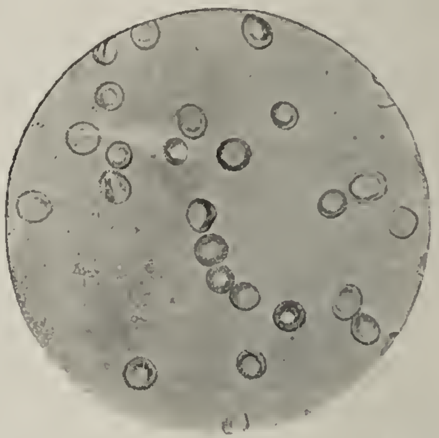
Family History.—Father died, aged fifty-nine, of pneumonia. Mother still lives, aged sixty-two, healthy. Has one brother alive and healthy. One sister died of nephritis.

Past History.—About a year and half ago patient had a severe attack of catarrhal colitis, and was in bed almost four weeks. When she recovered from this condition, she was left weak and considerably emaciated. Her anæmia was very pronounced, she took various tonic remedies and a visit to the seashore, which benefited her somewhat, as she gained some flesh and strength. This improvement was limited, and, in spite of long and continuous medication, her anæmia has been steadily growing worse.



CASE II.—Photomicrograph of blood taken from the patient previous to treatment, unstained and diluted with a hundred volumes of Haeni's solution.

Condition Previous to Treatment.—Appetite poor; no animation; tires very easily; sick in bed most of the time; considerable dyspnœa and palpitation on exertion. Bowels constipated. Menstruation has been regular, but at times the flow is excessive. There is a faulty digestion and assimilation. Often has pain and distress in epigastrium after eating, and at times intestinal flatulence.



CASE II.—Photomicrograph after treatment.

Uranalysis: Specific gravity, 1.022; reaction acid; quantity, forty-two ounces in twenty-four hours; urea, 1.95 per cent.; no glucose; no albumin or casts. Temperature normal. Pulse rather thin, 95.

Physical Examination.—Nourishment not very good. Mucous membranes very pale. Skin and sclera yellowish. Pupils dilated. Lungs normal. Spleen about double its normal size. Heart's action not very strong. Normal intensity of first sound diminished. Some dilatation of right ventricle, moderate exertion greatly accelerating the heart's action. A very slight semblance of a systolic murmur heard over apex.

On February 29th patient began taking hæmaboloids, half an ounce, four times a day.

	Hæmoglobin.	Red B. C.	White B. C.	Weight.
February 29th....	38 per cent.	1,645,000	5,750	...
March 11th.......	40½ "	1,920,000	5,500	137
March 19th.... ..	44½ "	2,165,000	5,500	138
March 27th.......	47 "	2,380,000	5,750	139½
April 6th	51 "	2,545,000	5,500	141½
April 16th	55½ "	2,915,000	5,000	141
April 24th	59 "	3,255,000	5,500	141½
May 3d..........	63½ "	3,410,000	5,500	143

The only other medication given was occasionally a Lady Webster dinner pill to relieve constipation.

The mucous membranes have deepened in color considerably, and to a large extent the yellow color of the skin and eyeballs has diminished. The patient is stronger and the appetite is good. The heart's action is stronger and much less easily influenced by greater exertion than she has indulged in for months. The spleen is almost normal in size, and digestion is considerably improved.

156 WEST FORTY-EIGHTH STREET.

The St. Louis Medical Society of Missouri.—At the last regular meeting, on Saturday evening, November 5th, the following papers were to be read: Infection of the Toilet, by Dr. M. F. Engman, and Dr. T. O. Summers was to relate his varied experiences as a surgeon in the late Spanish-American war.

THE SIGNIFICANCE OF URIC ACID IN THE NASAL REFLEX NEUROSES.

By WALTER A. WELLS, M. D.,
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Although our ideas of the rôle enacted by uric acid in the organism have undergone great change through the help of recent experiment and research, nevertheless it must be admitted to be in many of its phases still an obscure subject. While by some the uric acid is regarded as the essential causative agent in relation to the diseased manifestations with which it is seen associated, to others it appears to be only incidental or concomitant. Moreover, its source, its manner of formation, and its precise relation to other chemical products, as well as to the symptoms, are all questions upon which authors very widely differ.

Endeavoring, in a recent article (*Philadelphia Medical Journal*, August 20, 1898), to throw some light upon the pathogenesis of the nasal reflex neuroses, I had occasion to mention the fact of the association of uric acid with this class of affections. I insisted upon the presence in all cases of a diathetic condition, which consisted in an instability or, as it might be called, a hyperkinesia of the vasomotor sympathetic, and pointed out, as contributory to the truth of this contention, that the so-called eosinophilic white blood-corpuscles showed a tendency to become augmented during the time of the attack. It was in demonstrating the various connecting links between the reflex neuroses and eosinophilia that observation was made of the similar relation that both seem to bear to the increased production and excretion of uric acid.

That this agent does really become increased in the class of manifestations which are known as nasal reflexes will appear at once upon reference to the list of these affections. Among the most common of the nasal neuroses are asthma, migraine, neuralgia, and some kinds of convulsive disturbances; among the rarer, epilepsy, angina, exophthalmic goître.

Some years ago Garrod observed that uric acid was increased in the blood of epileptics, and later on, after the observation by Du Bois-Reymond of the analogy in the pathology of migraine and epilepsy, it was noted that migraine occurred very frequently in persons having a gouty basis (Liveing).

Alexander Haig, to whose arduous and painstaking investigation we are indebted for much information in uric-acid pathology, has not only adequately demonstrated the fact of increased uric-acid excretion in attacks of migraine, epilepsy, and asthma, but also in angina pectoris, in hysterical convulsions, and in a number of other affections, especially Raynaud's disease. Haig has elaborated a theory of his own in regard to uric acid, the essentials of which are that it is formed at a nearly definite ratio, and its appearance in increased quantities in the blood is rather the result of retarded elimination than of increased production.

Whenever the alkalinity of the blood is lessened its power of holding uric acid in solution is also lessened, and so its excretion is hindered. The affections mentioned arise whenever this accumulation in the blood reaches a certain point, and the accompanying symptoms of slow pulse, cold surface, scanty urine, mental depression, are direct evidences of such a condition.

Haig's partiality for his favorite theme has led him to ignore what we believe to be the keystone in the whole arch of uric-acid pathology—namely, the action of the nervous system—and to attempt to explain everything in a purely mechanical way. The uric acid enters the arterioles and capillaries, according to Haig, and gives rise to symptoms determined by the location.

Migraine and epilepsy are due to an overfilling by uric acid of the capillaries in the brain, asthma to a similar plugging up of the pulmonary vessels, and Raynaud's disease results from a mechanical constriction of the capillaries of the cutaneous system. The cold skin and small pulse occurring generally with these uric-acid disorders are explained, he thinks, satisfactorily in the same way by a contraction of the terminal vessels, and the natural result of this, too, is the accompanying rise of arterial tension. But the theory of Haig is not alone insufficient to explain all the phenomena, but upon careful scrutiny will be found inconsistent with them. It fails to account for the localization of the manifestations as well as their reflex nature. It leaves unexplained the causative relation of psychical and emotional influences, and likewise the relation of this class of affections to the reproductive and cutaneous systems.

Haig was compelled to even deny that asthma occurred *reflexly* from the nose, but would have us believe the asthmas of nasal origin were to be attributed to the obstruction *per se.* While admitting that a certain class of cases of what might be termed pseudo-asthma are due to the mechanical effects of the obstruction, on the other hand, nothing is better demonstrated than the reflex character of certain other cases—in fact, it has been observed in such that the nose may be more patent than normal, and the attacks even seem to improve as the space becomes more and more narrowed.

There is but one theory upon which all the phenomena may be adequately explained, and that is in the action of the sympathetic nervous centres. It seems incredible how one who had studied these questions so thoroughly as Haig could have failed to see the operation of the vasomotor sympathetic in the contraction and dilatation of the pupil, the sudden pallor of sweating, and the various other nervous disturbances observed in migraine, epilepsy, and such diseases as he held to be of uric-acid origin. It might be asked further how he would explain the unilateral tendency, especially in migraine, except upon the hypothesis of the action of the central nervous system.

We believe that the *sine qua non* in the class of cases which Haig considers to be uric-acid diseases, and which are really identical with the nasal reflex neuroses, is excitation of the vasomotor sympathetic—a postulate conveyed much further into the domain of probability by the occurrence during the attack, as we have previously pointed out, of an augmentation of the so-called eosinophilic leucocytes.

But if we deny the uric-acid causation of migraine, asthma, and similar affections, it remains for us to explain what is then the relation, since some certainly is to be argued from the fact of the generally associated increased uric-acid excretion during attacks.

In the solution of this problem it is necessary to call to mind some recent points involved in the investigations, especially as to the source and formation of uric acid.

Instead of being formed in the kidney, as taught by Garrod, or in muscles and bone marrow, as held by Ebstein, or yet, as Minowski would have us believe, in the liver by the synthesis of lactic acid and ammonia, according to the most eminent authorities of to-day (Kossel, Kruger, Horbaczewski), uric acid is the result of decomposition of cellular elements in all parts of the organism.

Uric Acid and the Leucocytes.—Kossel (*Zeit. f. phys. Chem.*, Bd. iii) having previously made the suggestion of this origin of uric acid, Horbaczewski gave it greater probability by experiment to show that uric acid could be formed outside of the body from nuclein and spleen pulp. He maintained that as in the body the leucocytes were the most readily decomposed cells, it was from this source that uric acid was chiefly derived. In support of this view, he pointed to the fact that a coincidence was frequently seen in the rise of uric acid with leucocytosis, physiologically or pathologically produced, and likewise in the fall when a decrease of the usual number took place.

He referred to the observation that uric acid was not increased following digestion in cases where the digestive leucocytosis failed, as happened in carcinoma of the stomach.

Numerous investigations have been made which verify the theory of Horbaczewski. Interesting experiments were made by Jacob and Kruger (*Deutsch. med. Wochenschr.*, 1894, p. 641), who, injecting into the blood of leucæmic patients substances that brought about a fall in the number of leucocytes, observed a corresponding increase in the excretion of uric acid.

Kuhnan (*Zeit. f. klin. Med.*, 1895), after a careful study of the relationship between uric acid and leucocytosis, decides that while uric acid may be derived from other sources, the chief part was certainly furnished by the leucocytes. There is increase of uric acid in most diseases in which leucocytosis is present, and a rapid decrease of the leucocytes is observed to coincide with a rise of uric-acid excretion. That the uric acid is from a leucocytosis, and not the result simply of the fever, is proved by its increase in cachectic leucocytosis, in which there is no fever.

But, while all admit that frequently a rise in the uric-acid excretion accompanies leucocytosis, nevertheless, as pointed out by Richter, Weintrand, and others, it is by no means invariable. This consideration has led some to deny that uric acid comes from the leucocyte destruction, or that it has any connection whatever with a leucocytosis. But, instead of being contradictory, I shall try to show that it is entirely in harmony with that theory, and, in fact, confirmatory of it.

It is only necessary to recognize that the term leucocytosis is often applied to conditions in which there is in reality no essential increase of the whole number of leucocytes.

Leucocytosis, Real and Apparent.—As Rieder and others have demonstrated by the introduction into the circulating blood of certain agents having a so-called chemiotactic influence, the leucocytes may be attracted away from the central organs into the peripheral circulation, so that a count made at the time may show a great increase in the blood taken from a superficial vein when there is no absolute increase in the whole number of leucocytes. The increase is apparent, being due merely to a peripheral distribution of leucocytes.

On the other hand, we ought to distinguish from a chemiotactic leucocytosis one which is in reality due to an increased *production* of new cells, in which of consequence there must be an augmentation of the whole number in the blood.

On a former occasion I endeavored to point out that it was probable that the mature and more active multinuclear leucocytes responded more readily to chemiotactic influence than the young uninuclear form, and that therefore a leucocytosis chemiotactically produced would be preeminently multinuclear. But when there takes place an actual new production of cells, we ought naturally to expect to find the uninuclear cells prevailing, since it is in this form they are sent forth into the blood from the hæmatopoietic organs. Among the examples of a uninuclear leucocytosis in which there is an absolute as well as a relative increase of the uninuclear cells, we may mention leucæmic chlorosis, diabetes, and the leucocytosis of digestion, the last being mainly an increase of the lymphocytes.

Uric Acid and Uninuclear Leucocytosis.—In all these forms of leucocytosis there is invariably a decided increase of uric-acid excretion. Cabot has called attention to the leucocytosis confined chiefly to the young uninuclear cells occurring in neurasthenical cases, and here, too, we know there is a tendency to increased production of uric acid.

That the uric acid is inclined to keep pace rather with the uninuclear cells than the others, is further illustrated by its proportionate excess in young children, in whom hæmatologists teach us the number of leucocytes is somewhat greater than in adults, this increase being due preeminently to the class of white cells know as lymphocytes.

But it may be objected that clinical observation will show that uric excretion is not confined always to a leucocytosis due to the young cells, but occurs likewise along with a multinuclear leucocytosis, as in cancer and pneumonia.

In reply to this we would say that, unfortunately, investigations made for the comparison of uric-acid excretion with the leucocytosis have never taken into consideration the kind of leucocytes prevailing, and that careful estimates in this regard may show that, though a relative increase of the multinuclear cells, there may be at the same time an absolute increase of the uninuclear. It is not difficult to conceive that agents acting chemiotactically upon the white cells already existing in the blood might at the same time operate to a certain extent in a similar way to produce a discharge of young cells from the blood-making organs.. Thus we would have some new cells, bringing about a small increase of the whole number in leucocytosis that is described as multinuclear and due essentially to a peripheral distribution of the cells.

Typhoid fever has been given as an instance of the increase of uric acid not dependent upon a leucocytosis, this being one of the very few fevers in which a condition of leucopænia occurs—that is to say, lessened number of the leucocytes. But, if viewed from the standpoint here taken, the apparent inconsistency may disappear. Examinations of the blood in typhoid go to show that, though the multinuclear cells are decreased, at the second or third week there occurs a lymphocytosis. This agrees with the studies recently made in the disease by Behrend and Adler (*National Medical Review*, Washington, April, 1898), according to which the excretion of uric acid rises notably toward the latter part of the disease.

If we should continue to bear in mind, then, the fact that we can only be sure that there has been any actual increase of the leucocytes when we see an increase in the uninuclear cells (lymphocytes, splenocytes, myelocytes), we shall understand how we may reconcile the theory of the formation of the uric acid from the disintegration of the leucocytes with the observation that in some cases of leucocytosis there is little or no uric acid while in others it is notably increased.

As this has been the only objection against this theory of the formation of uric acid, we have then, admitting the correctness of the premises, no further difficulty in accepting it, and we are left only to prove that a leucocytosis of young cells occurs in the class of cases which we are studying as nasal reflexes in order to conclude that the uric acid is thence derived.

Leucocytosis in the Nasal Reflex Neuroses.—As a matter of fact, according to those who have taken the pains to examine the blood in these cases, a leucocytosis of this kind does take place. We have frequently referred to the occurrence in all these affections of an eosinophilia, due, no doubt, to a fresh production of these cells, as a result, according to Neusser, of sympathetic irritation. A general lymphocytosis has been stated to occur, moreover, in convulsive disturbances of the kind which may manifest itself as a nasal neurosis. Striking is the observation of a leucocytosis, chiefly of the lymphocytes, occurring in exophthalmic goître, as this disease has been reported in rare instances to be cured reflexly by way of the nose.

It appears to us then manifestly illogical to consider, as Haig and his followers do, that uric acid bears a causative relation to these attacks, seeing that we have the best reason to believe that it is formed from the leucocytes, and is therefore only an incidental phenomenon. That it could not be the cause appears still less probable from the fact that frequently enough there may be uric-acid increase with no sign of any of those kinds of affections which have been attributed to it.

Some authors, denying to uric acid the position of primary and essential cause in the cases we are discussing, say, however, that the xanthine bases should be so regarded, as, for example, Kolisch, who, finding an increase of xanthine and paraxanthine during attacks of migraine and epilepsy, concludes that these agents directly cause the attack.

When the nuclein of the white blood-corpuscles becomes broken up, substances are formed which if oxidized become uric acid, and if decomposed go to form xanthine bases.

Now, if we follow Neusser and say that xanthine irritates the sympathetic, and by irritation of the sympathetic causes a new production of eosinophilic leucocytes, it is apparent we allow ourselves to fall into a vicious circle.

The xanthine or paraxanthine or allied substances—the so-called alloxuric bodies—ought then just as uric acid to be looked upon as incidental products, and the sympathetic irritant, whatever it may be, be sought elsewhere.

The source in cases of pure nasal reflexes may be found in the existing pathological condition in the nose, whence goes the impulse that sets the sympathetic ganglia in action, demonstrated by the increase in the number of the eosinophilic leucocytes.

As sometimes we have asthma, migraine, and the like arising reflexly from other sources than the nose, especially from diseases of the reproductive organs, these too may be regarded as sources of sympathetic irritation.

The phenomenon of a general leucocytosis, an increase of the multinuclear mature cells as well as of the young ones, may be explained sometimes by supposing the irritation, as from toxines the result of intestinal self-intoxication, to act at once chemiotactically on the leucocytes, and to irritate the sympathetic.

If uric acid does not produce the symptoms, how is it, it may be asked, that headache is brought about by the administration of substances that cause an increase of uric acid in the blood, and that headache, asthma, etc., seem to be lessened by the exhibition of agents, as contended by Haig, that render the blood alkaline and cause a diminution of the uric acid? As to the former, we can readily understand that the agent given has acted as an irritant to the sympathetic nervous system, and that the uric-acid increase in this case, as in others, is only the result of the leucocytosis which has been caused, and as to the latter there is little reason for knowing that the drugs have the effects which have been attributed to them by Haig. It is probable enough that gouty pains in the limbs, due to the presence, no doubt, of uric acid in the part, may be relieved by alkalines which effect the solution and removal of the acid, but it is absurd, it appears to us, to imagine nitrite of amyl or nitroglycerin, which experience has shown to have a decided effect over the course of migraine, epilepsy, and asthma—it is absurd, we say, to imagine that in the minute doses in which they are given they could appreciably affect the solution and excretion of the uric acid in the system.

The action of this class of drugs, known to have a decided action upon the vasomotor sympathetic, is, in fact, one of the strongest arguments in favor of the sympathetic origin of the affections.

All things considered, we believe on this theory only can all the facts and all the circumstances be satisfactorily brought into harmony and explained. Only upon the assumption of the vasomotor sympathetic acting as an intermediary between the varied excitant causes can we understand how asthma, migraine, epilepsy, neuralgia, and similar affections may result at some time from nasal disease, sometimes from gastric disturbance, sometimes from diseases of the reproductive organs, or how they may arise from reabsorption of toxines generated within, or how they may appear to assert themselves as mere idiopathic affections.

1101 Fourteenth Street.

ADENOIDS AND THEIR COMPLICATIONS IN CHILDREN.*

By F. E. KITTREDGE, M. D.,
NASHUA, N. H.

It is my desire to-day to call your attention to a class of cases the recognition of which I consider of very great importance to the future health and normal development of all the faculties of a large number of children. There are few diseases so easily diagnosticated as the postnasal growths of children; few diseases so often overlooked outside our large clinics, and fewer still of equal prevalence capable of causing so much subsequent trouble. To those of you who have given the subject any amount of study I have no hope of advancing any new ideas or theories.

The terms adenoid vegetations, hypertrophy of the pharyngeal tonsil, the third tonsil, or Luschka's tonsil, all apply to the same growth, located in the vault of the pharynx, posterior to the nasal chambers. The first two of these terms are the ones ordinarily used to designate these growths, and I shall employ one or the other indifferently.

Czermak, in 1860, was the first to discover these vegetations, but did not appreciate their importance. Löwenberg and Voltolini, in 1865, each saw them in a few cases of middle-ear disease, and believed them to be a cause of the ear trouble; but it remained for Meyer, of Copenhagen, in 1868, to bring the subject prominently before the profession. Even then the condition was seldom recognized, and it is only during the past eight or nine years that rhinologists and otologists have give any great amount of attention to the pharyngeal tonsils; and to-day, as Dr. Hopkins, of Springfield, Massachusetts, has written in an excellent paper, the reprint of which I presume many of you have received, "there are very many practitioners who, not having seen the growths *in situ*, and not realizing their action with great defects in form and function, either fail to advise radical treatment or positively counsel that nothing be done, strangely saying that the child will outgrow the affection."

During a practice of a dozen years I may say that I have seen no class of cases in which such positive and happy results are to be obtained from treatment or operation as in those cases of pharyngeal hypertrophy upon which I have operated during the past three years. Relative to the ætiology of these growths, it is evident that heredity is an important one; several children of the same family are often afflicted, and one or both of their parents frequently give evidence of having been affected in the same manner. A French writer ascribes these conditions to a more general cause, one that frequently exists and is itself hereditary—namely, lymphatism. He says: "In lymphatic children who have a tendency to hypertrophy of the tonsils, of the glands of the neck, and of the nasal mucous membrane, adenoid vegetations, which are themselves nothing else than an exaggerated development of lymphoid tissue, are of extreme frequency." Bosworth considers the growth usually as the result simply of inflammatory changes of the lining membrane of the upper air-passages due to the stimuli of repeated colds. Undoubtedly the eruptive diseases of children are a frequent cause, due probably to the accompanying inflammatory condition in the fauces. Sex seems to have no particular influence. These hypertrophies are a disease of childhood, most frequent between the ages of three and ten, though often met with in younger and older children, and often in adults. Dr. Farlow, of Boston, has operated upon a child three months old, and I have removed the growth from a child a little less than a year of age, and have another eight months old now under observation, in whom there are adenoids. In older children, and in adults in whom we find an obstruction, the hypertrophy undoubtedly had its origin during the earlier years of childhood and failed to atrophy, as it frequently does as one approaches adult life.

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* Read before the New Hampshire Medical Society, May 26, 1898.

I shall not enter into a pathological description of adenoids, so called from a former mistaken idea that they were glandular in structure, any more than to say that they closely resemble the faucial tonsils, being composed of lymphatic tissue made up of retiform stroma and lymph cells; the surface is covered with columnar, generally ciliated, epithelium. The whole structure is highly vascular, and follicles similar to those of the faucial tonsil occur. Chronic hypertrophy is met with of two varieties: the growth may be soft, friable, and spongy, and appear as irregular papillomatous "projections or stalactites," or as a well-defined tumor with a smooth surface, the latter containing a larger amount of connective tissue than the former. As to the frequency of pharyngeal hypertrophies, it is difficult to give an accurate estimate, different observers finding them in from fifteen to thirty-five per cent. of the children presenting themselves at the nose, throat, and ear clinics. Judging from my own narrow means of observation, I think their frequency would astonish many practitioners.

The nose is fully as much an organ of respiration as an organ of smell. In normal respiration the inspired air in passing through the nasal chambers becomes filtered of particles of dust, bacteria, etc., becomes thoroughly moistened, and is heated to a temperature of 95° F., no matter what the outside temperature may be. This at once demonstrates the extreme importance of breathing through this organ. It has one other extremely important function, that of ventilating the middle-ear chambers. Postnasal hypertrophy not only requires that the child shall breathe more or less entirely through the mouth in proportion as its size may be large or small, thus preventing proper preparation of the inspired air, but equally important, lying as it does between the two Eustachian openings, sometimes pressing upon the Eustachian eminences themselves, it prevents the proper amount of air entering the ear. It is necessary that the air pressure anterior and posterior to the drum membrane shall be equal. Exhaust the middle chamber and there will be a retraction of the membrane, which finally becomes permanent, and a degree of impairment of hearing must result.

In addition to the obstruction of air, a true suppurative otitis media may occur as a result of the adenoid mass. The explanation of this follows according to different observers: Blake maintains that in the first stage of inflammation hyperæmia is set up in the middle ear by interference with the return circulation, owing to the pressure existing upon the pharyngeal veins and on those of the deep-seated tissues. He says, relative to impairment of hearing: "In the earlier stages, when the growth is small, the ear is noticeably affected only when, in addition to the bulk of the growth in the nasopharynx, there is added the encroachment upon the space of that cavity by swelling of the mucous membrane from so-called head colds. As the growth increases, less and less swelling is required to effect the deleterious purpose, and the intervals of freedom from impaired hearing, nocturnal earaches, and subjective noises become shorter and more rare."

Bosworth's theory as to suppurative otitis media is that the rarefaction in the middle ear leads to hyperæmia of its mucous membrane, with supersecretion, and as this occurs in a closed cavity the catarrhal inflammation is converted into a suppurative one, a change which occurs in all mucous-lined cavities of the body. Whatever the explanation may be, the fact of the occurrence of deafness and suppuration in the middle ear as a result of an hypertrophied pharyngeal tonsil is undisputed, and it is interesting to note its frequency. Woakes claims that not more than five per cent. of his cases escaped ear complications. A Russian writer found the hearing affected in a hundred and thirty out of a hundred and seventy-five cases. Blake and Meyer give a ecord of about eighty-seven per cent.

Of the cases upon which I have operated, forty in number, about two thirds have given evidence of some degree of deafness, some of them quite marked, and I may add that following operation the ear symptoms were noticeably relieved in all cases, entirely so in many. It thus becomes evident from this complication alone how necessary it is that this condition should be recognized and removed ere irreparable damage should result. Nearly all these cases present the same typical picture, and it requires but a glance to diagnosticate many of them; indeed, in passing through our streets, one may often single out children suffering from adenoid diseases: the half-open mouth, indicative of nasal stenosis; the broad, flattened appearance at the root of the nose, which apparently widens the distance between the eyes; the narrow, pinched look of the face; an appearance of stupidity; frequently a curiously vacant, semi-idiotic appearance, form a very striking picture, and one that seldom deceives. The parents usually bring the child to a physician either for a so-called catarrh or for earache, or for discharge from the ear. They may come simply with a story of noisy breathing at night. This is usually the most marked symptom. The respiration may resemble that of croup, and be so loud as to disturb all members of the family, even in distant rooms. In two of my cases the parents said that the child afflicted could not only not rest, but that no one else in the house was able to do so. Of course, these are extreme cases. Most of them will simply tell you that the child snores. Almost invariably the child sleeps with the mouth open. Another prominent symptom is an excessive discharge of mucus or muco-pus from the nose. The source of the discharge is in the diseased glands themselves, their normal secretory function being gradually increased; it is ropy and tenacious, and difficult to expel. It will sometimes be found that the child can not speak distinctly. The voice is a so-called dead voice; it is that of one with a cold in the head or with something held in the mouth. A cough frequently accompanies these cases, being due to the secretion passing down the posterior wall of the pharynx, or from reflex origin. Many reflex nervous symptoms are liable to result.

One of my patients, a little girl about seven years of age, had suffered from incontinence of urine for several years, wetting the bed nearly every night and her clothes during the day. She had been treated with the usual remedies, but with no result. Upon examination of throat and postnasal space, I found a medium-sized adenoid growth and some hypertrophy of the faucial tonsils. There were no marked symptoms of throat or nasal trouble other than a slight catarrhal discharge from the nose. I removed both faucial and pharyngeal tonsils last March. The incontinence almost immediately disappeared and has not returned. This child was not one whose appearance was indicative of adenoids. Asthma has been observed in several cases and cured by operation, as noted by several writers. Many of these cases present a narrowing and high arching of the hard palate, causing it to assume a dome-shaped appearance. In some the malformation of the upper maxilla is most marked; sufficiently so to crowd the teeth from their normal position. This more pronounced change occurs after the second dentition, when the hypertrophy has existed for some time and the bone been retarded in its growth. The alveolar processes approach each other; the palate becomes highly elevated, even to the extent of appearing like a pointed arch. The anterior part of the alveolar process becomes inclined forward, an angle forms at the medium junction, and the maxilla assumes a V-shaped form. Nor does the deformity stop here. As pointed out by Delavan, "the high-arched palate necessarily crowds the nasal sæptum, which serves as a prop between the upper maxilla and the base of the skull," and when the pressure becomes greater than the sæptum can bear a deflection must result. Did time permit, theories as to the cause of these deformities would be interesting to study.

As before noted, partial deafness is one of the most prominent symptoms, and one seldom discovered by the parents unless marked. They are more apt to consider the child inattentive and stupid, and to correct the little sufferer for being so. The teacher is more than liable to believe the scholar dull and unable to learn. Many an apparently stupid child has proved to be a very bright one upon the removal of some obstruction to oxygenation; and should it be considered strange that the child's intellect becomes dull by the existence of these growths? How many of us with a severe cold feel the same mental activity and ambition to work that we enjoy with a clear head? The child with a postnasal growth sufficient to partially obstruct respiration is continually suffering from the same feeling, though in an exaggerated form.

In a case referred to me during February last, a little girl of seven years of age was sent home from school with a note from the teacher to the child's parents saying she could not learn and it was useless to send her to school. This child was bright in appearance. Hearing was diminished, and she could not speak so as to be easily understood. Upon examination I found an enormously hypertrophied pharyngeal tonsil, sufficient to almost entirely fill the vault, and quite large faucial tonsils. I removed all the enlarged masses. No other treatment followed. In two weeks' time the hearing was nearly perfect, the child could talk so as to be understood without difficulty, and had improved in every way, so much so as to amaze the parents.

In another case, that of a child six years of age, female, with obstruction of breathing at night, muffled voice sounds, making it difficult to understand what she said, partial deafness, and want of mental acuteness, I found hypertrophied faucial tonsils and vault of pharynx nearly filled with adenoids, all of which I removed under ether. The child made a rapid and complete recovery without further treatment. Her speech became perfect, and, whereas she had shown considerable hesitancy about playing with other children, she now became cheerful and desirous of being with them.

Following are notes taken by Dr. Felt, of Hillsboro Bridge, relative to a case which he later referred to me: "In the fall of 1896 the boy, aged five years, began to lose flesh and appetite; about the same time his mother noticed an impairment of hearing. At that time the child had a decidedly anæmic look in addition to the loss of flesh. Examination of the throat revealed enlarged tonsils. In November, while in New York, the boy was taken quite ill, complaining of severe earache; he was brought home; the ear pains continued at times, and very soon a hoarseness in his voice was noticed." This condition continued until April, 1897, when I first saw the case and removed a large adenoid growth and faucial tonsils. Dr. Felt writes that his recovery from the operation was uneventful; hearing, voice, and appetite all became normal. Anæmia disappeared in due time and a marked gain of flesh followed, and since that time he has had no illness at all, until the night of May 9th of the present year he complained of a slight earache. I have not seen the boy since the doctor wrote me, and have no means of knowing the cause of the earache mentioned.

Many of these children thus affected will be found anæmic and under weight, and in such cases there is almost invariably an increase of flesh following operative measures. Other symptoms sometimes noticed are chorea and laryngismus stridulus. An examination of the body will often reveal a narrow, flattened chest due to the obstructed respiration, a complication of vast importance, retarding, as it does, the future capacity of the lungs. About fifty per cent. of my cases have been complicated with enlarged faucial tonsils, many of them in a decidedly unhealthy condition, and I would like to fully impress upon your minds the fact that I believe there are few conditions more liable to cause impairment of the health of a child, or even an adult, than a hypertrophied faucial tonsil, of spongy consistence, full of widely dilated crypts, containing, as they do, mucous masses and broken-down epithelial cells, ever ready to catch and retain particles of food and dust and germs from the inspired air. This collection of effete matter is retained until it has undergone a cheesy degeneration, producing a foul breath and an ill-tasting mouth. Particles of it are squeezed out during the act of deglutition and carried into the stomach, causing gastric disturbances. Such a tonsil, and there are many of them, may not be very large, and may be almost hidden behind the anterior pillars; but, if there, harm must result, and it is with a feeling of impatience that I hear a parent remark that Dr. So-and-So advised them to let the child's throat alone, saying the growth would disappear in time and required no interference. The health of many a child has been permanently injured by following such advice. Four of my cases were also complicated with a marked deflection of the sæptum. These four cases all presented a very high arching of the hard palate, which was an undoubted factor in causing the deformity. Other complications may be frequent attacks of bronchitis, broncho-pneumonia, and pharyngitis, and nearly all are subject to frequent attacks of acute rhinitis. The growth itself may develop an acute inflammatory attack.

The diagnosis of an hypertrophied pharyngeal tonsil is easily made when its existence is suspected, but it is the lack of this suspicion upon the part of the physician that is responsible for the damage resulting from a non-removal of the growth, when such is required. Every case presenting one or more of the more pronounced symptoms mentioned should have a further examination of the nose and throat; and certainly no harm would result were every child placed under our care thoroughly examined in whom there are any catarrhal symptoms present, or any condition of non-development, mentally or physically, in which the cause is not perfectly patent. I have found adenoids in two or three cases when the throat and nose symptoms would not have led one to suspect their existence, the case of incontinence I have cited, as example. Two methods of positive diagnosis are at our command—either with the aid of the rhinoscopic mirror or by the introduction of the finger behind the soft palate. The former method is preferable when practicable, but requires considerable dexterity, a good reflected light, and a perfect familiarity with the normal appearance of the parts as they present themselves in the mirror. It is even then often difficult to use with very young children. The latter method can be employed by any physician with the exercise of care not to injure the soft tissues with which the finger comes in contact. The operator should stand behind or at the side of the patient, holding the child's head against his chest with one arm, and pressing the cheek between the back teeth with the forefinger, or using a napkin to prevent the child's biting. The forefinger of the other hand, thoroughly clean and well anointed with oil or vaseline, should be carried to the posterior wall of the pharynx. The tip should then be carried very carefully up behind the soft palate in the median line. It is but the work of a moment to sweep it about the vault. If no adenoids are present it will present a smooth, hard surface, with the full length of the posterior sæptum free to the touch, and the freedom from obstruction of the choanæ easily recognized. In case they are present, the finger will come in contact with either a soft, friable mass, partially nodular, or a firm, smooth growth, more or less completely filling the vault, according to its size. In many young children the normal space is very small, and but a slight hypertrophy will frequently cause obstruction. The adenoids may be in the vault or upon the posterior wall of the pharynx. By the touch, not only will their existence be recognized, but at the same time their size and exact position will be ascertained, a knowledge of which is necessary for their safe and thorough removal. A little blood will usually be found upon the finger when withdrawn. This examination, while producing a choking sensation and necessarily done quickly, need not be painful to the child. Vegetations can often be seen by an anterior rhinoscopic examination following an application of cocaine to deplete the nasal mucous membrane. The presence of hypertrophied faucial tonsils, together with a discharge from the nose, in a child, is very good evidence of the existence of adenoids. While in many cases of pharyngeal hypertrophy we do not find enlarged faucial tonsils, it is rare to find in children a marked hypertrophy of the latter without the former.

Another fact to bear in mind is that while in every child who is a mouth breather we can reasonably expect to find postnasal vegetations, there are cases in which the open mouth is caused in part or wholly by nasal obstruction, such as spurs or a deflected sæptum. As to the prognosis of these cases, it is not too much to say that it is invariably good as a result of proper treatment. Some of you may ask the question, "Do not many of these hypertrophies atrophy in time?" Many of them do to a certain extent, at the age of puberty or later, as one approaches adult life. But the mischief in the meantime may have been accomplished. The child that was may be condemned to go through life partially deaf, or with an otorrhœa, to say nothing of a chronic nasal catarrh and other serious troubles. Undoubtedly there are many cases in which no harm results, cases in which the hypertrophy has never attained sufficient size to obstruct respiration, and is not so located as to interfere with the Eustachian openings. But in a child it is very difficult to predict, with any degree of certainty, that the enlarged tonsils will cause no trouble, and the reverse I believe to be usually true. The adenoids certainly do not all atrophy when one reaches adult life. I have removed them in a few cases between the ages of twenty and thirty-five, and seen them in many more. These were mostly cases complaining of chronic hypertrophic rhinitis and pharyngitis.

The ear complications show marked improvement when not of long duration, and often may be entirely eradicated by timely removal of the cause. There is practically but one proper method of treatment, which is thorough extirpation. By that I do not mean to imply that every child having an hypertrophy of the lymphatic tissue of the throat should undergo an operation, for undoubtedly there are cases of adenoid enlargement where no harm has resulted and none threatens; but I would emphasize that in all cases where there is positive obstruction, in cases where, though the obstruction be slight or wanting, ear, catarrhal, or nervous symptoms have developed, there should be no hesitancy as to operative measures. There are cases in which a slight hypertrophy of the adenoid tissue may take on an active inflammatory process upon the advent of a severe cold. Examined at such a time, one might easily diagnosticate a good-sized growth and recommend removal. An antiseptic astringent spray will soon reduce the swelling. It may remain quiescent, producing no symptoms until another cold is contracted. Only in case attacks should become frequent, or catarrhal troubles follow, would interference be demanded.

In removal of the pharyngeal tonsil I prefer the use of the Gottstein curette, though I frequently make use of the Löwenberg forceps. In removing those in the fauces my preference is for the Ermold amygdalotome, a modification of the Mathieu. All the tonsillar tissue should be cut away. There is less danger from hæmorrhage if completely enucleated than if the tonsil is cut through its centre. I frequently see cases where only the upper portion has been shaved off, leaving a lower lobe partially or wholly out of sight, unless the tongue is strongly depressed. In cases where the anterior or posterior pillars are firmly adherent to the tonsil, it may be impossible to encircle with the tonsillotome until the adhesions have been separated. Such tonsils, and those having a broad, flat surface, are more easily removed with long curved scissors. In cases where only diseased portions are to be cut away, or where for any reason it is not desired to extirpate the entire tonsil at one sitting—and this would usually apply only to older children or adults—a most useful instrument is Farlow's punch, devised by Dr. Farlow, of Boston. When operating upon both pharyngeal and faucial tonsils I desire complete anæsthesia, chloroform being preferred. In the removal of the adenoids alone partial anæsthesia will frequently be sufficient.

Therapeutical Notes.

Topical Application for Urticaria.—Gaucher (*Journal de médecine de Paris,* September 25th) gives the following:

℞	Alcohol, Chloroform, Sulphuric ether,	of each .... 450 minims;
	Menthol	150 grains.

M.

To be applied with an atomizer to the eruption.

Headache Dependent on Ovarian Disease.—Sinkler (*Indian Medical Record,* September 1st) recommends the following:

℞	Bromide of ammonium	6 drachms;
	Fluid extract of hydrastis	½ ounce;
	Compound tincture of gentian	1½ "
	Water	4 ounces.

M.

A dessertspoonful thrice daily.

Flexible Iodoform.—Fowler, according to the *Journal de médecine de Paris* for September 25th, gives the following:

℞	Iodoform	450 grains;
	Fish glue	3,600 "
	Glycerin	330 minims.

M.

Gelatinize the fish glue by vapor and add the other substances. The product has a suitable consistence for topical application.

To Stop Falling of the Hair.—The *Indian Lancet* for September 16th quotes from the *Revue de thérapeutique* the following prescription:

℞	Hydrochloride of quinine	1 ounce;
	Tannic acid	2 ounces;
	Alcohol (seventy per cent.)	1½ pint;
	Tincture of cantharides	2½ ounces;
	Pure glycerin	2½ "
	Eau de Cologne	10 "
	Vanillin	2 grains;
	Powdered sandalwood	1 ounce.

M.

This mixture, after being well mixed and shaken, is allowed to stand for four days and is then filtered. It is rubbed into the scalp daily for the purpose named.

For the Removal of Superfluous Hair.—The *Indian Lancet* for September 16th gives the following prescription:

℞	Tincture of iodine	3 parts;
	Oil of turpentine	6 "
	Castor oil	8 "
	Alcohol	48 "
	Collodium	100 "

M. Sig.: The affected part is to be painted with this mixture once daily for three or four successive days.

When the collodium scab is removed the hairs will be found imbedded on its lower surface.—*Putte.*

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CERTAIN GRASSES OF THE GENUS STIPA.

Mr. Allen B. Quinan, of Baltimore, who furnished the article on Stipa for Foster's *Illustrated Encyclopædic Medical Dictionary,* classes the *Stipeæ* as a subtribe of the *Agrostideæ,* and mentions three species in particular. *Stipa calamagrostis,* he states, is a species used by the Russians as a diuretic. *Stipa pennata,* "feather-grass," the *étièpe-aigrette,* or *stipe à panache,* of the French, he describes as a well-known ornamental grass, and says that, according to some authors, the Tartars around the Volga attribute their immunity from pulmonary disease to their daily use of the milk of mares fed upon it. *Stipa tenacissima,* the esparto-grass of Spain, according to Mr. Quinan, is employed in making baskets, etc.

One American species, *Stipa viridula,* found in some parts of the Southern States, especially New Mexico and Texas, has recently been made the subject of investigation by Dr. A. Lockhart Gillespie, of the Royal College of Physicians, Edinburgh (*British Medical Journal,* October 8th). He was led to make the examination by information as to the unpleasant and alarming effects of the grass, locally termed "sleepy grass," on horses. The cowboys, he says, driving herds of cattle from one place to another over elevated prairie regions, are often astonished, on waking in the morning, to find their horses, and perhaps their cattle also, unfit to proceed on the journey. "The traveler's horse," says Dr. Gillespie, "is a pitiable object. He stands with head and tail drooping, his form quivering, streams of sweat pouring down his sides, his respiratory movements hurried and panting, his heart's action increased in force, judging by the evidence of palpation; while his excretion of urine is markedly increased, with symptoms of irritation and strangury accompanying its expulsion." He is incapable of movement and seems about to die, but, so far as Dr. Gillespie's informant could say, actual death, either in horses or in cattle, is not known to have been caused by the grass. It seems to have no action on sheep. The acute symptoms pass off in about two days, but the general health of the animal is affected for some time.

Dr. Gillespie has found it impracticable thus far to make a thoroughly satisfactory preparation from the grass for pharmacological experiments. A weak mixture of hydrochloric or acetic acid and water was found to be the most effective menstruum for extracting the substance presumed to contain the active principle, but these acid extracts had to be neutralized partially before they could be used, and this partial neutralization precipitated much of the solid matter present. Alcoholic extracts also were employed. The author gives the details of four experiments, three on frogs and one on a rabbit. They confirmed the accounts of the narcotic and paralyzing action of the grass, and the animals seemed to be affected with hallucinations and great fright.

Dr. Gillespie quotes Haeckel to the effect that another American species, *Stipa inebrians,* as well as the *Stipa sibirica* of the Russian steppes, acts in a similar manner. Another Russian variety, *Stipa capillata,* he remarks, causes great annoyance to shepherds, as the pointed, hairy callus of its glume is capable of penetrating the skin of sheep and, owing to the backward direction of its hairs, working its way to a vital part and producing death. The author is quite sure that the symptoms which follow upon the ingestion of *Stipa viridula* have nothing in common with those caused by the loco weed. "These," he says, "are not due to any definite plant, but to organisms living on and swallowed with various kinds of fodder." It is true that the loco disease is produced by several different plants, but we have not before met with the statement that it was due to organisms parasitic on fodder plants.

THE ABUSE OF MEDICAL CHARITIES.

(Second Article.)

In our issue for October 22d is an editorial on this subject, the text of which is a communication thereon to the Harvard Medical Alumni Association by Dr. James C. White, of Boston. In the *Boston Medical and Surgical Journal* for November 3d Dr. Hasket Derby replies to Dr. White. He adduces no new reason against Dr. White's assertion that the well-to-do patient applying for hospital relief, if his case is sufficiently important from the point of view of clinical instruction, does make a return to the body corporate of medicine which should outweigh the deprivation to any individual thereof; but he merely reasserts the point of view whose existence and weight Dr. White acknowledged by the fact of combating it. As an illustration, however, of his objection, he propounds the following problem:

"Let us now," he says, "for the sake of argument, assume that three such individuals apply together at a public clinic. They are attracted by the well-earned reputation of its chief, but can perfectly well afford to consult him at his office, being in the possession of ample means. They have, however, elected to attempt an imposition on him, in order to save the fee. They have even, as has sometimes happened, altered their dress and neglected their toilet for the purpose of not exciting remark among the general crowd of poor patients. But questioned by the clerk or the physician himself their story has broken down, and a weak attempt is made to excuse an evident fraud. They are all self-convicted impostors. The experienced eye of the head of the clinic has recognized the diseases of two as commonplace and devoid of special interest, while the third exhibits a rare affection, one that has been for some time vainly sought for the instruction of the class. The exhibition of this case will be of great interest to the class of students and fill up what would otherwise have been an hiatus in the course.

"It must be acknowledged that the temptation to accept this patient is very great. According to Dr. White, it should be yielded to. The patient is accordingly retained, is exhibited, lectured on, and treated gratuitously. He may return again and again. Ultimately he is dismissed cured, his purse intact.

"Meanwhile what becomes of the other two? Their acceptance is not pleaded for. They are to be sent to the right-about, with the explanation that a hospital is no place for the wealthy. In vain may they cite the opposite treatment of their more fortunate colleague."

This instance is fairly to the point. But it seems to us that the one man might justly be accepted without a fee, after being told plainly that his conduct in endeavoring to obtain something for nothing was by no means creditable, on the plain understanding that in submitting himself to the tediousness and detention of being made a subject for clinical instruction he was making a return in kind to the profession of medicine at large. The two other would-be hospital patients should be equally plainly taken to task for their discreditable meanness, and declined on the ground that their cases presented no points of sufficient interest to enable them to make payment to the profession in that way for services rendered.

If the reason is made clear to each of the three why the one is accepted and the other two rejected, and the meanness of the conduct of all of them is stigmatized as it should be, it is scarcely likely that many would be found willing to advertise their own discredit.

We take this opportunity of again emphasizing our position in regard to the difference in value of medical teaching institutions, and of expressing a hope that the time is not far distant when the exaction of some general professional indorsement prior to the granting of a charter of incorporation will check the growth of mushroom "schools" of medicine, which are the largest offenders in withdrawing fees from the pockets of the practitioner without adequate return to the profession of any kind whatever.

MINOR PARAGRAPHS.

THERAPEUTIC SUGGESTION DURING ORDINARY SLEEP.

In our issue for May 21st, we abstracted from the *Canadian Journal of Medicine and Surgery* a case in which a physician cured his little daughter of nocturnal enuresis by means of suggestions conveyed to her during ordinary sleep. In the October number of a periodical entitled *Suggestive Therapeutics*, Dr. Albert H. Burr, of Chicago, has a thoughtful article on Suggestion During Natural Sleep. He refers to Liébeault's saying that "induced sleep can not be distinguished from natural sleep," and argues therefrom that "impressions which can so readily be made in the one case are susceptible of being duplicated in the other." He quotes the instance of a man addicted to the morphine habit who was cured in a single night by a dream in which the apparition of his dead mother standing by his bedside pleaded with him to abandon the habit, and showed him the evil results upon himself and his family so vividly that his mental anguish and remorse of conscience awakened him. Arising from his bed at three o'clock in the morning, he took his hypodermic syringe and bottle of morphine and, crushing both, threw them away, and from that moment had not used, or had the slightest desire to use, the drug again. Careful inquiry, says the author, as to the probable causes of a dream elicited the confession of a late social function and supper the night before; and he quaintly adds, "If all late suppers could be followed by desirable reformatory sequences, then lobster salads and deviled shrimps might pose as angel food or missionary diet, and a specially selected *menu* on a midnight bill of fare might depopulate our penal institutions." But, jesting apart, it seems to us that the method of suggestion during natural sleep might be widely and extensively tried by physicians in whom there is still some doubt as to the advisability of inducing artificially the hypnotic state. It has this great merit at least, that if no actual good were accomplished, certainly no great harm could be effected.

EMBOLISM OF THE ABDOMINAL AORTA.

Heiligenthal (*Deutsche medicinische Wochenschrift*, 1898, No. 33; *Wiener klinische Wochenschrift*, October 6th) reports a case of this affection, and says that it is the twenty-ninth on record. The symptoms are a sudden and extremely severe pain in both legs, disappearance of pulsation in both femoral arteries, lividity of the skin, and complete sensory and motor paraplegia.

SYPHILITIC PLEURISY.

Dr. Nikulin (*Bolnitschnaja gaseta Botkina*, 1898, No. 18; Beilage zur *St. Petersburger medicinischen*

Wochenschrift, October 8th) reports the case of a man, forty-two years old, who was attacked with dry pleurisy of the left side. The dyspnœa was relatively slight, and the temperature was subfebrile. The man had contracted syphilis twenty years before, had undergone treatment for it, and had had no further trouble from it. On the strength of this history and of the reporter's having before observed two cases of syphilitic pleurisy, he feels justified in setting the case down as of syphilitic origin.

POISONING FROM A CARBOLIC-ACID DRESSING APPLIED TO THE NAVEL.

Before the obstetrical section of the Periodical Congress of Gynæcology, Obstetrics, and Pædiatrics, which recently held a meeting in Marseilles (*Presse médicale,* October 22d), M. Coste reported the case of a newborn infant the stump of whose umbilical cord had been dressed with a mixture of carbolic acid and glycerin. Symptoms of poisoning soon showed themselves, and the child died on the following day. M. Coste implied that absorption had taken place through the gelatinous substance of the cord.

THE VALUE OF ARTESIAN WELLS.

According to the *Progrès médical* for October 22d, M. Luhert attributes to artesian wells a very great superiority in the fact of their waters being almost entirely free from microbes. They contain, however, according to the author's investigations, a much greater proportion of mineral salts in solution.

A VAGINAL PARASITE IN THE STOMACH.

Strube (*Berliner klinische Wochenschrift,* 1898, No. 32; *Wiener klinische Wochenschrift,* October 13th) reports a case of carcinoma of the cardiac portion of the stomach in which the gastric contents contained great numbers of the *Trichomonas vaginalis.* It was not found in the stools, so it did not ascend by the intestinal route. It disappeared when the stenosis had been overcome.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 5, 1898:

DISEASES.	Week ending Oct. 29.		Week ending Nov. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	73	23	56	14
Scarlet fever	108	6	92	5
Cerebro-spinal meningitis	0	6	0	8
Measles	57	1	104	3
Diphtheria	132	18	133	14
Croup	8	9	6	3
Tuberculosis	217	154	178	152
Yellow fever	1	1	0	0

Medical Society of City Hospital Alumni, St. Louis.—At the last regular meeting, on Thursday evening, the 3d inst., the following papers were to be read: Some Interesting Cases in Rhinological and Otological Practice, by Dr. M. A. Goldstein; A Case of Empyema of Frontal Sinus Secondary to Abscess of Orbit, by Dr. Greenfield Sluder; The Schott Bath Treatment of Chronic Heart Disease, with report of cases, by Dr. Elsworth S. Smith; and Conjunctival Puncta as an Early Diagnostic Sign of Measles, by Dr. George Homan.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon general of the United States Marine-Hospital Service during the week ending November 5, 1898:

Small-pox—United States.

East Vincent Township, Chester County, Pa.	Oct. 20–29	3 cases.	
Norfolk, Va.	Oct. 31	2 "	

Small-pox—Foreign.

Antwerp, Belgium	Oct. 1–8	1 case.	
Bahia, Brazil	Sept. 24–Oct. 1	25 cases,	3 deaths
Bahia, Brazil	Oct. 1–8	23 "	2 "
Rio de Janeiro, Brazil	Aug. 26–Sept. 2	4 "	2 "
Rio de Janeiro, Brazil	Sept. 2–9	8 "	
Rio de Janeiro, Brazil	Sept. 16–23	17 "	4 "
London, England	Oct. 8–15	1 case.	
Calcutta, India	Sept. 10–17		1 death.
Moscow, Russia	Oct. 2–10	9 cases,	2 deaths.
Odessa, Russia	Oct. 1–8	2 "	1 death.
Warsaw, Russia	Oct. 1–8		6 deaths.

Yellow Fever—United States.

Harriston, Miss.	Oct. 28–Nov. 5	2 cases,	1 death.
Jackson, Miss.	Oct. 28–Nov. 5	17 "	2 deaths.
Madison, Miss.	Oct. 28–Nov. 5	12 "	
Natchez, Miss.	Oct. 28–Nov. 5	7 "	2 "
Orwood, Miss.	Oct. 27–Nov. 5	1 case.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Aug. 19–26	10 cases,	7 deaths.
Rio de Janeiro, Brazil	Aug 26–Sept. 2	9 "	6 "
Rio de Janeiro, Brazil	Sept. 2–9	7 "	5 "
Rio de Janeiro, Brazil	Sept. 16–23	6 "	3 "
Rio de Janeiro, Brazil	Sept. 9–16	5 "	2 "

Cholera—Foreign.

Bombay, India	Sept. 20–27		2 deaths.
Calcutta, India	Sept. 10–17		2 "
Madras, India	Sept. 17–23		31 "

Plague.

Bombay, India	Sept. 20–27		150 deaths.
Calcutta, India	Sept. 10–17		1 death.
Samarcand, Turkestan		Epidemic.	

The New York State Association of Railway Surgeons.—The eighth annual meeting of this association will be held on Thursday, November 17th, at the Academy of Medicine, New York. The morning session will commence at 9.30 A. M., and the afternoon session at 2 P. M. The officers for 1898 are: President, C. B. Herrick, of Troy; vice-presidents, T. D. Mills, of Middletown, and W. B. Morrow, of Walton; secretary, George Chaffee, of Brooklyn; treasurer, H. P. Jack, of Canisteo. The programme is as follows:

Morning Session.—Special Topic: Surgical Service on Railways. *a.* A Service with Local Surgeons Only, by George Marsden, Esq., Middletown, claim agent, Ontario and Western Railroad. Discussion by F. A. von Moschzisker, Esq., New York, special claim agent, Erie Railroad, Dr. Theodore D. Mills, Middletown, and Dr. R. S. Harnden, Waverly. *b.* Employees' Mutual Relief Association, Physical Examination and Hospital Car, with Chief and Local Surgeons, by Dr. J. F. Valentine, Richmond Hill, New York, chief surgeon, Long Island Railroad. Discussion by H. A. Wheeler, Esq., New York, general claim agent, Long Island

Railroad. *c.* An Endowed “Home” Relief Fund and Contract Hospital Service, with Chief and Local Surgeons, by O. O. Essed, Esq., Sayre, Pennsylvania, superintendent Pennsylvania and New York Division of Lehigh Valley Railroad. Discussion by Dr. W. L. Estes, South Bethlehem, Pennsylvania, chief surgeon, Lehigh Valley Railroad. *d.* Relief and Hospital Department, by Colonel S. G. McLendon, Thomasville, Georgia, attorney, Plant System. Discussion by Dr. Frank Caldwell, Waycross, Georgia, superintendent and chief surgeon, Plant System. Discussion of special topic continued by Hon. W. H. Baldwin, Jr., New York, president Long Island Railroad, L. L. Gilbert, Esq., Pittsburgh, Pennsylvania, assistant counsel, Pennsylvania Railroad, Dr. G. P. Conn, Concord, New Hampshire, Dr. George Chaffee, Brooklyn, and others.

Afternoon Session.—Executive: 1. President's address. 2. Diagnosis of Alleged Railway Injuries, where no Visible Effects Exist, by Dr. M. Cavana, Oneida. 3. Hysteria or Malingering? by Dr. W. M. Townsend, New York (discussion on preceding papers opened by Dr. W. M. Leszynsky, New York). 4. Carbolic Acid in Surgery, by Dr. Seneca D. Powell, New York. 5. Remarks on Amputation of the Foot, by Dr. Henry Flood, Elmira (discussion by Dr. John A. Wyeth, New York). 6. Is a Railway Surgeon Justified in Performing Pirogoff's Amputation? by Dr. G. N. Hall, Binghamton (discussion by Dr. W. L. Estes, South Bethlehem, Pennsylvania). 7. The Use of the Normal Salt Solution, by Dr. C. S. Parkhill, Hornellsville. 8. Extemporaneous Splitting—A New Method, by Dr. Edward A. Tracy, Boston, Massachusetts.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 8th inst., Dr. J. A. Hodges was to open a discussion on the Necessity for Medical Supervision of Schools and Colleges.

The Medical School of Yale University.—We learn from the *Yale Alumni Weekly* that Professor Benjamin Moore, of University College, London, has been called to the chair of physiology.

A Vote of Thanks to Dr. Andrew von Grimm.—At a stated meeting of the medical board of St. Mark's Hospital, held recently, it was voted to offer the thanks and appreciation of the board to Dr. von Grimm, one of the attending physicians, for his enthusiasm, diligence, and success in securing proper and opportune treatment for the soldiers who had been received into the hospital.

The Prussian Landtag.—It is announced that Professor Virchow has been elected a member of the Landtag.

The Medical Society of the County of Kings.—The corner stone of the society's new building, in Grant Square, Brooklyn, was laid on Thursday, November 10th, by the president, Dr. Joseph H. Hunt.

The New York Medical League.—We are informed that the date of meeting of the league has been changed and a more elaborate programme prepared. Further particulars will appear later.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 8th inst., the following papers were to be read: The Hypertrophic Form of Infantile Palsy, by Dr. L. Pierce Clark; Myxœdema, Acromegaly, and Giantism, by Dr. Floyd S. Crego; and Some Ætiological Factors of Nervous Diseases, by Dr. James W. Putnam.

Changes of Address.—Dr. J. Grant Burke, to 602 Heron Avenue, Pittsburgh, Pennsylvania; Dr. Joseph B. Kenney, to 3556A Olive Street, St. Louis, Missouri.

Society Meetings for the Coming Week:

MONDAY, *November 14th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *November 15th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, *November 16th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *November 17th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis.

FRIDAY, *November 18th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Died.

KEMBLE.—In Salem, Massachusetts, on Thursday, October 27th, Dr. Arthur Kemble, aged fifty-nine years.

ROBINSON.—In Concord, New Hampshire, on Monday, October 31st, Dr. A. H. Robinson, aged eighty-five years.

Letters to the Editor.

A DOUBLE PENIS.

GREENSPRING, OHIO, *November 7, 1898.*

To the Editor of the New York Medical Journal:

SIR: While the subject of maternal impressions is taking so prominent a place in the columns of the *Journal* I wish to add my experience to the rest.

On the 21st of April, 1886, I was called to the following case: Mary A., aged twenty-three years, unmarried, came of a family of amorous propensities. Suspecting her to have been intimate with several young men and finding her approaching maternity, I made bold, in a joking way, to ask her who was the author of her unborn child. Frank, free, and indiscreet girl as she was, at once, during an interval of pain, she confessed to me that she was not positive as to the identity of the father, as she had been very intimate with two young men, both of whom she was equally enamored of. Both wishing to marry her, she had thought a great deal about the matter, but was unable to make a choice between them. In a few hours she was delivered of a nine-pound male child, normal in every way with the exception that he possessed two distinct and well-developed penes. This phenomenon at the present writing is twelve years of age, and by personal observation I find that one penis (the right one) is used for the sole purpose of urination, while the other is the only one capable of erection under excitation. Now, the query in my mind is, If this girl had had three lovers, instead of two, would the offspring have been the possessor of three penes instead of two, and what would have been the function of the third? I ask this from the standpoint of the advocates of maternal impression.

J. W. Keppel, M. D.

THE LATE DR. FRANCIS LIEBER.

New York, *November 8, 1898.*

To the Editor of the New York Medical Journal:

Sir: When the Spanish flying squadron menaced the American shores some people down in Fernandina, Florida, asked for protection by our government. It was decided then to re-establish the old, abandoned Fort Clinch, and Battery A, of the Sixth Heavy Artillery, was ordered south. Fort Clinch, which is an old brick structure of circular form, with an inclosed yard, on the sea level (at low tide), and situated on the most eastern point of the old town of Fernandina, at the entrance of Cumberland Bay, was protected by a high wall on which were mounted 15-inch smooth-bore guns. The upper floor of an old one-story building, without ceilings, was used as officers' quarters; there was a storage room below. The only other building served as garrison barracks. At high water there was no drainage, except backward into the yard within.

To this place called a "fort" was detailed Dr. Francis Lieber, a Washington physician, who gave up a lucrative practice and all the comforts of a home to serve as an acting assistant surgeon. No man to my knowledge had ever sacrificed himself in such a manly way as this promising young man. Son of the judge advocate general of the army, highly respected by his associates and friends, he came down in midsummer and at the first glance knew how hard was his task if he wished to preserve the health of the garrison. After the destruction of Cervera's fleet, and after typhoid and malarial fevers had appeared in Fort Clinch, as well as in the neighboring camps, the garrison was removed to St. Augustine. As there remained few patients in the old fort, Dr. Lieber, although offered a different station, decided to remain with his charge, and manfully fought against great odds until he himself became ill. This happened on the 24th of September. Two days later he sent word to Major F. W. Carter, United States army, reporting four or five men ill with typhoid fever, and remarking at the end of his note that he himself was not feeling well.

The major sent word that if he needed any supplies, etc., he was welcome to our stock. That was the last that he heard from our friend the doctor. On October 1st he took to bed, and on October 2d the cyclone struck the fort and swamped everything. Four patients in his hospital had to be carried upstairs because the water rose to two feet and a half in the lower part of the building, and from there they were again transferred to other rooms. Moreover, the windows were blown out and the roof was ripped off, and they thus remained in their pitiable condition, isolated from the entire world by a pool of water nine feet deep, without proper food and dry clothing, until the 4th of October, when they succeeded in communicating with Fernandina and asked for relief. This was immediately given, and all the sick and well were transferred to a house used as a rectory in Fernandina. During all this horrible experience Dr. Lieber frequently asked to be allowed to look after his patients, although well-marked tympanites had developed in his own case. The same evening I was detailed to take charge of those five patients. I had to help me Miss Margaret Dunn, a nurse of great ability, who had been nursing for Dr. Lieber in his private practice in Washington. It was a great surprise and satisfaction to my friend to have somebody whom he knew at his bedside. His case was hopeless then, and I knew that I should have hard work to do to save our patient, if such a thing were possible.

We formed a friendship during the first twenty-four hours, and I confess that I was proud when he asked for my retention as his attending physician on the arrival of Deputy Surgeon Cleary, the next afternoon. Almost at the same time Dr. E. Shattuck came down from Hilton Head, and we took turns day and night in caring for our patient, who constantly inquired about the condition of the other patients, never minding his own illness.

The tympanites subsided and the doctor seemed much relieved when his mother arrived from Washington. This made him particularly happy, though he begged that he be not disturbed by anybody. The crisis was fast approaching then and he realized his near end on the afternoon of October 11th, when his abdomen suddenly became distended, his pulse went up, and his temperature went down, with cold perspiration, and later on vomiting. This man of exceptional courage and clear mind said, as calmly as he would lecture: "My abdomen is distended and my pulse is hardly perceptible, and the end is near." He thanked us for our attention and asked for a little champagne, which was given him in tablespoon doses, besides the hypodermic injections and hot bottles, etc. His mind still clear, he asked about the condition of Clark, one of the hospital corps men, who had been seriously sick when he had seen him the last time, and who died twenty-four hours earlier. At 12.15 that night, with clear mind and consciousness to the last, this noble man of sterling character breathed his last.

Never in my nine years' experience as a physician have I seen such fortitude in a patient, satisfied with everything done for him and having such confidence as this man had in his attending physician, and I never saw a man so devoted to his duties to the very end as my friend, the late Dr. Lieber. The medical profession has by his death sustained a great and irreparable loss.

Joseph F. Chmelicek, M. D.,
Acting Assistant Surgeon, United States Army.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. THOMAS R. FRENCH, of Brooklyn, in the Chair.

(*Continued from page 643.*)

The Upper Respiratory Organs and the General Health.—Dr. J. C. MULHALL, of St. Louis, read a paper on this subject. (See page 694.)

Dr. MAYER: The paper of Dr. Mulhall is a very valuable one in that he calls attention to the more remote conditions existing as causal factors in affections of the upper respiratory organs.

We see this frequently, as an illustrative case will show. A young girl presented herself a year ago complaining of constant pharyngeal pain, which had been persistent for several years. Her pharynx had been cauterized and sprayed and all manner of applications made before I saw her. There was no evidence of any pathological condition, and a further inquiry revealed the presence of much intestinal disturbance. She had accumulation of gases, irregular condition of bowels, rapid pulse, and general muscular pains.

No applications of any kind were made to her pharynx, but her intestinal trouble was treated and her pharyngeal pains ceased and have not recurred.

In acute conditions there is much for us to do beyond purely local measures. In cases of acute engorgement of the mucous membrane of the turbinates, as in the *grippe* cases, and also in acute inflammation of the upper air tract generally, I have been successful in securing prompt relief, especially when seen early, by the internal administration of the tincture of yellow jasmine.

In these cases the gelsemium is given in five-drop doses once every hour for three doses and then once in three hours. During this time the patient rests in bed for twenty-four hours, the remedy having a diaphoretic effect. At the end of twenty-four hours all congestive conditions have subsided and the patient is well, so that the remedy is discontinued. But a few days ago I saw a gentleman who had an acute coryza and evidence of a beginning bronchitis with a pulse of 120 and a temperature of 100.5° F., whose symptoms all subsided in twelve hours after the beginning of this treatment.

For the more chronic conditions of infiltration of the mucous membrane that exist, I have found much comfort to ensue by following the plan suggested by Dr. Delavan, of puncturing the swollen turbinate with a tenotome, under cocaine.

Dr. DELAVAN: I am very glad indeed that Dr. Mulhall has called attention to a fact which ought to be fundamental with us, that the dietetics and the general hygiene of our patients are an important factor in our therapeutics. I am convinced from observation of patients, both in the city and the country, that the man who is able to teach the American people how to live will be a benefactor of the whole country. Dr. Mulhall is aiming to do this important work.

Dr. WRIGHT: I wish to call attention to how far the pendulum is swinging back from exclusive attention to local conditions to the consideration of the general treatment. A dozen years ago Dr. Mulhall if he had dared to read such a paper would have been almost drummed out of the association.

Dr. LOGAN: I am personally much obliged to Dr. Mulhall for this timely communication. I am convinced that if more attention was given to the general condition we should have better results. I would merely call attention, or add one remark to what has been said, with reference to the influence of the general health upon conditions of the lymphoid tract—viz., that due attention must be given to the presence of pathological inheritance. We must, as laryngologists, be aware of this and be able to apply the proper line of treatment to such patients.

The PRESIDENT: I feel sure that, if time permitted, you would all be glad to speak to Dr. Mulhall's paper. He has presented a very interesting and important subject which, I think, has been too infrequently brought before the association for discussion.

Dr. MULHALL: I feel very much pleased with the discussion, especially with Dr. Delavan's remarks. I am particularly gratified to see that all the members of this association seem inclined to indorse the principles taught in my paper.

(*To be continued.*)

Book Notices.

Elements of Histology. By E. KLEIN, M. D., F. R. S., Lecturer on General Anatomy and Physiology, and J. S. EDKINS, M. A., M. B., Joint Lecturer and Demonstrator of Physiology in the Medical School of St. Bartholomew's Hospital, London. With Two Hundred and Ninety-six Illustrations. Revised and Enlarged Edition. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xii–500.

THIS text-book has always enjoyed considerable popularity among students and instructors in histology, and, having received an extensive and much-needed revision (the last edition appeared in 1889), now resumes its position as one of the best text-books on this subject. The revision has involved the nearly complete reconstruction of the chapters on the nervous system, the text of which has been ably presented by Mr. Edkins. A prominent feature of this work has been its excellent illustrations, and these have been very largely increased in number.

Unfortunately, most of the new illustrations are microphotographs, which with few exceptions will convey no information to the mind of the student. It is a matter of surprise, therefore, that resort has been had to this class of illustrations, especially since recent works on many of these subjects have been beautifully illustrated by drawings of a high class, such as appear in the *Archiv für microscopische Anatomie*, Merkel and Bonnet's *Anatomische Hefte*, the *Archiv für Anatomie und Physiologie*, etc.

In one of these microphotographs the polynuclear neutrophile pus cell is represented, true to the photograph, as a *hyaline cell.* Writers and revisers of histological text-books for students ought to be expert freehand artists.

The revised text is for the most part beyond criticism, being written in excellent and appropriate style, distinct on the essential facts, and very full in detail. The careful paragraphing, the distinct titles, and the liberal use of italics greatly assist the work of the student and have always been an excellent feature of this work. The volume still remains the most compact and the best printed of text-books on histology.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, LL. D., F. R. S., Jodrell Professor of Physiology in University College, London, etc. New (Fifth) Edition, revised and enlarged, with Three Hundred and Ninety-two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xi–359.

This well-known work now appears in its fifth edition in much enlarged form and with such valuable additions as to assure its continued reception in the front rank of students' text-books on histology. Schäfer's *Histology* has always been a popular text-book with students, because the descriptions have been concise, essential points have been emphasized in the text by judicious paragraphing and the use of italics, and the illustrations have been numerous and of high instructive value. It has been popular with instructors for the same reasons, which greatly lessen the labor of teaching.

The same features appear in the last edition, and much care has evidently been used in selecting new illustrations, which now more than ever form the chief feature of the work. It is noticed with regret, however, that the attempt is made to present a feature of dental histology by means of a microphotograph. Such an expert as the author can hardly be unaware that students can learn nothing from this source. It may be pointed out also that with the market offering several undesirable text-books on dental histology, more attention ought to be paid to this subject in general text-books on histology.

The chapters on the nervous system have been considerably enlarged, in keeping with recent advances and changes in the knowledge of the subject. The paragraphs relating to histological technics have also received important additions. The work still remains a volume of comparatively small size, and with the present very successful revision is unquestionably the text-book best suited to the wants of the average student.

A Manual of General Pathology for Students and Practitioners. By Walter Sydney Lazarus-Barlow, B. A., B. C., M. R. C. P., Late Demonstrator of Pathology and Examiner in Sanitary Science in the University of Cambridge, etc. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xi–795. [Price, $5.]

While text-books on pathological anatomy have always been numerous, and their editions through frequent revision have usually been maintained abreast with the knowledge of the subject, well-informed medical writers have shown a tendency to avoid the subject of the philosophy of disease, so that treatises on the principles of pathology have remained few in number and often fragmentary in scope. Moreover, during the past decade a vast amount of labor has been devoted to the study of the theory of disease, the results of which have, with one or two exceptions, failed to reach the accepted text-books on pathological anatomy. Among several reasons for this failure is the fact that even a cursory treatment of the principles of pathology requires of itself a large volume. The extent to which many of the branches have developed is well illustrated by Löwit's *Lectures on Fever,* which fill a considerable volume. Thoma exhausts several topics, but avoids others almost completely. Zeigler's work is comprehensive in scope, but often lacking in detail. Except for some spasmodic efforts of a few surgical writers, English and American authors are poorly represented in this field.

For these reasons the appearance of the present volume, which embodies an attempt to concisely present the results of old and recent study in general and experimental pathology, is to be cordially welcomed by the entire profession. The work is specially valuable to that large portion of the medical public which is actively engaged in other lines, and yet wishes to inform itself without excessive effort of the present state of knowledge of the theory of disease.

Of the subject matter, it may be said that the arrangement is logical and convenient, that settled questions are concisely stated, and that opposing views are fully expounded. In some chapters, notably that on Fever, it may be noticed that the present uncertainty regarding many topics leads to a somewhat lengthy and inconclusive discussion. Yet such defects, when observed, are inherent in the subject; and the various topics are uniformly handled in able style.

A few well-chosen references add greatly to the working value of the discussions. The authors and subject-matter index of the volume is very complete.

Atlas and Essentials of Pathological Anatomy. By Dr. O. Bollinger, Obermedicinalrath and Professor. Volume II. Urinary Apparatus, Sexual Organs, Nervous System, and Bones. With Sixty-three Colored Figures upon Fifty-two Plates and Seventeen Illustrations in the Text. New York: William Wood and Company, 1898. Pp. x–53 to 232.

The second volume of Bollinger's atlas in every way sustains the reputation made by the first. It is devoted to a consideration of the pathology of the genito-urinary system, the bones and joints, and the nervous "apparatus," and contains fifty-two plates in colors and seventeen rather poor half-tone figures in the text. The colored plates are, as a rule, excellent, the best being those of the various kidney lesions and the ones devoted to the brain. As in the other volumes of this series, each figure is faced by an explanatory text, a point which saves much labor in not having to turn the page or go through a long column of fine print explanations of the meaning of the letters of the alphabet so often strewn around scientific drawings. The translation can be commended for only one purpose—as an excellent text for the study of German idioms and construction. The book as it stands fills a very distinct place. It can never in any way supplant a systematic work on pathology, but as a volume to refresh the student mind and to assist the rusty practitioner in recalling his early training it will always be of value.

A Text-book upon the Pathogenic Bacteria. For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology in the Medico-chirurgical College, Philadelphia, etc. With One Hundred and Thirty-four Illustrations. Second Edition, revised and enlarged. W. B. Saunders, 1898. Pp. 9 to 497.

This excellent work, originally intended to stand as a text-book on descriptive bacteriology, has been extensively revised, and such additions have been made in the line of bacteriological technics that the volume in its second edition will now serve as a laboratory manual. These additions cover 130 pages of text, 23 illustrations, and include, besides the description of many new technical procedures, several short chapters devoted to new specific micro-organisms.

Those chapters relating to descriptive bacteriology still embody the most valuable features of the work, and the revision has brought them freely up to date. One of these chapters deserving of special attention is that on yellow fever, although all authorities have not accepted the results of Sanarelli's work as fully as has the author.

While containing most of the information required in a laboratory manual, it still appears that specific directions for the staining and isolation of bacteria are not sufficiently emphasized to be readily accessible to the average student. One fails to find, for example, directions for the separation of the tubercle, lepra, and smegma bacilli. No mention is made of the limits to which the gonococcus may be submitted to the decolorizing action of alcohol in Gram's stain, although, as is known, alcohol after a few minutes may decolorize some specimens of the gonococcus. On the other hand, the discussion of staining procedures in general, and the preparation of media has from the first been an excellent feature of this work.

The author deals at length with the difficulty of securing accurate dilutions of blood in Widal's test, and suggests the use of a series of roughly prepared capillary tubes, a method which might be of much value to the profession if some firm were induced to manufacture such tubes.

Probably no better series of microphotographs of bacteria appears in any volume, but it must still be apparent that this easy method of illustration is much less satisfactory in many respects than are careful drawings. It is to be doubted, for example, if the morphology of the *Bacillus diphtheriæ* can ever be successfully taught from microphotographs.

The charm of this volume lies, as before, in the careful and orderly preparation of the text, which makes it a very readable book. A high position has already been accorded to the first edition, and the present very successful revision will much enhance the reputation of the work.

A Manual of Modern Surgery; General and Operative. By John Chalmers Da Costa, M. D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia, etc. With Three Hundred and Eighty-six Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 11 to 911. [Price, $4.]

The first edition of this work has already been noticed in this journal. The fact that the second edition should have been called for so soon leads to the belief that the book was well received by the profession.

The present edition is a decided improvement on the first, not only in appearance, but in many other respects. Considerable new matter has been added, including sections upon the surgery of the gall bladder and ducts, diseases of the spleen, the pancreas, and the female breast. A number of comparatively new operations have been described and other useful chapters added, which brings the work thoroughly up to date.

Conciseness, which in the first edition was so conspicuous a feature as to amount, in some instances, almost to a fault, is also a marked characteristic of the present volume.

Whereas the work can not with propriety be compared with the larger treatises upon surgery, it will undoubtedly in many instances be found to be much more useful for students and general practitioners.

Atlas and Epitome of Operative Surgery. By Dr. Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized Translation from the German. Edited by J. Chalmers Da Costa, M. D., Surgeon to the Philadelphia Hospital, etc. With Twenty-four Colored Plates and Two Hundred and Seventeen Illustrations in the Text. Philadelphia: W. B. Saunders, 1898. Pp. 7 to 395. [Price, $3.]

The subject of operative surgery has been so thoroughly covered, not only by the many manuals, but also by the more exhaustive treatises upon general surgery, that any additional contribution to this department of surgical literature, in order to receive the general support of the profession, must possess some individual feature of exceptional merit. This, we believe, is possessed by the manual of Zuckerkandl, in the excellence of its illustrations.

The book is one of a series of "medical hand atlases," originally published by Lehmann in Munich, in which the publishers sought to furnish manuals upon various medical and surgical subjects, which by their numerous and accurate illustrations would serve, in a measure, to take the place of clinical observation.

The American edition of the volume on operative surgery contains 241 strikingly accurate plates, 24 of which are colored lithographs of exceptional merit—indeed, we know of no other work upon the subject in which the illustrations are as numerous or as generally satisfactory.

In reading the text, however, one is not impressed with its superiority over other works of the kind; in fact, the descriptions of some of the operative procedures are labored and far from clear, while others are too brief to be of value to one not familiar with the subject. The book, however, will be of value to those who are unable, by constant clinical observation, to keep in touch with modern improvements in surgical procedure.

Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment. By Professor Dr. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York, etc. With Seventy-one Colored Plates. Philadelphia: W. B. Saunders, 1898. Pp. 122. [Price, $3.50.]

This volume is another of that excellent series of hand atlases, published originally by Lehmann, of Munich, and afterward reproduced in this country. It consists of a collection of seventy-one accurate and exceptionally lifelike colored plates, illustrating the various clinical pictures seen in the different stages of syphilis, chancroidal disease, and gonorrhœa.

The plates are made from water-color sketches, taken from life, in the wards of Professor Mracek in the Rudolfsspital in Vienna, and represent nearly all of the familiar clinical appearances seen in this class of cases.

As stated in the preface by the author, no attempt has been made to produce other than the ordinary forms of familiar venereal disease.

Each plate is accompanied by an explanatory paragraph, which gives, in addition, a brief history of the case illustrated.

At the end of the volume may be found a short description of the three venereal diseases—eighty-nine pages being devoted to syphilis and its treatment, ten to chancroid, and sixteen to gonorrhœa. As in the case of many other German treatises upon this subject, the descriptions of disease and its behavior are clear and accurate, but the treatment advocated is unworthy of serious consideration. In our opinion it would have been well had the editor of the American edition inserted a brief note emphatically condemning the plans advocated for the treatment of syphilis and gonorrhœa.

The statement also made on page 69, that "the enlargement of the liver and spleen, affections of the bowels, pulmonary catarrh, etc., found in hereditary syphilis, are caused by aspiration of the secretions from diseased nasal and buccal cavities," will hardly be accepted when we consider that many of these children are born with well-marked evidence of these conditions already present, before "aspiration" could possibly have taken place.

The excellence of the plates, however, will more than compensate for the faulty and careless statements in the text.

Brief Essays on Orthopædic Surgery; including a Consideration of its Relation to General Surgery, its Future Demands, and its Operative as well as its Mechanical Aspects, with Remarks on Specialism. By Newton M. Shaffer, M. D., Surgeon in Chief to the New York Orthopædic Dispensary and Hospital, etc. New York: D. Appleton and Company, 1898. Pp. 81.

The author defines orthopædic surgery (page 24) as "that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary." He would have the orthopædic surgeon restrict his practice to those cases in which mechanical treatment forms an essential feature.

Dr. Shaffer's long experience and devotion to his specialty lend great weight to his opinion, but it seems questionable whether the line can or should be so strictly drawn. It is reasonable to suppose that individual taste and opportunity will largely shape the methods employed; but to have the subject thus approached from different sides will undoubtedly be favorable to progress.

BOOKS, ETC., RECEIVED.

Affections chirurgicales du tronc—région ano-rectale, maladies urinaires communes aux deux sexes, maladies des organes génitaux de l'homme. Par le Dr. Polaillon, Chirurgien de l'Hôtel-Dieu, Professeur agrégé à la Faculté de médecine de Paris, etc. Paris: Octave Doin, 1898. Pp. 294.

A Text-book of Pathology. By Alfred Stengel, M. D., Instructor in Clinical Medicine in the University of Pennsylvania, Professor of Clinical Medicine in the Woman's Medical College, Philadelphia, etc. With Three Hundred and Seventy-two Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 15–848. [Price, $4.]

A Manual of the Practice of Medicine. By Frederick Taylor, M. D., F. R. C. P., Physician to and Lecturer on Medicine at Guy's Hospital, etc. Fifth Edition. London: J. and A. Churchill. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xvi–1002. [Price, $4.]

The Diseases of the Lungs. By James Kingston Fowler, M. A., M. D., F. R. C. P., Physician to the Middlesex Hospital, etc., and Rickman John Godlee, M. S., F. R. C. S., Fellow and Professor of Clinical Surgery, University College, London, etc. With One Hundred Illustrations. New York and London: Longmans, Green, & Co., 1898. Pp. xv–715. [Price, $6.]

Elements of Sanitary Engineering. By Mansfield Merriman, Professor of Civil Engineering in Lehigh University. First Edition. New York: John Wiley and Sons, 1898. Pp. 5–216.

The Care of the Baby. A Manual for Mothers and Nurses, containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Second Edition, revised. Philadelphia: W. B. Saunders, 1898. Pp. 16–404. [Price, $1.50.]

Essentials of Materia Medica, Therapeutics, and Prescription Writing, arranged in the Form of Questions and Answers, prepared especially for Students of Medicine. By Henry Morris, M. D., Fellow of the College of Physicians of Philadelphia, etc. Fifth Edition, revised and enlarged. (Saunders's Question Compends, No. 7.) Philadelphia: W. B. Saunders, 1898. Pp. 16–288. [Price, $1.]

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A. M., M. D., etc. Containing the Pronunciation and Definition of over Twenty-six Thousand of the Terms used in Medicine and the Kindred Sciences, along with over Sixty Extensive Tables. Philadelphia: W. B. Saunders, 1898. Pp. 518. [Price, $1.25.]

State of New York State Commission in Lunacy. Ninth Annual Report, October 1, 1896, to September 30, 1897. Transmitted to the Legislature, March 11, 1898. New York and Albany: Wynkoop, Hallenbeck, Crawford Company, 1898. Pp. xii–1612.

Miscellany.

The Art of Teaching and the Test by Examination. —Dr. Michael Foster, professor of physiology in the University of Cambridge (*Lancet*, October 8th), in his address at the opening of the medical school of Mason's College, Birmingham, England, said:

"The art of teaching in the true sense of the word is not the art of pouring into empty vessels: it is the art of awakening latent powers, the art of nursing that feeble infant the desire to know, until, growing strong in limb, it is able to walk alone and go on its own way. The only teacher who can truly teach is one who is himself bent on going forward, to whom each bit of new knowledge which comes before him is not something to be stuck in its proper place in the catalogue of things known, but a stepping-stone from which to make a new stride. The tests, trials, examinations—call them what you will—by which the progress of the student is measured should be directed to appraising his intellectual growth, not his accumulated knowledge; to determining how far he has got on the road, not the amount of luggage he has gathered on the way. This can not be achieved solely by means of one or two trials of written questions and answers, even with the aid of a string of manipulative puzzles, often called a practical examination. By hypothesis we are striving to lighten the burdens of the medical student; we are desiring to find out the minimum of knowledge of any one science, say physics, possessing which he may be permitted to pass on to the study of the other sciences based on that. I am arguing that it will be enough if we can be assured that he has learned to think in physics, that he has grasped the methods of physical inquiry to such an extent that when in some other science—in pathology, for instance—a problem is treated by physical methods he can comprehend that treatment. No stranger examiner, even though he had the skill of an angel, could gain that assurance by merely shooting questions at the student on one or two formal occasions. One person only is in a position to form a judgment on the matter, the teacher who has really taught the student, who has brought him on his way not by formal lectures only, useful as these are in their proper place, but by frequent intercourse in the laboratory, watching him at his repeated exercises, sounding again and again by quiet talks the stream of his thoughts. He alone is in a position to say that which we are supposing is all that need be said—that such and such a one understands what he has been taught and may now safely pass on to other studies. If it be feared that such a judgment is a responsibility too great to be laid on the shoulders of one person, seeing how personal predilections or other motives might come in to warp it (though in a well-ordered mind and a well-ordered university, loyalty to the science on the one hand and to the university on the other ought to be a safeguard strong enough to render such a fear of little moment), let his results be checked by some one else and the student's fitness be declared by the mouth of two witnesses of his work. But, so far as I can see, it is only by taking the teacher into full confidence and making large use of him that we can hope so to adjust the increasing demands of the sciences auxiliary to medicine to the fixed and stationary capacities and opportunities of the student as to train up men in such a way that their purely scientific studies shall be wholly a help to, and not at all a drag upon, their strictly professional learning."

Massage in Cutaneous Affections.—The *Journal de médecine* for October 9th, quoting the *Archives médicales Belges* for July, says that Dr. Hatschek, of Kaposi's clinic at Vienna, treats prurigo successfully by centripetal effleurage of the limbs administered for from ten to fifteen minutes. With the disappearance of the condition from the limbs the cutaneous lesions of the rest of the body are rapidly cured.

Dr. Pospelow, of Moscow, has recourse to massage practised twice daily in acne of the face. Various ulcers are also said to be amenable to massage, systematically practised, in the absence of any medication other than a moist boric dressing. Dr. Bekerievitch obtained cures in about four fifths of two hundred and sixty-four cases so treated. He followed up each massage with the application of a roller bandage. Dr. Erdinger proceeds as follows: After a complete disinfection of the limb, effleurage with the tips of the fingers, anointed with boric vaseline, is practised. Then massage of the upper part of the limb above the ulcer approaching the edge of the ulcer. Centripetal effleurage is next practised at the sides and below the ulcer. The degree of energy used is proportioned to the induration of the edges of the ulcer. When the base of the ulcer is grayish, torpid, and sanious, Erdinger advises massage of the ulcer itself. The surface is covered with a piece of linen smeared with boric vaseline and light effleurage is practised over the dressing. Daily applications are required at first, the intervals being lengthened as the wound heals. This treatment, which permits the patients to continue their avocations, is said to effect a cure in from thirteen days to two months.

Comparative Food Statistics.—M. Paul Langlois (*Presse médicale; Tribune médicale*, October 12th) enters into an examination of what Germans eat. He sums up his statistical researches by saying that he would like to compare the average fare of the French citizen with that of the German, but is able to present only statistics taken from Paris, which should rather be opposed to similar ones taken from Berlin than from all Germany. These latter are not, however, available; so he contents himself, as a matter of mere curiosity, by contrasting the Parisian statistics of Richet with the German ones of Lichtenfeld, as follows:

The adult consumes of—	Parisian. Grammes.	German. Grammes.
Meat	200	126
Poultry and game	32	20
Milk	140	275
Fish	40	20
Eggs	28	15
Cheese	25	10
Wine	670	12
Beer	45	400
Alcohol	25	20
Sugar	45	38

But the German, he adds, compensates for the apparent deficiency of this table by a greater consumption of fat, farinaceous food, etc., and if the recapitulative tables of the French and German authors are taken we arrive at the conclusion that the alimentation is nearly identical in the two countries and of physiological correctness. Thus:

	Richet.	Lichtenfeld.	Pettenkofer.
	Parisian adult.	German adult.	German workman.
Albumin	124.0 grammes.	115.15 grammes.	118 grammes.
Fats	80.5 "	90.10 "	56 "
Hydrocarbons	494.0 "	550.00 "	500 "
Total heat-producing value.	3.282	3.560	3.050

The Treatment of Chlorosis by Hot Baths.—Dr. Rosin (*Klinisch therapeutische Wochenschrift*, 1898, No. 17, S. 575; *American Journal of the Medical Sciences*, November), failing with regulation diet and the administration of drugs, as iron and arsenic, has made use of baths, of fifteen minutes' duration, at a temperature of 89.6° F., thrice weekly. Each bath is followed by a short cold affusion. Cure was obtained in four weeks in more than fifty instances which had been under observation.

Goître in a Newborn Infant cured by Thyreoid Treatment of the Mother.—Mossé communicated to the Académie de médecine, April 12, 1898 (*Revue men-*

suelle des maladies de l'enfance, June; *American Journal of the Medical Sciences*, November), the case of a weak, cachectic newborn infant presenting a marked bilobed goître. The mother, herself goîtrous, was in excellent health, but mentally weak. The treatment of the mother consisted in the daily administration of a gramme and a half of thyreoid body. At the end of a month and a half her goître had almost totally disappeared, and in the infant the cure was complete. A later course of treatment considerably improved the general condition of the baby.

The Antiquity of the Trendelenburg Position.—Dr. Carl Engel (*Medical Herald*, October) points out that Scultetus about A. D. 1600 made use of this position in herniotomies, in the radical operation for hernia, and in Cæsarean section. Dr. Engel quotes from Scultetus, translating as follows: "After the almighty and merciful God is prayed to for success, and the patient has been warmed in a water bath, he is to be laid on a long board covered with cloth four times, one end of the board to be resting on a table, the other on a low bench in such a way that he is lying higher with the feet than with his head. This posture of the patient," he continues, "gives not alone a help that the protruded intestines may so much easier be brought to their natural place, but also prevents that they afterward may slip out again, which latter accident could easy happen, unless this position is chosen."

The author reproduces a very interesting old woodcut, a copy of the thirty-eighth plate from Scultetus's work, portraying an operation in this position.

The Treatment of Singer's Laryngitis.—Dr. Holbrook Curtis, of New York (*British Medical Journal*, October 22d), in a paper read before the British Medical Association, says that he has ceased long ago to employ strong astringent applications to the cords of singers. In cases of painful laryngitis he uses an extract of the suprarenal capsule which, applied to the mucous membrane of the larynx, is very soothing in effect. In the nose, a ten-minute application causes a marked blanching, much more pronounced than the pallor of cocaine. This extract was originally brought to his attention by Dr. Wagner, of San Francisco, who reported many almost bloodless operations following its use. Dr. Curtis has employed it frequently in mild laryngitis with, he thinks, marked benefit.

A New Method of Amputation at the Knee Joint Applicable to Cases of Senile Gangrene of the Foot.—At the meeting of the New York State Medical Association, Dr. Smith (*Medical News*, October 29th) described an operation which he had devised for a patient aged seventy-eight, with alcoholic history and extremely rigid arteries, whose large toe was gangrenous. There were dusky spots around the ankle, and an enfeebled circulation in the foot and leg. Instead of adopting the high operation above the knee that has been recommended by so many American and English surgeons, and lately again by Mr. Jonathan Hutchinson, he studied the circulation to the knee, and planned his incisions so as to cut as few main branches of arteries as possible. The blood supply to the soft tissues in the region of the knee is very copious, and by this operation none of it is interfered with. His directions are: "Make a straight incision, commencing two inches above the upper border of the patella, downward over the centre of that bone to the tuberosity of the tibia. From the lower extremity of this make two curved incisions, the convexity of each being downward, one to the external, the other to the internal border of the leg. Join these two incisions posteriorly by a straight incision across the upper border of the calf. Dissect these two flaps from the tibia and fibula, remove patella, and disarticulate the tibia." He secured union by first intention in his case.

Pichi in Chronic Cystitis.—Dr. Whittaker (*Medical News*, October 29th) read a paper before the Mississippi Valley Medical Association on pichi, a shrub growing in Chili. He said that the annoying symptoms of chronic cystitis with enlarged prostate yielded to the action of pichi, as was illustrated by the citation of a case. Cystitis complicating specific urethral infection, involving the prostatic urethra, was a combination which under favorable circumstances did not readily respond to treatment, and yet under the influence of this drug the conditions became more tolerable. This remedy was indicated in all of the various forms of diseases of the liver. In gallstones pichi had proved a valuable remedy in assisting the secretion of bile and theoretically aiding the discharge of the stones. Uric-acid formations rapidly disappeared from the urine under the corrective influence of this remedy and the general condition of the patient improved.

Treatment of Aortic Aneurysms with Injections of Gelatin.—M. Lancereaux (*Progrès médical*, October 15th) reported to the French Academy of Medicine five cases of aortic aneurysm treated successfully by the following method: Thirty parts of pure gelatin are dissolved in fifteen hundred parts of normal physiologic salt solution. Between seven and eight ounces of this mixture are slowly injected under the skin of the buttock. The injections are renewed at varying intervals (from two to ten or fifteen days), from ten to twenty injections usually sufficing to effect a cure.

Drainage in Suppurative Appendicitis.—Dr. Angus McLean (*Medical Age*, October 25th) thus sums up a paper on this subject: The following conclusions are adduced: Where pus is present, tubing should be used, for gauze will not free a cavity of pus. Where inflammatory transudate or exudate is present, gauze proves the most satisfactory. Where gauze drainage is used in the peritoneal cavity the external end should be lower than the internal, allowing much freer action. Mixed drainage is to be recommended where septic peritonitis accompanies suppurative appendicitis. Drainage should be dispensed with as soon as possible and the external wound allowed to unite, for the sooner the union the better, and the chances of a ventral hernia following are less.

The Insomnia of Melancholia.—Dr. Lionel Weatherly (*Bristol Medico-Chirurgical Journal*, September) says that sleeplessness is, as a rule, one of the very earliest symptoms of melancholia, and it is of the very highest importance that it should be relieved as early as possible. In a large number of cases the patient will say he can not sleep because the brain seems so active with all his worries and anxious thoughts. The arterial supply to the brain is not sufficiently inhibited to bring it down to the level which is attained in normal sleep. Before trying drugs for this, other means are strongly advised. Exercise in the open air of all kinds, such as walking, riding, bicycling, tennis, should be enforced at stated times during the day, making each such exercise to fall definitely short of fatigue point. This fatigue point, whether mental or physical, is a most important consideration to notice in the treatment, and too much stress can not be laid upon keeping well behind this point in all the occupations suggested. Then some easily digested food before retiring to rest will often greatly relieve (1) by diverting the blood from the cerebral area; (2) *after* digestion has taken place, by nourishing the brain cells. A hot bath before going to bed is also often very efficacious, as well as local stimulation of the cutaneous surface by mild mustard plasters, the warm pack, or abdominal compresses. A tumbler of hot water or hot milk and water, taken after getting into bed, will also in the same way be of service in the early treatment of sleeplessness. The drug he believes best suited and least harmful for sleeplessness from an overactive wearied brain is phenacetine in ten- or fifteen-grain doses, repeated in an hour's time if necessary. It seems to take, so to say, the rough edge off the mental activity; so that a quiet dozy feeling soon develops into absolute sleep, and with no bad after-effect. Of course, if all mild measures fail, recourse must be had to soporifics. Opium alone he does not like; neither does he care for chloral by itself. The mixture of the two often suits well, but should, he maintains, be varied with other drugs. Sulphonal must be cautiously given, and the effects carefully watched; and he is convinced that this is a medicine which should not be long continued, more especially if the dose has to be increased to procure sleep. Paraldehyde is in some cases most useful; in others, a failure; trional the same. Dr. Clouston advocates a mixture of tincture of cannabis indica, ten minims, and potassium bromide, twenty grains; but, as he so justly says, "We have not yet discovered a perfect narcotic that gives brain quiet combined with increased appetite and body weight."

A Case of Cured Sarcoma of the Nasopharyngeal Cavity.—Van Leyden (*Archives de laryngologie*, July and August, 1898; *Medical Chronicle*, September) reported a case to the Société Néerlandaise d'otologie of an old man, aged seventy years, who had been suffering from deafness and difficulty of breathing for ten months. When seen by the author, in addition to these symptoms, it was discovered that he was unable to breathe through the nose, and that he swallowed with some difficulty. Blood-stained pus occasionally issued from the left nostril, and in the centre of the left inferior turbinate body there was an ulcer which bled readily on manipulation. In the nasopharynx there existed a bluish-red tumor, which had invaded the orifice of the right Eustachian tube and reached to the orifice of the left tube, blocking the choanæ. Microscopic examination showed numerous round and oval cells. As the age of the patient was against any severe operation, the author carried out the removal of the growth by "morcellement," and between the various "sittings" the patient took Fowler's solution.

Nasal respiration became completely reestablished, the hearing improved, and up to the time of publication no recurrence had taken place. The author, finally, drew attention to the value of arsenic in such cases, to the advantage in certain cases of partial removals extended over several sittings, and to the rareness of nasopharyngeal sarcoma.

The Treatment of Acute Pyosalpinx by Incision and Drainage.—Dr. Arnold Lea (*Medical Chronicle*, September) says that with regard to the technique of the operation, the essential points appear to him to be as follows: 1. The incision in the posterior *cul-de-sac* must be free enough to admit two or three fingers and to allow a careful examination of the swelling. In a certain number of cases the vaginal incision is immediately followed by the escape of serous or purulent fluid. It is essential, however, to examine further the condition of the Falloppian tube, which in most of these cases contains pus. 2. A free opening must be made in the distended tube. This may be done by passing a pair of forceps into the sac, and then enlarging the opening with the fingers or scissors. 3. A finger should be passed into the pus cavity, and any sæpta gently broken down. 4. A large-sized drainage tube should be inserted, or, better still, two tubes, which may be sewn together at the end, thus allowing fluid to be injected without any risk of overdistending or rupturing the sac. 5. It is probably wise to syringe out the cavity daily with some non-irritating fluid. 6. The tube should be retained until the discharge has become very slight or has altogether ceased.

Aims of a Society for the Prevention of Tuberculosis.—Dr. A. Ransome (*Medical Chronicle*, September) says: Briefly stated, the aims of a society for the prevention of tuberculosis must be: 1. The accumulation of information as to the amount and localization of the disease. 2. The dissemination of information among the general public, and especially among the poorer classes, with regard to the precautions to be taken to prevent its spread. 3. The enlightenment of local authorities as to their duties in regard to its prevention; especially respecting milk and meat supply, the disinfection of dwellings, and the examination of tuberculous products, free of cost to individuals. 4. The promotion of improved building by-laws in all the chief towns in the country, and encouragement of the inhabitants to obtain more civic "lung space" in the shape of parks and open pleasure grounds. 5. The establishment of "open-air" sanatoria for the poor in certain well-chosen localities.

The Treatment of Serous Pleural Effusions with Guaiacol.—Dr. Prosorowski, of Smolensk (*Deutsche Medizinal Zeitung*, March 31st; *Dublin Journal of Medical Science*, October), treated eleven cases of pleural effusion by painting guaiacol on the skin. In all the cases the exudation was absorbed more rapidly than he had observed with other methods of treatment. The patients suffered no discomfort of any kind from the treatment. The irritation of the skin that followed the application of the guaiacol was so slight as to be of no importance. In his cases the guaiacol was painted on from five to seven times before cure resulted. There did not seem to be any connection between the size of the exudation and the duration of the cure. In all cases after the guaiacol was applied the temperature fell 0.5° to 4° F. Immediately after this fall it rose again to its former level, or even higher. This rise generally reached its maximum about two hours after the guaiacol was painted on. If the patients' temperature was normal before the application, the fall of temperature was less than if pyrexia existed. During the treatment the amount of urine was increased.

Dr. Prosorowski was unable to suggest any fully satisfactory theory to account for the action of the guaiacol. The following hypothesis, however, appeared to him as a very probable explanation: The guaiacol acts in two ways—(1) by irritation (stimulation) of the peripheral nerve endings it acts on the centres which regulate temperature and the vasomotor centres, causing an increase in the absorptive power of the pleura; (2) it makes its way into the circulating blood, and then destroys the noxious substances produced by the pleurisy.

The London Hospital.—By the retirement of Mr. Frederick Treves, F. R. C. S., from his office of surgeon to the London Hospital, which is announced in the *British Medical Journal* for October 22d, that institution loses the services of an able surgeon. We are glad to note that the cause of his retirement is to be found in the claims of private practice.

The Alcohol Neurosis.—Dr. J. Strachan (*British Medical Journal*, October 1st) says that it must be borne in upon the mind of every one who has any lengthened experience in medical practice that there is a disease of alcoholic intemperance—that there are men and women who have no more power to resist "drinking to excess," if they "drink" at all, than they have to prevent the symptoms and the course of any other disease, the poison of which has entered and is working in the blood.

This neurotic intemperance possesses several features which serve to distinguish it from the common vice of occasional and deliberate drunkenness, and it is of great importance that the distinction should be fully recognized.

1. Whereas the *vice*, once so prevalent and even fashionable among the men of all classes, is now all but confined to what are called the lower orders, and is, we may hope, being driven ever lower in the social scale, the *disease* is confined to no class, and to neither sex, and instead of diminishing seems decidedly on the increase, as is shown not only by the number of cases to be seen in every community, but also by the increasing number of "retreats" and homes for inebriates, and the more and more pressing calls for legislative restraint for those so afflicted.

2. While the vice of drunkenness is very much a matter of occasion and opportunity, and is perfectly under control when a sufficiently strong motive is operative, the disease is to a great extent periodic in its onset, and quite unaccountable in its course. The occasional drunkard is, as a rule, a habitual drinker, and indulges to excess only on occasions of conviviality; the neuro-inebriate may have long intervals when he has no desire for and does not take stimulants, but has periods of resistless craving which run a more or less definite course. As the disease progresses, however, such intervals tend to become shorter, and the intoxication more or less continuous, culminating at times in delirium tremens or convulsions.

3. The occasional drunkard seeks companionship in his cups, and is generally more or less noisy and uproarious in his intoxication; but the victim of this disease inclines rather to shrink from observation, and is generally quiet and morose under the influence of alcohol.

It is important, the author says, that the affection should be regarded from the pathological rather than the moral point of view. The craving is for relief from suffering. Persons presenting the alcohol neurosis are very susceptible to the alcoholic stimulus; a comparatively small amount produces exhilaration. This is followed by reaction amounting to an extreme degree of nervous depression. A repetition of the stimulus gives immediate relief, but at the expense of further reaction and still greater depression and more urgent craving for relief. More and more is required to keep off, as it has been expressed by a sufferer, "the horror of getting sober." Here it is the first glass of whisky, which does not carry with it any moral delinquency, and, according to the usual drinking customs of the country, is very difficult to avoid, which does the mischief. The attack usually culminates in severe gastric irritation and complete nervous prostration, perhaps delirium tremens, on recovery from which the craving is found to have passed off, and the patient is full of good resolutions. For a longer or shorter time all goes well, and there is not even any desire for stimulants. Then the patient—he still is a patient, although he does not know it—feeling himself stronger, or feeling dull and low spirited, for such neurotics are subject to fits of depression quite apart from the use of stimulants, and are easily upset by business worries, etc., thinks that a glass will set him up and let him get on with his work. An attack follows and runs its course as certainly as an attack of fever when the poison enters the system. If, after careful examination, we tell a man that he is so constituted that potatoes are very bad for him, and that even to take one will certainly make him very ill, there will be no difficulty in getting him to abstain from them entirely. He will be very pleased to say at table that his doctor has forbidden him to take potatoes. Why is it that we have not the same powers to forbid alcohol? Because to act upon such advice would be to confess to a moral fault which few inebriates are strong-minded enough to do. If we could get rid of the moral element in the question, and convince such patients that it is altogether a matter of constitution that alcohol in any form or any quantity is exceedingly bad for them, and certain to bring on serious illness, might we not hope for more success in dealing with them? However it may be brought about, there is, he is fully convinced, no cure and no preventive for this disease except total abstinence from alcohol, which is comparatively easy, though moderation to such persons is impossible.

Yellow Palms as a Sign of Typhoid Fever.—Filopowicz (*Centralblatt für die medizinische Wissenschaften*, 1898, No. 11; *American Journal of the Medical Sciences*, October) calls attention [for the second time] to a symptom of typhoid fever not generally looked for. The palms and soles acquire a yellow color, which is more marked in proportion as the skin is thickened by toil, but present even when the skin is thin. This change comes on in the early days of the disease, and lasts until the end, disappearing in convalescence. The author thinks the sign due to the changes in the circulation, especially to anæmia of the skin, as the result of which the subcutaneous fat shows through.

Pyramidon in Diseases of the Nervous System.—Dr. Rudolf Landenheimer (*Therapeutische Monatshefte*, 1898, Heft 4, S. 177; *American Journal of the Medical Sciences*, October) reports upon the use of this antipyrine derivative in more than one hundred instances during the past year. In headache of undetermined origin, especially when occurring during convalescence from psychoses, five to eight grains gave relief after the lapse of from one to two hours. It was equally successful in the headaches of alcoholics. In hysteria the results were uncertain, but for nervous men, those overworked and sleepless, the remedy gave satisfaction. The pain of alcoholic neuritis was not benefited, although the sensitiveness of the nerve trunks was lessened. Of lumbago, two instances were benefited, a third unaffected by even large doses. Only two patients suffering from acute articular rheumatism came under observation. The pain speedily lessened, the swelling gradually disappeared. Chronic rheumatism was not benefited. The lancinating pains of tabes were temporarily benefited. The maximum dose given above can be safely administered thrice daily. Untoward symptoms have not been noticed.

The Common Nettle in Anæmia.—Dr. Hjalman Agnér (*Bulletin générale de thérapeutique,* June 8th; *American Medical and Surgical Bulletin,* October 25th) calls attention to a remedy in anæmia which is exceedingly popular in Sweden—*i. e.,* nettle. He himself was cured of anæmia, when he was seventeen, by taking nettle soup. One of his patients, a girl of twenty, had tried all remedies recommended in anæmia, including the preparations of iron, but without apparent benefit; he ordered her then nettle soup, first every second day; then, when she improved, twice a week. The patient was completely cured. The author treated many other cases with nettle, but as they received other treatment besides he does not care to speak of them in detail. The common or stinging nettle (*Urtica dioica*) and the dwarf nettle (*Urtica urens*) possess the same virtues, but the first is used almost exclusively. The best time for collection is the spring; the best parts to use are the roots and stalks with only half-developed leaves. It may be used as an infusion—a handful to two quarts of water, two or three glasses thereof to be taken during the day; but it is much pleasanter to use in the form of a freshly prepared soup from the fresh herb.

Fluoride of Ammonium in Gastric Fermentation.—M. Baudoin (*Gazette hebdomadaire de médecine et de chirurgie,* October 2d), in his thesis to the faculty of Paris, relates the results obtained at the *Pitié* by Dr. Robin with fluoride of ammonium in the treatment of abnormal fermentations of the stomach. Fluoride of ammonium, he says, acts upon lactic, butyric, and acetic fermentations, not only by destroying the ferments, but by modifying favorably the influence of the gastric juice on the digestion of albuminoids and the refuse. Its bactericidal action is not simply transient, but appears definite, as his observations show. Fluoride of ammonium has no noxious action on the chemical ferments of the stomach. It is perfectly tolerated and has no toxic action on the organism.

Menstrual Troubles and Heart Disease.—Dr. Guilmard (*Revue de Louvain; Revue médicale,* October 19th) has just published a work demonstrating the influence of heart disease on the menstrual function, which influence has been denied. Mitral stenosis is found to be most often a cause of dysmenorrhœa, menorrhagia, and metrorrhagia. Next in order come mitral insufficiency and disease of the aorta. The author is said to have established the fact that menstrual troubles of cardiac origin are met with in more than half the cardiopathic patients, the cardiac trouble being first manifested at puberty. If the young girl is affected with simple mitral stenosis, which is the most frequent cardiac affection at this age, the lesion has in most cases remained unnoticed up to this time. The establishment of menstruation is difficult, and, according to Mathieu, there are often excessive losses, amounting to veritable metrorrhagia, with dysmenorrhœa. These symptoms commonly attract attention to the generative organs rather than to the heart, if there is not at the same time chlorosis. One should not therefore make a hasty diagnosis without carefully auscultating the heart. After some regular menstruations, or even at times after the first three, supervenes a period of several months of amenorrhœa, followed by a sanguineous flow, sometimes abundant, often scarcely appreciable, and of such irregularity that the girl does not know whether it corresponds to her period or not. During her entire sexual life, the cardiac sufferer is exposed to various accidents. Two conditions are essential to the production of hæmorrhage: First, a relatively good general health; and, secondly, a heart vigorous enough to wrestle successfully with the lesion. As soon as the heart begins to fail, and œdema and dyspnœa appear, the patient falling into an asystolic condition, not only the hæmorrhages but the menses themselves are suppressed, giving place to amenorrhœa, to reappear later when the crisis of asystolia shall have passed and the heart shall have regained the upper hand.

It is difficult, according to the author, to state whether the menopause is modified by the existence of cardiac lesions. Duroziez's statistics, however, tend to show that the menopause is hastened when the mitral valve is involved, and is normal or retarded in all other cases, the retardation being especially remarkable in lesions of the aortic orifice. Moreover, cardiac patients are exposed at this period to considerable and repeated losses of blood, so that some time after the menopause metrorrhagias occur, influenced exclusively by a cardiac affection.

The conclusion drawn by the author is that whenever one finds menstrual irregularities whose cause is not obvious, auscultation of the heart should be practised with great care; for while there may coexist uterine affections, the heart needs special attention. In short, metritis is at times the intermediary between cardiac influence and hæmorrhage, whether of alien origin or directly provoked by the cardiac lesion.

Is Diabetes Contagious?—M. Ledieu (*Gazette hebdomadaire de médecine et de chirurgie,* October 2d) answers this question in the affirmative in his thesis of the faculty of medicine of Paris. He bases his opinion on cases of conjugal diabetes, as well as on those of persons becoming diabetic as a consequence of daily intercourse with diabetics, or handling things made use of by them. He enumerates these cases of contagion of diabetes which have for the most part been already published in the recent work of M. Boisameau.

Carcinoma of the Male Breast.—Dr. John E. Owens and Dr. Daniel N. Eisendrath (*Chicago Medical Recorder,* Septembr) say, as a result of their researches, that cancer of the male breast is to be thought of in the examination of all enlargements of this gland in men, for that, although not so frequent as in women, it presents a ratio of 1 in 100. Lymphatic-gland enlargement is present as an early sign, as is also retraction of the nipple. Pain is also frequent, and in a number of cases this was the symptom for the relief of which a physician was consulted. Age is a predisposing factor, although it appears later in men than in women, the average being two years later. Traumatism has a direct influence on the development in the male breast cancer in over fifty per cent. As regards the influence of race, country, and nativity, this has never been studied in the case of the cancer of the male breast, but the literature shows a majority of cases among the Germans, as is the case in females.

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THE TREATMENT OF PENETRATING WOUNDS OF THE EYEBALL.

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Penetrating injuries of the globe happen to subjects of all ages, sexes, and occupations, and any physician, be he general practitioner or specialist, is liable at any time to have to decide the grave questions involved in the treatment of such cases. All will join me, I think, in the statement that in all surgery the only cases more important than these are those directly dangerous to life, and even in the cases under consideration life itself is not infrequently endangered and lost through meningeal and other direct complications of the infective processes that frequently follow these injuries. These considerations should secure for each case the most careful study of the physician, and enlist his best judgment in its service. I trust that they will also be thought ample *raison d'être* for this short study. These remarks are intended to apply solely to wounds that *penetrate* into the globe, or *perforate* it entirely, emerging at some other point than that of entrance, and exclude all other traumatic conditions of the ball, such as concussions, contusions, etc. The latter, though not rarely rupturing all the ocular tunics and thus approximating to penetrating wounds to a certain extent, have nevertheless associated with them various features proper to themselves, and often lack the main dangers of the wounds under consideration, so that they are better studied separately. One of the main questions of treatment, if not the main one—namely, that of enucleation—depends almost entirely on our prognosis as to vision being saved, so that it is proper to first briefly consider that. The gravity of the prognosis varies so much with the region involved that this will usually be the first inquiry of the ophthalmologist, to be followed at once by the question as to the presence of a foreign body in any portion of the globe.

The physical character of the wounding substance is important, in that uneven, irregular, obtund bodies inflict more or less lacerated, contused wounds, that naturally have a worse prognosis than wounds of a similar size made with smooth, often sharp, substances, like glass. The size of the wound is important in all parts of the eye, and especially so in the ciliary region.

The chemical nature of the wounding body is of less importance than its physical character, except in the cases where it remains in the wounded eye, when the prognosis will be greatly affected by the nature of the body. Substances nearly or quite inert chemically, such as glass, and to a less extent lead, will be much better borne in the eye, if from other circumstances of the case it is thought proper to attempt to save the eye with the foreign body in it, than copper, steel, and stone.

Leber has well shown the noxiousness of copper in that it has the quality of setting up a purulent inflammation by chemical action, making its removal more imperative than is the case with some other agents, although this suppuration has not the significance of that ordinarily seen as the result of bacterial action. The septic or aseptic character of a wounding body can sometimes be inferred from its state at the time of injury as relates to temperature, and to a lesser extent from its general surroundings; but usually one will have to wait twenty-four or forty-eight hours, watching the appearance of the wound and eye generally, before being able to eliminate the factor of panophthalmitis from primary infection.

It is very useful, in attempting to determine the prognosis of these cases, to bear in mind important clinical divisions of the cornea, as follows:

1. The corneal region.
2. The corneociliary region.
3. The ciliary region.
4. The scleral region.

It will be well to examine a little, in a general way, into the different degrees of traumatism as they commonly occur in the clinical regions outlined above, and to grasp their significance. In the cornea they vary from simple penetrations that wound neither iris nor lens, and that are soon followed by closure of the wound and reaccumulation of the aqueous humor, to wounds involving iris or lens, or both, with possible penetration into the vitreous and more or less loss of this tissue.

The first-mentioned are the least grave of the penetrating wounds of the eyeball; the last are always very serious and entail more or less loss of vision in all cases, and in many the dangers of sympathetic ophthalmitis as well.

Corneociliary lesions should be given a separate frame in the mind, because they partake, in their prognosis and treatment, of the features and dangers of two regions, the iris and lenticular on the one hand, and the ciliary on the other. Indeed, it is rare to see a wound penetrating the cornea and sclera that does not wound at least the iris root and the equator of the lens, and in treatment one will have the injured and probably prolapsed iris, the cataractous and swollen lens, and the dangers of wounds of the ciliary body to reckon with.

A wound may be called ciliary when it penetrates in a zone not more than ten and at least two millimetres from the cornea. The ciliary body varies in size and extent in different cases, depending principally on the refraction of the eye, but generally it may be said to extend from two millimetres behind the limbus for eight millimetres backward, so that any wound in the sclera within one centimetre from the limbus may be considered to involve more or less of the ciliary body, as the case may be. All wounds in this zone—the *danger zone*—are of the highest gravity; rarely will an eye retain vision after such a wound, and it will almost invariably be a constant menace to its fellow.

Finally come the wounds in the sclera, entirely behind the ciliary body; these are, after the simplest corneal penetrations, the least serious of all, deriving their dangers mainly from intraocular hæmorrhage, excessive loss of vitreous, and infection.

From this statement are to be excluded those comparatively rare cases in which the posterior segment of the globe is injured, including often the macular area or nerve, as by a ball passing through the orbital tissues, and vision thereby destroyed.

As regards the wounds themselves, it is well-nigh impossible to describe those that entail the loss of the eye, and point out those in which a good result may be expected. The simple corneal wounds are never fatal to vision, except in the rare cases of infection; the simple scleral wounds are somewhat less promising, though they rarely entail the loss of the eye; the danger of infection is here greater than in the corresponding corneal cases. Profuse hæmorrhage from the chorioid will cause a vitreous disorganization through which vision will emerge very slowly if at all, and loss of vitreous may ruin the eye. While many cases of wounds to the cornea, iris, and lens will be lost ultimately, it requires the most extensive wound possible in this region, provided the ciliary body escapes injury, to justify a totally bad prognosis in the primary stage and a corresponding treatment in these cases. However, one will not infrequently see wounds extending from limbus to limbus through cornea, iris, and lens, that carry all the dangers of ciliary lesions and demand the same treatment. The corneociliary and ciliary wounds are of about equal significance, and will usually be both destructive to the eye and dangerous to the fellow eye. To this general statement are exceptions, as there are exceptions to every general statement in medicine: a clean, sharp glass may make an incised wound through the ciliary body with no uveal or vitreous prolapse, and in such a case hope of saving a safe and even serviceable eye will be proper, though time will only too often show the hope to have been vain. Sclerociliary wounds naturally partake of the hopefulness of scleral and hopelessness of ciliary lesions, and as one or the other predominates shall our judgment be. The presence within the eye of a foreign body is, generally speaking, fatal to it, and the prognosis remains bad until the foreign body is removed. But foreign bodies in the anterior chamber and lens always leave much hope, because they can almost always be removed without great traumatism, and their tract is not long and not apt to be strewn with particles that can not be removed. Glass and, to a less extent, lead do not force upon us a hopeless prognosis and consequent enucleation merely from their presence in the eye, because they are not rarely quite well and safely borne. This can hardly be said of steel or iron, which must always be removed; and, unfortunately, it is precisely these substances that most frequently enter the globe. Attempts at removal will often result in so much traumatism about the entering tract, and loss of vitreous, that the prognosis will become hopeless, even after the removal of the foreign body, in cases that at first looked promising; but these risks are inseparable from such unfortunate cases, and one must make the best of them. The question of the presence of the foreign body is of such vital importance in treatment that no stone should be left unturned that can aid in rendering the diagnosis positive, and the use of a suitable magnet can not justly be omitted in a case that admits of even the faintest doubt in this respect.

In approaching the question of treatment we find ourselves face to face with two principal debatable questions: 1. In what cases and when shall enucleation be done? 2. When enucleation is not done, how shall the protruding structures, such as iris, ciliary body, and vitreous, be treated?

It is needless to say that I am well aware that other points, such as the use of heat and cold, the method of their use, the degree of general rest to be enforced, the use of meiotics and mydriatics, etc., should be carefully considered, but they are of minor importance in comparison and will be treated more briefly.

First, as to the great question of enucleation. It seems to me that a proper rule, having its proper exceptions, could be stated as follows: All eyes in which vision is *surely* lost as a result of penetrating wound should be enucleated, and that as soon as it is certain that no sight can be saved.

The main reason for this is to save the patients from the terrible danger of sympathetic ophthalmitis; subsidiary and considerable reasons are the avoidance of physical and mental pain and loss of time to the patients, inevitable in all attempts to retain the globe in these severe injuries.

Of course, this rule would hold only when a fellow eye of functional value exists. Many objections can be raised against such a sweeping statement, but one word is a *résumé* of them all—cosmetics. And it includes the arrest in orbital development seen in young subjects after enucleation. Is it so certain that a scarred, discolored, more or less shrunken globe is less disfiguring than a well-selected artificial eye, after all?

One need not try to prove that the ordinary "glass eye" is a thing of beauty in order to say that it is less unsightly and less frequently noticed than the average atrophic globe.

But while I question the disfigurement, I would still prefer to enucleate a thousand such eyes in spite of it than to lose an only remaining eye by sympathetic ophthalmitis. We all know that this terrible disease strikes all subjects. No age, no sex, no occupation, no wealth, no poverty is a protection; it may not come—more, it is even probable that it will not—but then it may, and the time of its coming is like that of death, unknown to all men. And in a given case it may come when the patient is away not only from expert help, but from all medical help as well. While none is exempt, the young appear to be somewhat more liable to it, as though Nature intended to warn us to overlook the added reason against enucleation of arrest in orbital development, and urge us to be especially sure to remove the danger in these cases. And in such eyes as I mention—*i. e.*, surely blinded—I believe that the danger is practically always present. Of course, wounds in the ciliary region are by far the most dangerous; still, a wound in any region serious enough to ruin the eye functionally nearly always leaves behind it a dangerous stump.

It matters not that wounds in given regions are usually innocuous to the other eye; whenever they have such serious results as total blindness they leave a distinctly dangerous stump, unless it be that the danger is reduced greatly by a complete purulent panophthalmitis with discharge externally. It is well known that sympathetic ophthalmitis rarely follows after such a panophthalmitis; indeed, those eyes that retain the most intact uvea after penetrating wounds, in which shrinking is least and the external appearance best, and consequently in which the cosmetic argument is strongest, are precisely the most apt to affect the fellow eye. Preventive enucleation, then, should be the rule when the eye is lost; it protects the only remaining eye from the possibility of receiving injury from it, and reduces to normal the danger of loss to the most precious organ in the body. Against such a weighty reason nothing should stand, least of all a question of cosmetic effect. It is true that sympathetic ophthalmitis is not a very common affection, while many eyes that should be are not enucleated; but that many may enjoy the peculiar privilege of safely carrying their unsightly atrophic globe with them is no reason to permit many others to become blind from the most lamentable of all causes—lack of sufficient prudent firmness in the physician. We are too apt, I think, to underrate the danger to the second eye, and look upon it as somewhat remote. Hardly a hamlet is without its blind from this cause, and one can always find illustrative cases in industrial centres, where wounds are more frequent.

There are no statistics that accurately show just how frequently sympathetic disease follows the injuries of which I now speak and for which I wish to urge enucleation as the only treatment—*i. e.*, after injuries causing total blindness; nor can accurate figures covering all injuries, the least with the most serious, be given.

Magnus says that sympathetic disease is responsible for 4.5 per cent. of all cases of blindness; it is estimated in the United Kingdom that four to 4.5 per cent. of *all* cases of injury to one eye are followed by *blindness* in the other, the result of sympathetic disease; and one observer estimates that fifty per cent. of all cases of injury are followed by sympathetic disease. Of the two last views, both are far from the truth, probably about equally so. Magnus's figure shows the frequency as compared with other causes of blindness, and necessarily indicates the high percentage of sympathetic disease in the injured. So that, while no reliable figures covering a sufficient number of cases are at hand, we know from what we have, and from general observation, that the fear of the disease is founded on altogether too frequent and sad experience. Besides the danger of sympathetic disease, much suffering, anxiety, and time are saved to the patient by primary enucleation; but these points are not insisted on on account of their slight importance in comparison with the terrifying sympathetic ophthalmitis. Nor should some remaining vision bar preventive enucleation, and it will usually be possible to make a correct prognosis in such cases. That is to say, that it will hardly ever happen than an eye that is condemned by a surgeon of sufficient experience will ever have useful vision. But human fallibility must not be lost sight of, and it is always better, both for the general practitioner and specialist, to have counsel in such cases before resorting to enucleation. It has been my lot to see a prominent and most able surgeon advise and secure the patient's consent to primary enucleation in a case that immediately afterward became the patient of another surgeon, who carried out expectant treatment, the patient leaving the service in a few days with a quiet eye, and fourteen months later he had V. $\frac{20}{30}$, a few vitreous opacities only preventing normal vision.

The case was one of penetrating wound in the temporal side of the right globe, the incision being clean, about twelve millimetres in length, parallel with and slightly above the external rectus muscle, extending backward and slightly upward from a point one centimetre back of the limbus. But the conjunctiva and superficial layers of sclera were incised forward to the limbus, which led the first surgeon to believe that the ciliary body was cut across and to advise enucleation. Fourteen months later the linear atrophy of the retina and chorioid and scleral scar corresponding with the wound could be perfectly seen with the ophthalmoscope.

Hence it is well to have consultation to avoid oversights that might have such deplorable consequences. I have seen several cases where it was impossible to determine, by inspection alone, the extent of the section in the ciliary body, and gentle probing had to be resorted to.

But the opposite error will be more frequent, and many eyes in which hope remains will suffer exudative inflammatory processes, with or without retinal detachment later, and in such enucleation will properly be done after hope has departed. It is indeed quite unusual to find total blindness in the first few days following an injury, so that in doing primary enucleation one nearly always has to assume the responsibility of making the prognosis of ultimate loss of vision.

Then, in an eye that has suffered, or from the site and character of its lesion must suffer, severe traumatic cyclitis, good perception and candle field may remain for a long time, yet no one would think it possible to restore any degree of useful vision whatever to the eye. As to eyes that retain quantitative vision of any considerable degree, one will hesitate to do preventive enucleation, and a most cogent reason therefor is the fact that eyes whose uvea has not been sufficiently implicated to render such vision impossible will exceptionally give rise to sympathetic ophthalmitis. But that lamentable exceptions will occur is shown by a case of simple corneal wound, in which was left a prolapsed iris root, with perfect quiet and V. $\frac{20}{20}$, that had, four weeks later, a severe iridocyclitis, followed in one week with malignant sympathetic disease and total blindness in both eyes. Still, the general rule, that eyes retaining useful vision should not be enucleated, will hold in spite of such terrible experiences, just as the rule to enucleate all blind eyes that *may* ruin their fellows should hold, in spite of the dictum of men who love to call themselves conservative, but who, sooner or later, work the most radical harm known to ophthalmology in the shape of total blindness, the result of sympathetic disease. In the presence of a foreign body that can not be removed by the best methods obtainable for each case, the rule will be to enucleate, though exceptions along the lines laid down in speaking of the prognosis of these cases will occur. Copper may set up a purulent process chemically, and should invariably be removed, according to most authorities, though the presence of pus in such a case is said to not necessarily signify infection of the eye in the ordinary sense, and hence the eye need not be enucleated on account of the pus, if the copper is removed.

The foregoing appears to be the consensus of opinion, and, while copper as a foreign body in the eye is rare, and my observation limited, I have seen it as well borne as the average foreign body in the eye.

A high degree of caution should be maintained in dealing with bird-shot wounds; here, eyes are frequently enucleated on the supposition that they contain the shot, only to find that the shot has perforated the globe and lodged in the orbit, and that the globe itself is comparatively sound. It is to be borne in mind that a shot is comparatively well borne in the eye, that it is usually aseptic at the time of impact, and that its wound of entrance (and of exit, if fortunately there be one) is of the character of a small punctured wound, for which enucleation would scarcely be thought of as a primary procedure if it were not for the fear of the presence of the foreign body. Under such conditions it is strange that voices have not been raised more strongly in favor of an expectant plan. But the moment that blindness actually supervenes, enucleation should be done, and its urgency will be greater the greater is the probability of the presence of the foreign body. As to the proper time to do preventive enucleation, there can be no doubt that the time of election is just as soon as it is decided to do it. Thus hopeless cases should be enucleated in the first few hours after the injury, unless there be some general contraindication, to save suffering, danger to the fellow eye, and to forestall the possible appearance of panophthalmitis. Cases in which an expectant plan has been pursued in vain should be enucleated as soon as hope is abandoned, for the same reasons.

The presence of panophthalmitis adds another question as to the best time to enucleate, and the opinion of the profession is much divided on this subject.

I have seen death follow in two cases of panophthalmitis, in one of which enucleation had been done while in the other it had not, but on account of certain associated circumstances they do not appear to me to be good cases from which to draw valuable conclusions, though in the main they induce me to believe that it is safer to enucleate early in panophthalmitis than to let the disease run its course. It is my conviction that a properly executed enucleation is far less dangerous than the retention of such a nidus for infection as a panophthalmitic eye during the weeks required to drag out its course, though I recognize the force of the opinions against it.

So far as the fellow eye is concerned, one may defer enucleation with a high degree of safety, since it is rare indeed to see sympathetic troubles arise in the presence of a panophthalmitis of the offending eye. The course to pursue when sympathetic trouble of any kind arises in the fellow eye during the course of an attempt to save an injured eye belongs essentially to the treatment of sympathetic ophthalmitis, and will not be touched on here. The next most important matter to consider in the treatment is the management of protruding uveal structures, lens and vitreous, in the cases that are not treated by primary enucleation.

First, all are agreed, I think, that thorough aseptic and antiseptic methods, so far as they can be carried out under the unfavorable conditions prevailing in the organ, should be strictly adhered to. This will be the same for all cases, whatever their degree, and can be briefly stated as follows: Thorough scrubbing with absorbent cotton, pure Castile soap, and tepid, sterile water of the entire face from the hair to the chin; special attention being paid to the brows, eyelashes, and region of the inner canthi; both eyes having been previously anæsthetized with a sterile five-per-cent. cocaine solution. It will do no material harm if some of the soap enters the eyes.

After thorough flushing with sterile water, to remove all the soap, a tepid 1-to-3,000 bichloride-of-mercury solution, made with sterile water, should be used to thoroughly wash the entire region and to very freely flush out the conjunctival sac of the injured eye, great pains being exerted to remove all the mucus from the fornices. This will be found not at all easy. It is better not to introduce the bichloride solution into the uninjured eye, for in many cases it causes a slight conjunctivitis, but it is well to wash it out thoroughly with a sterile two-per-cent. boric-acid solution. Then thin pads of sterile cotton wrung out of the bichloride solution should be placed on the injured eye until the moment of operation or other permanent treatment.

During operative procedures the eye should be frequently but gently irrigated with tepid sterile water, normal salt solution, or boric-acid solution not stronger than two per cent. If it is desired to use bichloride of mercury, then a solution not stronger than 1 to 10,000 should be employed. It is proper to introduce a 1-to-3,000 solution into the eye in our attempts to render it sterile, because whatever uveal matter or vitreous it may come in contact with is to be excised, but in the operation itself it is not proper to bring so strong and irritating a solution in contact with iris and vitreous that it is desired to save, and much less to carry it within the globe on the instruments.

The very greatest gentleness and care must be observed in washing the lid and eye, and in many cases it will be more prudent not to attempt it at all, because many patients can not avoid closing the lids firmly and squeezing out vitreous, which is a positive and great harm always, whereas the benefits of our attempts to sterilize such eyes are problematical.

It is surely unnecessary, in this day of modern surgery, to say that hands, towels, cotton, solutions, instruments, dressings, everything that comes into or near the eye should be perfectly sterile, and I have briefly mentioned the matter more to lament at the imperfect sterilization of which the seat of trouble itself admits than from any thought that it could be necessary to insist on doing the best possible in this direction. The bandage, if one be applied—and I think it is better in nearly all cases to bandage the eyes for the first twenty-four hours, at least, and secure some degree of healing before using any external applications—should cover both eyes and exert only a slight pressure, too great pressure being a very frequent fault; it should run *up* the cheek on the *injured* side and down on the sound side, and between each eye a complete fronto-occipital turn should be made, so as to secure the eye more certainly against a harmful dragging and pressure on it in the movements of the head on the pillow. These are not unimportant matters in cases of this kind, and he that overlooks them will have successes by accident and failures by rule.

There can be no doubt, I think, as to the advisability of excising prolapsed uvea, lens, or vitreous, and that at once in recent cases—that is, within twelve hours after the injury, and much later, too, in most cases. When one reflects that it is the almost constant experience to see eyes with unexcised iris prolapses or adhesions remain unquiet, subject to frequent periods of congestion, of "weakness," of pain, and of tenderness, to say nothing of the usual much more serious consequences, it is passing strange that men of authority in the matter should still hold to the unsound let-alone policy. Nor can the report of very many cases, "quiet when discharged" or "last seen," be a valid argument in favor of let-alone methods, for these very cases have probably turned up "unquiet" in some other office or clinic long before their publication. The constant return of such cases with more or less injection, pain, and tenderness leads one to believe that very few of them remain permanently quiet, though that some do can not be doubted. That eyes with prolapsed iris are more liable to severe iridocyclitis from accidental causes later on, and oftener induce sympathetic ophthalmitis than eyes in which thorough removal of the protruding iris has been practised, admits of no doubt. Then the danger of secondary glaucoma in prolapse and simple anterior synechia is not a minor matter; it leads to the ruin of many eyes that might have been saved in a more or less useful state by proper free excision of iris or detachment of synechiæ, each in its proper time. The probability of severe and ruinous inflammation of the uvea in cases treated by excision is far less, in my observation, than in those put on the non-interference plan, and this in numerous cases with very similar wounds and in hospital, under otherwise similar conditions. Yet surgeons who would consider the man criminally responsible who failed to excise a prolapsed iris after cataract extraction raise their voice in favor of non-interference in cases of accidental traumatism. What constitutes the difference that the treatment should be different I can not tell. But there is a difference, and it is that the prolapse occurring after cataract extraction takes place in a wound as nearly aseptic as possible, with smooth, even edges, and is far less dangerous than the other.

Nevertheless, cyclitis and sympathetic ophthalmitis follow it, as we have all sorrowfully seen. I know of no valid reason against excision of the prolapsed iris; the principal one, that it adds to the traumatism and danger of infection at the time, though true, falls to the ground before the unquestionable advantages of excision. Some men, while favoring excision in principle, prefer to delay three or four days, or until the first reaction has subsided. We all know that at such a time after a serious injury there is always great congestion of the conjunctiva, at least, with formation of pus, and the danger of infection becomes so great as to properly preclude all except imperative operative procedures. At this period, and in this view, the idea is an essentially bad one. Indeed, while I would hardly ever willingly allow to pass from my care a patient with prolapsed iris or anterior synechia, I think the only proper time to remove them, if the time of election—*i. e.*, within twelve or twenty-four hours after the accident—has passed, is after some weeks, when all reaction has disappeared. In excising, not only the prolapsed iris should be removed, but also the iris on both sides of the wound as far as can or need be to prevent a new prolapse or adhesion, both of which are so apt to occur. Prolapses of the ciliary body should be treated in the same way as prolapses of the iris. It should be an invariable rule to not allow uveal tissue to remain caught in the scar of a wound in the fibrous tunic of the eye, and it applies to the whole uvea. The statement that the ciliary body should never be cut off is in great part a proper one, but that is so because most of the cases in which it is prolapsed should be enucleated, and not because it is better to leave the ciliary body in the wound. But to enucleations there are exceptions, such as in wounds of moderate extent in the corneoscleral region, where it is proper to attempt to save the eye by removing the iris and ciliary body in and near the wound. Such a case, thus treated, seen fifteen months after the accident, had a perfectly quiet eye, no uvea in the scar, V. $\frac{5}{200}$, and a possibility of a very much better vision after an iridectomy for optical purposes on the side of the cornea opposite to the wound.

As a rule, it will be better not to touch the lens, though in case of wound entirely across the cornea and through the lens it may be better to remove it. Then a toothed vectis is to be passed through the wound in the cornea and lens, into the vitreous, and the lens drawn out in it. This will surely harm the ciliary body by traction on the zonule, but in such cases it is better to be rid of the manifest disadvantages of the swelling lens, even at such a cost. I have seen such cases do better than similar cases in which the lens was not removed, but I believe that a wound should never be enlarged or a new one made for the purpose of removing a lens immediately after an injury. A few days later, if must be, the granular masses will be more readily removed by linear incision made with the triangular keratome. Vitreous should be carefully excised close to the lips of the scleral wound. Fine black silk stitches, mounted on very small full curved needles, should be carefully passed, about six millimetres apart, through the conjunctiva and subconjunctival tissue to but not including the sclera. They should be tied only with sufficient tightness to approximate the lips of the scleral wound, great care being taken not to invert the latter. The passing of sutures through the sclera is totally unnecessary, and will always do harm, and this applies with still greater force to the cornea. In case there is special reason to fear infection, the lips of the wound should be thoroughly cauterized with the actual cautery. Not infrequently, in cases that escape primary infection and panophthalmitis from the wounding body, in twenty-four or forty-eight hours the lips of the wound will be yellowish gray, or even yellow, with shreds of pus adhering to them, though none of the signs of intraocular infection can be detected. This suspicious infiltration, occurring some time after the injury, independently of intraocular infection, is usually due to a milder form of infection of the lips of the wound from the conjunctival sac, and if left untreated will often gradually communicate itself to the neighboring iris and eventuate in a panophthalmitis. Here, thorough thermo-cauterization is the only treatment, and it is invaluable, since it will frequently arrest the dangerous process described, and it alone will do it. The presence of prolapsed or incarcerated iris in the wound is no contraindication, but rather an additional reason for resorting to it.

In reference to the use of meiotics and mydriatics, it can safely be laid down as a general rule to use mydriatics in these cases. Atropine and scopolomine are the best, the latter being somewhat better borne by the conjunctiva and general system, and consequently to be preferred for long-continued use, though it seems to not exert quite so powerful a mydriatic effect as atropine. These should be used, not in the fatuous hope of drawing the iris out of the wound, which it will never do, but to lessen as much as may be the hyperæmia of the uvea, and hence the virulence of its reaction to the traumatism. Some writers lay great stress on the use of meiotics and mydriatics, each in what they somewhat fancifully describe as proper cases, going to the extent of dividing the cornea into certain clinical zones in this respect. I believe this to be totally valueless, because I have seen a large number of cases in which one or the other of these agents was used, more frequently atropine, because we see more "atropine cases," and have never seen either do any good in the way of preventing or overcoming prolapse, except twice, and then probably the same result would have followed in each case with no treatment or under the use of the opposite drug. The forces that make for prolapse and adhesion are far beyond the power of drugs to control, and I have seen this exemplified so often that I am at a loss to comprehend the claims made for them. With reference to the use of heat and cold, iced compresses are to be preferred for the first two or three days, or until the reaction due to the traumatism has disappeared, then it should be invariably changed to heat. In most cases it will be better not to use ice at all, and in very few will it be proper to use it for the first twenty-four hours, because the double sterile bandage and quiet to secure primary sealing off of the wound from infection are far more useful to the eye than ill-advised attempts to forestall the primary inflammation that is sure to follow. After three or four days, moist heat, nearly or quite constant, applied by means of *light* pads of sterile absorbent cotton wrung out of sterile water or two-per-cent. boric-acid solution at a temperature of 108° to 115° F., and frequently changed, with atropine or scopolomine, will be the mainstays of local treatment. In severe cyclitis and pain, morphine hypodermically may be needed, but the coal-tar products should always be tried first, because they will frequently suffice, and seem to control inflammatory pain in the eye better than similar pain in other portions of the body. In some cases the application of one or two leeches to the temple has a most beneficial effect on the pain and inflammation, but usually they have no other result than the discomfort they occasion. They should never be applied to the lids, as is sometimes done. Some authorities lay great stress on the use of the so-called antiphlogistics, though I never saw any reason to believe they had any marked effect. Small, frequently repeated doses of calomel may well be administered. The patient should be kept in bed, in a subdued light (not dark room), on light diet, and the greatest attention should be given the intestinal function, at least one free movement from the bowels being obtained daily. The advantages of rest in bed will be made evident to any one who permits these patients to go about and observes the increase in congestion and all other symptoms that invariably follows; besides, it is much easier to carry out the local treatment with the patient in bed.

My intention has been principally to draw attention to the importance of—

1. Not allowing a false sentiment or ill-advised conservatism to stand in the way of enucleation in the cases for which this is advised.
2. Excising, as a rule, prolapses of uvea and other intraocular structures.
3. Never counting on the action of mydriatics or meiotics to remove the iris from wounds, or prevent its adhesion, although extremely rare cases will occur in which the ophthalmologist will at once see the propriety of making such use of these agents.

To the experienced ophthalmologist many other things that might or should have been said will occur; they have been omitted advisedly from a paper that merely intends to outline the major points at issue in these important cases.

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IS APPENDICITIS A SURGICAL DISEASE?

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(Continued from page 691.)

On considering now the manner in which the anatomical changes described express themselves clinically, we at once touch the sorest point of the controversies on appendicitis. There can be no doubt that it is the anatomical basis alone on which a scientific standard fundament, the symptomatology of a disease, can be built. A classification of appendicitis into light, moderate, and grave cases, as is suggested by some, must therefore, even from the strictly clinical standpoint, be rejected. The law is that there must be in general a clinical expression for any tissue change. The circumstance that in many cases such expressions fail to be perceived or explained properly by us is no proof of their non-existence. In spite of the difficulties of diagnosis we must endeavor again and again to interpret the various complex symptoms that present themselves more or less confusedly. It will be only after such patient, thoughtful, and repeated effort that we shall draw in our minds any adequate picture of the anatomical condition of the appendix. Only thus shall we be able to further the understanding of this immensely important disease. It can hardly be assumed that the anatomical changes as they were described would show a marked clinical expression from the very beginning. On the contrary, must it be imagined that this intra-appendicular crater has been silently working for a period of time before it came to the explosion of the first attack. So there is actually a more or less symptomless chronic appendicitis, the acute exacerbation of which leads our attention to the existence of the disease. By considering, however, the many vague symptoms, often protracted during years, which a number of histories reveal, we should not feel justified in speaking of the absolute absence of symptoms of this preliminary process. We should, on the contrary, realize that we have not as yet learned to interpret these symptoms properly. How often do we find complaints of disturbances of the stomach and intestine, or of diseases of the liver, kidneys, or bladder! (Compare, for instance, the history of Case IV.)

If women are concerned, such complaints are often disposed of as being of hysterical origin, and treatment of the adnexa might be undertaken, with no result of course. Likewise may a number of nervous disturbances, not only of the intestine, but also of the circulatory apparatus, being caused by reflex irritation, be derived from a diseased appendix. If we compel ourselves to think of the possibility of a diseased appendix in all cases of abdominal disorder, there can be no doubt but that we shall frequently detect some clews, no matter how meagre they may be, in this state. Palpation and percussion oftentimes fail, but there is frequently tenderness, felt spontaneously as well as on pressure. Thus, according to greater knowledge, we could cease to speak of a kind of latent appendicitis in favor of a really existing chronic appendicitis showing but scanty symptoms.

We are accustomed to use the term appendicitis as soon as there is a typical chain of symptoms, as they mark themselves more or less distinctly already in the simplest form of appendicitis (appendicitis simplex), the most predominant of them being the sudden accession of intense pain, either in the midst of perfect euphoria or after a short period of indisposition. In the greater majority of cases this pain is gradually located in the right iliac fossa. But there are cases where in the beginning it is concentrated in the epigastrium or the umbilical region. As a rule, it first occurs on the so-called McBurney's point, or at the exterior margin of the rectus muscle in the middle of a line drawn from the umbilicus to the anterior superior spine of the ilium. This most constant symptom is accompanied by abdominal tenderness and very frequently by nausea and vomiting. Slight elevation of temperature is also frequently present, but it may also be absent, just the same as vomiting or nausea. The pulse may be but little accelerated. Vomiting and nausea usually do not precede the pain, as in indigestion, but follow it. There is obstipation in the majority of cases, but diarrhœa is also frequently observed.

In most cases a more or less marked resistance in the appendicular region can be palpated. There is frequently the sensation of pressing a rigid formation of the shape of a small sausage. A most constant symptom is the more or less marked dullness, which corresponds to the thickening of the swollen tissues and which does not at all necessarily imply fæcal stasis as a cause.

In many cases these symptoms subside after the first three or four days. But in the great majority of cases there remains much tenderness of the appendicular region, and sooner or later a second attack follows, which may end in resolution again, like the first one, but may just as well assume the circumappendicular, phlegmonous, or perforative character.

In periappendicitis there are virtually the same symptoms as in simple appendicitis, but they are much more pronounced. There being in fact a circumscribed peritonitis, a palpable tumor can generally be defined in the right iliac fossa. The inflammatory exudations and the serous infiltration of the sphere immediately surrounding the appendix naturally make the dullness more pronounced than in simple appendicitis. The stasis of the cæcal contents, caused by the compression, may further enlarge the extent of the dullness. But even if the cæcum be entirely evacuated, the dullness will persist.

The tumor may undergo resolution in three or four days, just as in simple appendicitis, but there may as well be suppuration.

In phlegmonous appendicitis we may be confronted with the same symptoms during the first thirty-six hours as in appendicitis simplex or periappendicitis, so that a differential diagnosis at this period is entirely impossible. The temperature may also oscillate between 98.6° and 102.2° F., and the pulse need not necessarily exceed 90. There is a real chill sometimes. On account of the well-marked meteorism the tumor sometimes can not be palpated. But the reliable guide—dullness—is never absent. I am confident that in most cases the presence of appendicitis can be diagnosticated without relying on the dullness, but it should always be taken into consideration as an additional proof, and if the question of differentiation should turn up it will be of the greatest importance. I am sure that sometimes it was only the dullness that led me into the right direction. Particularly where the appendix reached far down into the pelvis, a small but distinct dull area above Poupart's ligament indicated the character of the disease, which, as was corroborated always by the subsequent operation, has so far never misled me.

There is sometimes only half a tablespoonful of pus present, and in such cases it happened to me repeatedly that, after having exposed the upper surface of the cæcum, on a superficial view apparently normal intra-abdominal conditions presented themselves, so that at first the impression prevailed as if the operation had been entirely uncalled for. But after going further down and lifting off the cæcum a fibrinous membrane of moderate thickness was found, which ended on the psoas muscle. These fibrinous deposits often tell of an underlying exudate, palpation of which is prevented by the overlapping cæcum, which, on account of its containing quite an amount of air, prohibits the palpating fingers from feeling a resistance. But the dull sound could not be suppressed by the tympanitic area. By pulling off the posterior cæcal surface carefully and introducing a grooved director gently into the fibrinous stratum, a small amount of pus was discharged from a cavity the walls of which were created by the agglutination of intestine, omentum, and the inflamed non-perforated appendix.

In appendicitis perforativa suppurativa the same chain of symptoms may be present as in simple appendicitis. In the majority of cases the vomiting may be more constant and intense, and the meteorism more developed. A distinct resistance can be felt, which, however, if the meteorism becomes extensive, may cease to be palpable. But in such an event the presence of an exudate, no matter how small it is, can be proved as projecting from the meteoristic area.

Chills are more frequently observed than in the other varieties, and furthermore the general disturbances of the body are more pronounced from the beginning. The fever is atypical, and might as well be moderate as high. In virulent cases it might be normal in the beginning, and in benign cases at the later period. The pulse is generally accelerated, but need not necessarily exceed 90 at the early stage.

All these manifestations may also subside, and protecting adhesions may form around the burst appendix, which shut off the purulent contents from the abdominal cavity. If these adhesions are firm and solid, pulse and temperature may be entirely normal, because there is no absorption of pus products. Such accumulations may thus exist for a long time, the inconvenience caused by them being so insignificant sometimes that patients thus afflicted may go about for weeks, deplorable witnesses of the curative power of expectant therapy, until either a scalpel or Nature, by perforating through the point of least resistance, shows mercy.

But often the seemingly incorrect manifestations are followed by those of grave sepsis with such rapidity that the fate of the patient may be sealed inside of a few hours.

The appendicitis gangrænosa in its initial stage may begin just the same way as the other varieties, so that, unfortunately, during the first twenty-four or thirty-six hours there is entire ignorance as to the significance of the process. I say unfortunately, because this ignorance generally costs the patient's life.

When the peritoneal sepsis manifests itself by abdominal swelling, when there is constant vomiting, sometimes of a fæcal character, when fæces and urine are retained, the pulse goes up and the temperature down, then, of course, there is no more doubt as to the fatal significance of the case. Then it is generally not long before the face shows the Hippocratic expression, the nose and extremities become cold and clammy, and the compressible pulse points to the intoxication of the heart muscle. The tongue is usually of an intensely red color and sometimes coated. Unquenchable thirst and singultus torment the patient, and in two or three days after the onset of the attack the tragedy ends.

But in the gangrenous form, as well as in the phlegmonous or perforative variety, it need not necessarily come to the physical signs of peritonitis. The abdomen may remain flat, and rapid death may occur through foudroyant sepsis. But only in a small number of cases of this kind does this plexus of symptoms mark itself so early as during the first few hours. Nothing has ever taught me the insufficiency of our diagnostic means so impressively as these terribly rapid cases, in which the clinical symptoms were in no proportion to the pathological changes, for which the surgical operation could do no more than to expose the fatal intra-abdominal lesions.

In honor of the medical fraternity in the native city of the appendix science, be it said here that there is a not inconsiderable number of physicians, increasing every year, who appreciate this gloomy state of affairs to its full extent. Their experience gained in surgical operations for appendicitis has taught them the danger of a delaying policy. They fear bacteria more than they do the scalpel, and consequently they have more confidence in operative interference than in palliative treatment. It happens even not too infrequently nowadays that in the holy ardor for the good cause there is too much good done in this direction, and that surgeons sometimes are called upon to operate when coprostasis only is present, a condition which, of course, readily yields to the most unsurgical treatment. Such hyperactivity need not disturb us. An early operation is illustrated in the following case:

Case V.—A slenderly built girl of twenty-five years, who had suffered from slight attacks twice before during last year, was attacked suddenly in the morning of April 7, 1898, with moderate pain in the right iliac fossa, which later on radiated toward the whole abdomen. The physician, who was called a few hours after the onset of the pain, insisted upon the immediate removal of the appendix. The patient was transferred to St. Mark's Hospital, where the following state was present at 5 P. M. of the same day: The patient shows apparently few signs of disease. There is slight nausea and obstipation. Spontaneous pain of considerable intensity sometimes occurs. The rectal temperature registers 37.8°, and the regular pulse is 92. Inspection of the abdomen reveals nothing abnormal. Palpation states slight indistinct resistance in the appendicular region. The same area is very tender to touch. The patient declines the operation, claiming not to be sick enough. She sits erect in bed, as it is impossible for the nurses to keep her recumbent. This position does not seem to discomfort her as long as there is interval from pain. She threatens to get up, but, impressed by the implorations of her intelligent relatives, she at last consents to the operation, which was performed at 6 P. M., and revealed the following state: The abdominal cavity is entirely normal. The empty cæcum has even a pale-red color. While trying to lift it off, a thin, fibrinous stratum is discovered, which adheres to the posterior cæcal surface on one side and to the peritonæum of the right iliac fossa of the other, thus surrounding the rigidly erected appendix, which has a dark-red, and on some points a grayish-yellow appearance. The thickness, as well as the length, corresponds to the index finger of a man. There are no distinct external signs of perforation, but there is a well-marked fœtid odor of the appendix even before its removal. After being removed, the canal shows a pulpy mass, consisting of pus, necrotic tissue, and blood-corpuscles, filling up its interior. The mucous membrane appears lacerated through ulceration, and a probe pushed against the lacerated points can be seen from without, the great translucency of the appendix wall indicating the cobweblike thinness of the portion of the serosa which still prevented perforation.

The stump was not sewed up in its entirety. After having been dusted with iodoform powder it was surrounded with small strips of iodoform gauze. Three quarters of the abdominal wound were closed. There having been no further symptoms of infection, and the patient complaining of nothing else than hunger, the gauze is removed two days later. The small gape in the abdominal wall is drawn together above a piece of gauze by means of aseptic adhesive-plaster strings. Recovery was uninterrupted.

In view of the high pressure under which the thin and extremely translucent wall of the ulcerated appendix was, it could be fairly assumed that the perforation might have taken place inside of a few hours. So it was the energy of the family physician which prevented the highly virulent contents from flowing into the free abdominal cavity.

I suppose that *a priori* a number of colleagues would have been inclined to blame this family physician because he proposed operating in this early stage. Here we are confronted with the most delicate and important point of the appendicitis question. On this obscure point, the uncertainty of the diagnosis in reference to the stage and the toxic potency of the inflammatory process, hinge all the bitter controversies as to therapy; which show an increasing rather than decreasing harshness in condemning the early operation. On the basis of my own comparative clinical anatomical experience, I am forced to assume that in about half of the cases the clinical picture of appendicitis is not so well marked that any decisive conclusion can be drawn as to the status of the pathological change. That we should reach such perfection of diagnosis is most desirable, but cruel experience teaches that we have not attained it. The surgeon who, before opening the abdominal cavity, will try to picture to himself its true condition, and who afterward has a chance to compare his imagined picture with the facts, must agree with me in this confession of ignorance.

Now the surgeon at last is compelled, in observing the return of cases insufficiently judged before operation, to the conviction that from the presence of apparently mild symptoms a decisive conclusion as to the relative innocence of the inflammation can hardly ever be drawn during the first twenty-four hours. On the surgeon the conviction is forced that in every case of appendicitis there must be an infection, and that if the infecting material has not trespassed beyond the appendix, yet it may do so at any moment. And after it has done so the power of the knife is limited. The following, being one among many, is a typical case of this kind:

Case VI.—A very strong laborer thirty-six years of age suddenly noticed at 6 A. M. on January 12, 1898, in getting up, a pain in the umbilical region, which radiated toward the right iliac fossa in the course of the afternoon. The patient had always been well before, particularly so the previous evening. During the night he had slept well as usual. It was only in the afternoon of the day he was attacked that he felt unable to work. During the night, from the 12th to the 13th, he had a sensation of augmented discomfort and intermittent colicky attacks of moderate intensity. On January 13th, at 4 P. M., a physician was called in, who, in view of finding a nearly normal pulse and temperature, felt justified in diagnosticating indigestion. To the administration of opium and pepsin the pain yielded promptly. On the morning of January 14th suddenly intense vomiting and distention of the abdomen set in, and only then was the suspicion of appendicitis entertained. After a consultation the patient was transferred to St. Mark's Hospital late in the afternoon of January 14th. It had not been intended to operate on the patient on the same day. Merely by accident I had a chance to see this patient shortly after his arrival. The state present at that time was the following: A very strong man, an expression of suffering, vomiting moderately often; temperature, 37.4°; pulse, 112. Abdomen distended and painful to touch. The presence of meteorism prevented palpation of either tumefaction or resistance, but the distinct dullness, emanating well defined from the tympanitic area, pointed to the presence of an exudate. I advised immediate operation. After washing out the stomach and administering a hypodermic saline infusion the abdomen was opened in the ileo-cæcal region by an extensive oblique incision. At once there sprang forth several dark-red loops of the ileum, which were covered with flocks of fibrin and cohered loosely by fibrinous membranes. On slight touch the intestine bled. Sero-pus of fœtid odor pours forth between the loops. After having pulled forward the intestine, which was flooded with hot salt water, while fibrinous flocks were wiped off by means of sterile-gauze mops, the adhesions were severed. Then the intestine was protected with hot compresses. The cæcum, in order to search for the appendix, is drawn out widely, and a small focus, containing about one tablespoonful of grayish-yellow stinking pus, is evacuated from the cavity to the right of the lumbar vertebral column. Now the greenish-black appendix, transversely situated toward the iliac bone, is recognized. Up to its cæcal junction it is smashed with the branches of a forceps, so that ligation of it is out of question. So it is carefully removed, and the vicinity packed with iodoform gauze, after another careful revision of the cæcum, done under permanent hot irrigation. Anæsthesia, administered after Schleich No. 1, was excellent. Great improvement followed the operation. Pulse even, of good quality, till the following morning showed the well-marked picture of peritoneal sepsis. Fatal termination on the same evening.

Could this patient have been saved? Probably, provided he could have been submitted to operation on January 12th, because on the 14th it was far too late, as the condition at the operation showed. But on the 12th the patient did not yet feel obliged to send for a physician. And on the 14th, half an hour before the opening of the abdomen, which revealed so grave an anatomical condition, several colleagues were undetermined whether the indication for an operation was yet present. In view of this anatomical condition it can be fairly assumed that gangrene and peritoneal infection had been developed as early as January 13th.

The question arises now: Is the first physician to be blamed? I say, No. It is by no means necessary that a gangrenous process should manifest itself by well-marked clinical symptoms at its beginning. Why should it? Until the death of the cells is completed twelve or twenty-four hours may elapse, and even after necrosis of the cells is complete it is not at all safe to assume that the toxic elements absorbed by the lymph channels should at once make themselves conspicuous in well-marked clinical manifestations. Thus it can be seen that from the surface we can not know the gloomy mole work that culminates in the infection of the peritonæum. *Vice versa*, there is no conclusion to be drawn from slight clinical manifestations as to the presence of an innocent simple form of appendicitis, when we could safely wait until the rise of temperature and other aggravations of the symptoms would indicate that a stage of higher virulence has come now. How beautiful, if such were the real facts! But it is an utter fallacy. Then it is true that the carrier of the infection can be removed, but the infection of the abdominal cavity itself can not be undone. To expect that after the elimination of the septic appendix the septic peritonitis should also cease to exist, would be like the wounded warrior, who, after the bullet is extracted, is triumphant, and cares nothing for the shot canal, nor for the tissue destruction caused by the bullet.

In some cases the comparison with panaritium, where the patient, besides his pain, does not necessarily feel any general disturbance, can not be helped.

For this diagnostic deficiency not the medical man but medical science is responsible. No man can give more than he has. But it can be demanded that the internists should give more attention to the knowledge gained by the surgeons during their autopsies *in vivo.* It is not the technique of the surgeon which I have in view. No, it is the experienced surgical observer, who watches the appendix in all its ways and doings so much more closely, who sees it in all its different forms and stages, who touches and inspects it intra-abdominally. The same standpoint would then force itself upon many internes, and they would cease to hold that "appendicitis in general is a light disease, the treatment of which consists in ice and opium. If exceptionally peritoneal manifestations should present, operative treatment might be considered." I do not have in view those colleagues who disavow the surgeon *à tout prix,* and who extol themselves with a smile of superiority that they have cured all their cases of appendicitis by their nihilistic *modus operandi.* But how many such cases terminate fatally without being diagnosticated properly! What would these antisurgeons say if in all these cases they had been cited before the pitiless autopsy forum?

No, I have in view those unprejudiced colleagues who collect notable experience from sufficient clinical material. There can be no question that such colleagues see a not inconsiderable number of cases of appendicitis recover. The statistics on such recoveries are simply overwhelming, and in some clinics even the enormous percentage of ninety is spoken of.

If, however, those so-called recoveries are closely analyzed, it will be found that most of these patients who overcame simple appendicitis were not observed any further. But it can well be assumed that the appendix in all those "cured" cases had undergone pathological changes, which sooner or later caused a second or third attack. Then such a case might figure in the statistics as a case "which was cured three different times." Or the patient might have succumbed to the second attack just as well.

Sonnenburg alone observed recurrence of the inflammatory process thirty-two times in fifty-one cases, which gives a percentage of sixty-three.

It seems to me that in patients who report a first, well-overcome attack, the physician is particularly ready to resort to the expectant treatment. It is only when a grave toxæmic picture develops that in his anxiety he may at last advise an operation as an ultimate resort. But then it is much too late, and the operation being unsuccessful, the internist believes he has added further proof to the theory that operative interference in appendicitis is a fraud.

The surgeon, of course, will hold altogether differently, and very properly makes the procrastinator responsible for the fatal outcome. But this case now swells the surgical list of casualties and the internist goes out unconcerned, while virtually the mortality number of this case belongs to his account. There is to be considered furthermore the large number of patients, occupying the wards of hospitals, who are admitted under the vague diagnosis of peritonitis, internal obstruction, etc. How often would appendicitis be demonstrated if an autopsy were always performed! If such cases terminate fatally under internal treatment they will not be credited to the appendicitis list of casualties. And if such desperate cases drift into the hands of a surgeon, who, adhering to the principle that such patients have nothing to lose and everything to gain, run the great risk of an operation, there will naturally be a very small number of recoveries. So all the surgeon could do was to swell the mortality account of appendicitis by his diagnosis, which was defined at, or rather by the operation. Suppose such a patient had died without being subjected to operation; the diagnosis of appendicitis would probably not have been made at all. It is a fact greatly to be deplored that in this country the permission of an autopsy is granted but exceptionally by the relatives of the deceased. Thus it appears no more than natural that the case should be put in the column of peritonitis instead of burdening internal medicine as a fatal case of appendicitis.

To refer to Case VI, in opening the peritonæum the conviction could not be suppressed that there was no hope. Up to that date I did not see a single case recover in which the presence of serum of foul odor was noted in connection with the absence of protecting adhesions. Thus I am inclined to regard such occurrences as a kind of criterion for further revelations in the peritoneal cavity. It seems to me as if there is a particularly high virulence, which manifests itself partially by this macroscopical state.

Were aspiration undertaken in such a case, it might be that before operating a conclusion might be drawn from the aspirated serum to the extreme gravity of the case. But such cases take such a rapid course that there is no time for bacteriological investigation. Still, conclusions should be drawn from the direct macroscopical state as to the dignity of the toxon. There is only one drawback against aspiration—namely, the possibility of further inoculation with the tip of the needle, which should not be underestimated, as it can not at all be compared with the aspiration of an empyema or similar condition. An exploratory incision in the appendicular region is much less apt to spread infection than aspiration.

Regarding further dates and reports, considering the difficulties to find an adequate clinical expression for the grave anatomical lesions, I refer to my previous publications on this subject—viz., On Some Difficulties in Reference to the Early Surgical Treatment of Appendicitis.* I may be permitted to add that the experience gained since these articles were published has only corroborated my views about the unreliability of the symptoms.

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* *Journal of the American Medical Association,* December 28, 1895, and Zur Therapie, insbesondere dem Werthe der Frühoperation bei der Entzündung des Processus vermiformis, *Berliner klinische Wochenschrift,* 1896, Nos. 37 and 38.

(*To be continued.*)

A CASE OF EXTENSIVE FRACTURE OF THE ARM AND FOREARM,

COMPLICATED BY DISLOCATION OF THE SHOULDER ON THE SAME SIDE.

By E. D. SMITH, M. D.,
CHICAGO.

Twenty-three days since I was called to see a son of Mr. L. I found him suffering from a peculiar fracture of the left arm and forearm, complicated by dislocation of the shoulder on the same side. He had fallen several feet from one roof to another, and from this to a second. The left shoulder was dislocated, the humerus fractured an inch and a half below the superior articular surface, two inches above the inferior articular surface, the lower fragment comminuted, and the radius fractured an inch and a quarter from its superior articular surface. All of the fractures were nearly transverse, but the upper fragment of the humerus was much displaced, the lower fragment fractured nearly in the centre, and the two parts widely separated, while the two parts of the radius were but slightly displaced.

My first step was to reduce the dislocation. In this I was favored by the partial impaction of the upper fracture. By seizing the arm at the point of superior fracture and making firm pressure over the joint I succeeded in reducing the dislocation. But this same impaction made the reduction of the upper fracture very difficult. Strong traction and firm pressure accomplished this, but the apposition was not perfect, though the deformity remaining is but slight. The lower fragments of the humerus I succeeded in getting into very good apposition, and retaining them so, still there remained some widening at the articular surface. The radius, being little displaced and not impacted, was easily reduced.

I dressed the shoulder and upper fragment by making a shoulder cap of wet pasteboard and then using a plaster bandage, passing my plaster over the point of the shoulder and under the opposite axilla. The elbow I dressed in the position of nearly a right angle, supporting it by a mold of wet pasteboard and incasing with plaster, letting the two overlap, so as to make a continuous cast. The whole was carefully covered with cotton and a roller bandage of muslin applied before using the pasteboard and plaster. As soon as the plaster was thoroughly dry I removed it, passing it around the body, cutting it on both sides about four inches from the point of the shoulder. Then over all I put a retaining roller bandage of muslin.

The second day I split the cast throughout its entire length, so that there should be no undue pressure at any point, and replaced the roller bandage.

On the nineteenth day I began passive movement. To-day, the twenty-third day since the accident, the union is firm, the motion of the shoulder normal, the rotation of the forearm unimpaired, and the limit in extension of the forearm is not decreased from normal more than ten degrees. This will entirely disappear in a short time. The deformity is scarcely noticeable at any point. The boy does not and has not suffered pain since the fourth day.

For several days after the accident the swelling was so great in the hand and forearm as to give me great anxiety as to the life of the limb. This was not caused by pressure from the dressing, but was due to the great injury of the soft parts and the consequent exudation. At one time the radial artery could scarcely be detected at the wrist. I had opened the cast and relieved any possible point of pressure on the second day, and within sixteen hours after the fracture and before the swelling had become excessive. In fact, I feared for the life of the limb even before dressing it, and so informed the parents.

My reason for reporting the case is that to me it possesses great interest because of the extent of the injury to the soft tissues and the number of the fractures. I have seen a great number of fractures of the arm and forearm, but this is by far the most severe one I have ever dressed, and it occurred to me that a report of it might be of interest to many busy practitioners of medicine who find it convenient to care for surgical cases.

306 Division Street.

COMPARISON OF THE ERECTILE TISSUE IN THE NASAL MUCOUS MEMBRANES OF A BULL AND A BULLOCK.*

By JONATHAN WRIGHT, M. D.

Much has been written by many observers as to the direct physiological connection between the action of the erectile tissue in the nose and sexual excitement.

The works of McKenzie † and of Fliess ‡ may be referred to for a full account of the clinical manifestations of this connection. It occurred to me that castration in young animals might be shown to have an influence in the development of the nasal erectile tissue. After the examination of the nasal chambers of many animals of different species by inspection and microscopic section, the details of which work it would be uninteresting to publish here, I take the liberty of drawing your attention to the phenomena to be observed in the bovine race. The erectile tissue in these animals is nearly all situated on the sæptum at its posterior half. The walls of the cavernous sinuses are excessively muscular. I succeeded in procuring the heads of a bull and a bullock of approximately the same age. The difference in the extent and thickness of the erectile tissue in the two individuals is striking. Selecting the thickest portion of the tissue in each instance, after hardening and imbedding in celloidin, I made sections perpendicular to the surface. These were stained, and the photographs here reproduced show the difference in the castrated and the noncastrated animal. The figures represent the nonmagnified sections in each case. I do not desire to elaborate the subject at present, or to draw any conclusions, since this observation is only meant to fill a hiatus which, so far as I have been able to observe, has hitherto existed in the numerous works upon the subject.

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* Read before the American Laryngological Association at its twentieth annual congress.

† John N. McKenzie. *American Journal of the Medical Sciences*, July, 1883; *Johns Hopkins Hospital Bulletin*, No. 82, January, 1898; *Journal of Laryngology*, March, 1898, *et al.*

‡ Fliess. *Die Beziehung zwischen Nase und weiblichen Geschlechtsorganen*, Leipzig und Wien, 1897.

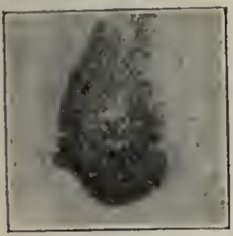

Fig. 1.—Section through the erectile tissue of a bull's nasal mucous membrane at its thickest portion (natural size).

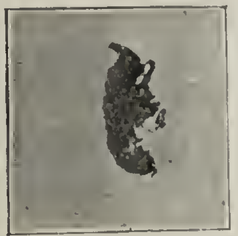

Fig. 2.—Section through the erectile tissue of a bullock's nasal mucous membrane at its thickest portion (natural size).

A CONTRIBUTION TO THE
TREATMENT OF COCAINE POISONING.

By EDWARD F. BRENNAN, M. D.

Mr. B., a man suffering from a urethral stricture, entered the hospital for treatment. After examination it was decided to perform an internal urethrotomy.

The canal was acutely sensitive; learning from previous examination that the use of a four-per-cent. solution of hydrochloride of cocaine did not seem to lessen it, I decided to use a ten-per-cent. solution of cocaine.

The patient was placed on the operating table and the urethra cocainized with two drachms of a ten-per-cent. solution, which was allowed to remain in the canal for three minutes and then milked out.

The steel urethral sounds were then passed with great manifestation of pain.

In fifteen minutes after cocainizing, the patient began to manifest symptoms of dysphagia, marked swelling and cyanosis of the face, neck, and extremities, dilatation of pupils (marked), inability to breathe unless the tongue was held protruded with tongue forceps, respirations spasmodic, loss of articulation, and extreme nervousness, but no loss of consciousness.

The patient was then treated as a case of cocaine poisoning as follows:

March 12th, 11 A. M.—Gave patient half a grain of sulphate of morphine and a thirtieth of a grain of sulphate of strychnine hypodermically; drew out patient's tongue with forceps, encouraged him to breathe deeply; respiration restored in a minute; patient catheterized, four ounces of pale urine drawn off; difficulty in deglutition and articulation still continues.

1 P. M.—Patient had a severe attack of dysphagia and pharyngeal paralysis.

Morphine sulphate, a sixth of a grain hypodermically; aromatic spirits of ammonia, two drachms, given internally, which was sipped and swallowed with difficulty.

2 P. M.—Gave aromatic spirits of ammonia, one drachm, swallowed freely; power of articulation restored. Patient asked permission to walk from operating room to his bed in the hospital ward, a distance of twenty feet: it was accomplished with a staggering gait. He was immediately put to bed.

3 P. M.—Patient had another attack. Gave morphine sulphate, a sixth of a grain, and strychnine sulphate, a sixtieth of a grain, hypodermically; patient resting quietly in five minutes.

5 P. M.—Morphine sulphate, a sixth of a grain, hypodermically, and aromatic spirits of ammonia, one drachm, internally; patient resting quietly.

7 P. M.—Patient had a very severe attack of pharyngeal paralysis, with dysphagia, marked difficulty in breathing, was deeply cyanosed, with cold and clammy skin.

Gave morphine sulphate, half a grain, hypodermically. Applied hot-water bags to the feet; catheterized.

10 P. M.—Morphine sulphate, a third of a grain; aromatic spirits of ammonia, one drachm, internally.

13th, 1 A. M.—Patient had another slight attack. Morphine sulphate, a third of a grain, hypodermically; aromatic spirits of ammonia, one drachm, internally.

4.30 A. M.—Another slight attack; complained of feeling cold; applied hot-water bags to feet. Morphine sulphate, a fourth of a grain, hypodermically; aromatic spirits of ammonia, one drachm, internally.

8 A. M.—Patient had a severe attack, in which he complained of a constricted feeling in frontal region of brain, with severe vertigo.

Gave morphine sulphate, half a grain, hypodermically; seized tongue with forceps and gently drew it out of mouth, which gave patient great relief; then gave aromatic spirits of ammonia, a drachm, internally. Patient still felt constricted feeling in the brain.

10 A. M.—Morphine sulphate, a quarter of a grain; aromatic spirits of ammonia, a drachm, internally.

2 P. M.—Patient complained of severe constricted feeling in frontal region, with vertigo and cyanosis.

Glonoin, a fiftieth of a grain, hypodermically, which gave considerable relief.

4 P. M.—Attack of laryngeal paralysis, vomiting, and feeble heart action.

Gave morphine sulphate, a third of a grain; glonoin, a hundredth of a grain, hypodermically.

5.30 P. M.—Glonoin, a hundredth of a grain, hypodermically; attacks less severe.

7 P. M.—Patient had slight attack of vertigo and dysphagia, with sense of chilliness. Hot-water bags applied to feet, and glonoin, a hundredth of a grain, hypodermically.

11 P. M.—Patient resting quietly. Morphine sulphate, an eighth of a grain; glonoin, a hundredth of a grain, internally.

14th, 3 A. M.—Morphine sulphate, an eighth of a grain; glonoin, a hundredth of a grain, internally.

10 A. M.—Patient had slight attack. Gave morphine sulphate, a quarter of a grain; glonoin, a hundredth of a grain, hypodermically; patient rested until 4 P. M.

4 P. M.—Patient had a severe attack, with labored respiration and dysphagia, which, I believe, was partly hysterical. Drew out tongue and gave morphine sulphate, an eighth of a grain, internally.

6.30 P. M.—Morphine sulphate, a sixth of a grain; glonoin, a hundredth of a grain, internally.

8 P. M.—Patient had a severe attack while sleeping; drew patient's tongue out. Morphine sulphate, a sixth of a grain, aromatic spirits of ammonia, one drachm, internally.

10 P. M.—Morphine sulphate, a sixth of a grain, internally.

12 P. M.—While watching patient asleep he would have slight attacks of spasmodic contractions of the pharyngeal muscles.

After-treatment consisted of chloral hydrate, five grains; glonoin, a hundredth of a grain, every three hours for twenty-four hours, after which patient manifested no further symptoms and recovered completely.

From the treatment of this case it would appear that morphine is the physiological antidote, and agrees most thoroughly as an extreme opposite in physiological action upon the organs involved in poisoning from the drug.

PHYSIOLOGICAL ACTION.

MORPHINE.	COCAINE.
Pupil contracted.	Pupil dilated.
Nervous System and Cerebrum.—Stimulates higher faculties, followed by calm and sleep.	Increases bodily and mental power and lessens fatigue; causes excitation of nervous system.
Respiration.—Becomes slower and fuller.	Acts upon the respiratory centre in poisonous doses; causes rapidity of respiration, which finally becomes feeble and ends in asphyxia.
Circulation.—Small doses do not affect the pulse, but larger doses cause it to become slow and full.	Increases strength and frequency of pulse, which continues to beat after respiration has ceased.
Spinal Cord.—Stimulates, but finally depresses, motor tracts and reflex centre.	Stimulates motor tracts and reflex centres.

261 ALEXANDER AVENUE.

PRACTICAL POINTS IN THE ADMINISTRATION OF CHLOROFORM AND ETHER.

By J. BENNETT MORRISON, M. D.,

NEWARK, N. J.

THIS paper is written expressly for the benefit of hospital internes. I lay little claim to originality in the subject matter. Most of the observations have been made over and over again. It has been my endeavor to present them in as concise and pithy a form as possible: to put in the hands of the young, inexperienced interne in one compact article what he will have to toil through chapters and books on the subject to glean for himself; to give him as briefly as possible the experience of others; to show him what to do and what to avoid.

The paper is purposely stripped of theory and discussion, and the references are brief. The beginner may read chapter after chapter of these at his leisure; but in the anæsthesia room, where moments are golden, he wants facts, points, boiled down, crystallized, and in such order that he can recall them with the rapidity of lightning.

In this subject, where observations overlap, dovetail into one another, and are bound together by as many bonds as are represented in a graphic formula, it is difficult to arrange topics, to be concise, and avoid repetition.

I have endeavored, however, under the following fifteen heads, to give all the instruction necessary in as brief a manner as possible:

1. Preparation of anæsthetist.
2. Preparation of patient (in anæsthesia room only).
3. Physical examination.
4. Stages of anæsthesia.
5. Reflexes.
6. Choice of anæsthesia.
7. General observations on ether administration.
8. General observations on chloroform administration.
9. Substitution of chloroform for ether, and *vice versa*.
10. Heart action and pulse.
11. Respiration.
12. Stimulation.
13. Accidents.
14. Relation of anæsthetist to operator.
15. Concluding remarks.

1. *Preparation of Anæsthetist.*—If the operation is on the arm, neck, face, or brain, have some one else start the anæsthesia while you scrub up and put on a sterilized gown. Then, after the field of operation has been prepared, take charge of the anæsthesia with a sterilized mask or a cone covered with a sterilized towel.

Have towels at hand. In a roomy pocket of your gown, or other convenient place, have a screw gag, a Coleman's gag, a tongue forceps, and a moist soft sponge on a long holder. Have ready several hypodermic needles and solutions of strychnine, atropine, morphine, digitalis, strophanthus, aqua ammoniæ, amyl nitrite, nitroglycerin, and whisky.

Every well-equipped operating room will be provided with an oxygen reservoir, an electric battery, and an O'Dwyer artificial respiration apparatus.

2. *Preparation of the Patient.*—We will assume that he is thoroughly prepared for operation and for anæsthesia. Tell him how the anæsthesia will affect him; let him hold the mask or cone himself for a few moments if necessary. Talk in a low, quiet, but impressive tone, and gain his confidence if possible. See that all clothing about the neck, chest, and abdomen is loosened or removed, so that nothing may interfere with your view of the respiratory movements. If the field of operation has been prepared, or if any dressing is bound on the neck, chest, sides, or abdomen, have bandages cut and loosen the dressing. There must be no constriction of any kind. For any operation on a woman, and for those on men about the face, neck, arms, chest, or abdomen, see that the hair is properly concealed by covering the head with a cap or hood made by pinning on a loose, moist towel.

As to the use of morphine hypodermically before anæsthesia, be guided by the operator's preference.

Have the room quiet; if necessary, insisting that no one else but yourself and the nurse or assistant remains with the patient. Talking or any noise is particularly distressing to one just going under an anæsthetic.

3. *Physical Examination.*—Examine the heart and lungs yourself—take no one else's word for their condition, not even the operator's. Make this a cardinal rule. Feel the pulse at both radials and at the place where you will probably have to watch it during the operation.

Examine the abdomen for hernia and the joints for ankylosis. An ankylosed elbow, unnoticed, may cause you to believe patient is not relaxed, and the anæsthesia will be pushed too far.

Ask about false teeth, and in women look for yourself after they begin to "go under." If she is a private patient, and you find them after she has denied the fact, have them removed in a towel and replaced by the nurse just before the patient regains consciousness.

Examine the eyes. Always be on the lookout for an artificial one. I once knew a doctor to spend several minutes over one with an ophthalmoscope.

Note the degree of dilatation and the shape and regularity of the pupils.

Inquire as to rhinitis and bronchitis, and as to whether the patient has had an anæsthetic before.

Know the contents of the urine.

4. *Stages of Anæsthesia.*—Four are usually described.

(*a*) Stage of stimulation: Small doses of ether or chloroform act like alcoholic stimulation, producing a sense of well-being and freedom from pain. It is to this degree that we narcotize for spasm, convulsions, biliary, renal, and intestinal colic. This stage rapidly passes into—

(*b*) The stage of excitement: Sensibility is now impaired, while reflex action continues. There is frequently a form of delirium, which may be mild or violent, and the excitement may be intense. In strong, robust people and in alcoholics, the action may be very violent, requiring several assistants to keep the patient on the table. The muscles are set and rigid, the face is livid, the veins are turgid, the eyeballs protrude, and perspiration is profuse. The respirations are rapid and the pulse is greatly increased in force, frequency, and tension. Excitement and struggling quickly subside, and the patient passes into—

(*c*) The stage of surgical anæsthesia: Here all the reflexes, except those of the involuntary muscles, become abolished. The muscles are relaxed, the body is limp. The respirations become slower and fuller, and the pulse diminishes in force and frequency. By watching the reflexes described under the next heading, and by administering just enough anæsthetic to keep them barely abolished, a patient may be kept in this stage for hours. If the anæsthesia is carried still further we have—

(*d*) The stage of paralysis: Here, according to whether ether or chloroform is being administered, the face is deeply cyanotic, with the veins distended, or is suddenly blanched. The respirations are slow, sighing, and shallow, and finally cease. The pulse is rapid, feeble, and fluttering, finally ceasing, or stopping suddenly without warning. The pupils are widely dilated. The motility of the iris has disappeared. Unless prompt means of resuscitation are resorted to, death rapidly ensues.

5. *Reflexes.*—Teach yourself to use the palpebral reflex elicited by gently brushing the lashes of the upper lid. This is practically as good a guide as the conjunctival or corneal reflex. Both the latter should be avoided, and the odium of a subsequent conjunctivitis or corneal ulceration will not be cast upon you.

Muscular relaxation may be tested from time to time by raising the forearm. The buccal paralysis, however, and the subsequent puffing expiration, indicate that the patient is becoming narcotized. A little later, snoring and stertorous breathing indicate the faucial and pharyngeal paralysis, and the stage of surgical anæsthesia is reached.

The masseter muscles are the last to relax, and during anæsthesia a patient regaining control of the jaw is coming out from under the influence. It will sometimes happen in cases of suppurative appendicitis, intestinal obstruction, or general peritonitis that your patient will be profoundly anæsthetized, even to the danger line, and the abdominal muscles still remain unrelaxed. This will be especially marked in cases where the preliminary injection of morphine has been omitted. Remember that the rectal and vaginal reflexes are among the last to disappear, and that for operations in these regions anæsthesia must be profound.

You have noted the state of the pupils before beginning the anæsthesia. They may be pretty widely dilated from fear. Under chloroform they will contract, and should remain contracted, while it is being administered in *safe* and *efficient* quantities. They will dilate gradually if the patient is allowed to recover somewhat. The respirations will increase in rapidity at the same time. The pupils will dilate suddenly before the onset of vomiting, and suddenly and widely when chloroform is pushed to the stage of paralysis. Under ether the pupils will contract at first, and then become and remain moderately dilated during surgical anæsthesia. The light reflex should always be present.

The safest eye reflex, and one that I have never seen described, is that of the delicately oscillating edge of the iris. This is independent of the light reflex. You may always push the anæsthesia with safety while it remains, no matter what other reflexes have been abolished. When the danger line is approached this disappears, the iris margin shows no motility, and if anæsthesia is now pushed the pupils become widely dilated, and syncope ensues.

While testing the palpebral reflex from time to time, close the lids over the cornea so as to keep it moist.

There is one other reflex that the beginner must be warned about. Occasionally in anæsthetizing a nervous, hysterical woman, all the reflexes will disappear except those of the fingers. These will keep up a movement allied to athetosis. Thinking the patient is reacting, if you judge by this alone, you will push the anæsthesia, until suddenly the pulse becomes imperceptible or the respirations are embarrassed, and that reflex is still unabolished. I have seen this on three occasions, and each time artificial respiration and free stimulation had to be resorted to.

6. *Choice of Anæsthesia.*—Chloroform is given in preference to ether, where free circulation of dry, warm air can be had—

In renal diseases.

In all pulmonary troubles.

In aneurysm and atheroma of vessels.

In cases of marked abdominal distention.

In operations by gaslight.

In cases of severe pain.

In obstetrical cases.

In cranial operations.

In laryngeal operations.

In operations on the eye, and about the face and oral cavity.

In abdominal operations.

In operations on weak and sickly persons.

In children and old people.

In cases where expedition is of the greatest moment.

In emergency cases when food has been taken within a few hours.

In persons known to bear ether badly.

When a number of patients are to be operated upon.

Where the anæsthetist is skilled.

Cardiac lesions do not contraindicate it unless compensation is disturbed.

Ether is given in preference to chloroform—

In cases of extreme prostration.

In collapse, especially that following loss of blood.

In profoundly anæmic cases.

In chronic alcoholism.

In cases of fright and extreme nervousness.

In rectal surgery, where anæsthesia must be profound.

In the presence of cardiac lesions, where danger of any anæsthesia is enhanced, ether is usually preferred.

Where the anæsthetist is unskilled.

7. *General Observations on Ether Administration.*—See that the cone is clean and in working order. Be sure that the ether has not been exposed to light or the possibility of evaporation. Pour three or four drachms of ether into the cone, distributing it as equally as possible. Hold the cone a few inches from the face, removing it a little if the patient coughs or objects. Keep a finger on the radial, facial, or temporal artery. Encourage your patient to breathe and to expectorate mucus while he is conscious; if he swallows it impregnated with ether, it will induce vomiting. When he begins to tolerate the anæsthetic, add more to the cone and bring it closer to the face, and as soon as possible crowd it down well so as to exclude all air, remembering that with ether the more perfect the exclusion of air the quicker narcosis is produced. If coughing occurs, allow more air until the reflex is controlled.

After the patient is narcotized, remove the mask about every tenth respiration and allow a few inhalations of pure air. Use plenty of ether—that is, do not be alarmed if four ounces are used in getting the patient under. Some cases will need more. Once narcosis is established, very little suffices to keep it up.

Keep the mouth and throat free from the excessive amount of mucus and saliva secreted under ether.

During the stage of excitement follow the patient in his efforts to get away from the cone, and keep it applied to his face. No matter how violent the struggling, there is little or no danger at this time. The struggling is best controlled by assistants holding down the shoulders and knees, or by raising the shoulders and lower limbs from the table to remove fulcrum points. Be careful how restraint is exercised, for limbs have been fractured and paralysis has been produced on the etherizing table.

The care of the respiration and pulse, the management of the head and tongue, vomiting, and accidents incident to both ether and chloroform, will be described under their separate headings.

See that there is no undue exposure of any part of the surface of the body. The lowering of temperature and the profuse perspiration induced by ether render the patient very susceptible to cold.

To anæsthetize a patient with ether will consume from eight to fifteen minutes. The amount of ether used will vary from two to six ounces.

8. *General Observations on Chloroform Administration.*—Use a mask, preferably Esmarch's. Do not use a towel or napkin or cone unless in emergency cases where a mask is not at hand. It is impossible to get the same uniform diffusion with any of these articles that the mask affords. If the patient expectorates or vomits into the mask have a fresh cover put on.

See that the mask is freshly covered, and that vaseline has been smeared about the nose, cheeks, and chin to prevent burning.

Be sure the chloroform is pure and has not been evaporating.

Have the air in the room dry; depression will always occur in a close, moist atmosphere. Never attempt to give chloroform, unless in case of emergency, without a proper dropper. Several of these have been devised. The best is a glass-stoppered bottle, with a groove on each side of the stopper to admit air and allow chloroform to escape. The neck of the bottle is provided with a lip, or there is a T-shaped projection from the glass stopper to facilitate dropping. Drop slowly at first—and slowly means a drop every two seconds or so. Distribute the drops over the surface of the mask so as to insure diffusion. Hold the mask a little distance from the face at first, and then, as anæsthesia becomes more tolerated, bring it closer and increase the number of drops to about one a second, and a little later two a second. This is about as rapidly as chloroform should be given.

Do not pour on ten or fifteen drops or an indefinite quantity, and wait until the mask is dry before applying more. Nothing can be more dangerous. You can not keep up a uniform diffusion, and trouble may arise from concentration of the vapor at any moment.

It has been estimated that about sixty per cent. of deaths from chloroform have occurred during the first few moments of the administration, before the patients were under the influence. Numerous cases of cardiac or respiratory failure have been recorded after *a fresh supply of chloroform was poured on the mask or towel;* and there can be little doubt that the condition was produced by the concentration of the vapor.

Later on in the anæsthesia the danger frequently arises from want of chloroform. This will be referred to shortly.

If you are going to give chloroform successfully, you must learn to keep your patient's head just "above the water," so to speak. So long as you allow him to rise and then push him under again, now up, now down, so long is he in imminent danger. After he is once under, except in very rare cases, if he recovers so that in the hurry to get him relaxed again you have to pour on twenty drops, or soak the mask, the fault is yours, not the patient's, and the subsequent danger that may arise is to be charged to your negligence, not to the chloroform.

This can only be avoided by the closest watch over his reflexes, by the proper interpretation of all the indications, and by the uniform administration of the chloroform. The nearer you approach to having a drop, drop, drop on the mask, no matter how infrequent, so long as it is uniform, the nearer you approach an ideal chloroform narcosis.

If the patient struggles, chokes, or gasps while going under, remove the mask until he is quiet again. The danger here is referred to under Pulse.

That a patient under chloroform to the surgical degree should not be allowed to react is shown by the following quotation from Brunton. See that he is perfectly relaxed, that the palpebral, buccal, and masseter reflexes are abolished and the pupils contracted, before any incision is made. Trust no one reflex, see that all are abolished. With chloroform they are not all abolished at once, and herein lies the danger.

Brunton says: "Sudden stoppage of the heart is usually ascribed to the chloroform, and, no doubt, concentrated vapor inhaled into the lungs may arrest the heart. Very commonly, though, it is reflex, and when death occurs in such a case it is due to the want of chloroform, not its excess. In the greater number of cases recorded as deaths from chloroform, the statement is made that the quantity used was very small and the anæsthesia incomplete; that these operations, though trivial, were dangerous under imperfect anæsthesia, and not at all dangerous when either no anæsthesia was used, or when narcosis was complete. The reason of this is probably that, when *no* anæsthesia was given, irritation of sensory nerves during operation caused two effects—slowing or stoppage of the heart and reflex contraction of the vessels. This contraction of vessels neutralizes cardiac weakness, maintains blood pressure, and thus prevents syncope. During *imperfect* chloroform anæsthesia the reflex effect on the vessels is destroyed, while the effect on the heart persists, so that irritation of a sensory nerve now may produce syncope by stopping the supply of arterial blood from the heart—in its weakened state it will not pump enough into the arteries—while the blood still flows rapidly into the dilated capillaries and veins." As Hare says: "The man is suddenly bled into his own veins and capillaries as effectively as into a bowl."

If the anæsthesia had been profound enough to abolish all the reflexes except those of the iris—in other words, had the overcautious anæsthetists used enough chloroform, instead of too little—many of the deaths would not have occurred.

A chloroform anæsthesia to the surgical degree will consume from about four to eight minutes, and the amount of chloroform used will be anywhere from half a drachm to four drachms or more.

9. When a patient is doing badly under ether or chloroform, and you think his condition would be better if the anæsthetic were changed, ask permission to change it.

Substitute chloroform for ether—

In persistent and excessive coughing during the first stages where, on this account, enough ether can not be given to abolish the reflex.

In excessive snoring from partial occlusion of the nares or hypertrophied tonsils, when ether seems to cause an increased congestion and swelling.

In those cases of bad narcosis where the patient evidently can not be got under the influence to the surgical degree, where straining, retching, and vomiting occur if the ether is diminished, and cyanosis and embarrassed respiration if it is pushed.

In abdominal operations, where trouble arises from continued straining and coughing.

In cases of loss of time from delay with ether.

Ether may be substituted for chloroform—

Where the face blanching frequently, and the pulse becoming rapid, 130 to 150, and weak, show that chloroform is affecting the heart and vessels. Often the mere substitution of ether and the stimulation it affords the heart will do away with the untoward symptoms.

When feeble, shallow respirations, with slight cyanosis, persist, while the heart may or may not be affected. On the removal of the mask the symptoms disappear, but again recur when chloroform is continued.

In cases requiring profound anæsthesia where, upon pushing chloroform, symptoms of collapse occur.

In spasm of the glottis under chloroform.

It will be noticed that chloroform is substituted for ether usually as a matter of convenience or expediency, while ether is substituted for chloroform as a matter of safety.

10. *Heart Action and Pulse.*—Always keep a finger somewhere on the pulse—the radial, if possible, or the facial, the temporal, or the carotid in the neck.

Never trust it to any one else. The operator may request some one to watch it, but that does not relieve you. You are in constant need of the information it conveys.

During the first stage of the anæsthesia the pulse will slow a little, but this soon gives place to an increased force and frequency as the stage of excitement is approached. This acceleration will continue until the stage of surgical anæsthesia is reached, when it will again become slower and more steady.

This is true for both ether and chloroform. At the beginning of anæsthesia, however, the pulse may be quite rapid, as a result of fear. It will steady a little under the first stimulation,, increasing again as the second stage approaches, and fall probably to nearly the normal rate during the third stage.

You will find that while the respirations show how much chloroform is being inhaled, the face and pulse will show its action on the circulatory system. A slow, soft pulse will admit of free administration, even concentrated, while with a full, bounding pulse even a small quantity well diluted may prove dangerous. This increased heart action is met with, especially during the stage of excitement, and it is here that you must exercise the greatest care and good judgment. It is here most accidents happen, and they occur because the chloroform is pushed in the hope of getting the patient rapidly anæsthetized, and so stopping struggling.

In the later stages, when paralysis is impending from an excess of chloroform, you will not find this character of pulse. It will be weak, fluttering, and irregular. It may be very rapid or very slow, or become suddenly imperceptible.

Watch the color of face, lips, and especially the lobes of the ears, constantly for change of color.

Remember that the pulse alone, with chloroform, is not always an indication of the cardiac condition; that the heart may become embarrassed and the trouble show itself in this slight blanching before the current in the blood-vessels is markedly affected.

At the slightest indication of blanching remove the mask, allow the patient a few respirations of pure air, and note how quickly the color returns.

Increased rapidity of pulse may be noted—

1. When, though the thorax is rising and falling regularly, no air is entering the lungs.
2. When the patient is about to vomit.
3. When the patient reacts or strains.
4. After considerable loss of blood.
5. During the stage of excitement.
6. During manipulation of a considerable portion of intestines.
7. During dilatation of the anal sphincter.
8. During operations in the cervical regions, where cardiac accelerating branches of the pneumogastric may be irritated.
9. Upon the approach of the stage of paralysis.
10. When the patient is recovering after the operation.

Decreased frequency of the pulse may be noted—

1. In cranial operations.
2. In operations in the cervical region, where cardiac inhibitory branches of the pneumogastric may be irritated.
3. In case of pressure or traction on the diaphragm during gastric operations.

Sudden stoppage of the pulse may appear momentarily from any one of the following causes. Think of these rapidly before giving any alarm:

1. Severing a nerve in amputation.
2. Sudden escape of considerable cystic fluid.
3. Upon the removal of a large abdominal tumor.
4. Pressure on the testicle or spermatic cord during hernia operation.
5. Ligation of an ovarian pedicle.
6. Spasmodic contraction of the diaphragm immediately preceding vomiting.
7. Dilatation of the anal sphincter.
8. Pressure over an artery by the patient's position or by an assistant.
9. Paralysis from excess of anæsthesia.

11. *Respiration.*—Have the chest and abdomen exposed to view, so that the respiratory movements can be seen. Watch the actual influx and efflux of air as well, for the tongue may fall back, occluding the larynx, and respiratory movements still continue though no air enters the lungs. Rapidity of pulse and beginning cyanosis should attract your attention as well.

During the administration of either chloroform or ether the respirations are slowed at first unless the patient is frightened and does not breathe naturally. As anæsthesia progresses they become more rapid, and when the patient is fully anæsthetized they again become slower and more steady. If the narcosis is pushed to the stage of paralysis they will become still slower and more shallow, and finally cease.

Remember that struggling increases inspiration, and if associated with gasping, while chloroform is being given, may cause dangerous depression. Remove the mask and diminish the amount of chloroform. Often a patient will hold his breath just before becoming unconscious. Sprinkle ether on the chest, or forcibly compress the ribs once or twice.

The management of the tongue is the keynote to perfect respiration. It is best controlled by Howard's method of raising the epiglottis. This is accomplished by overextending the head. Close the patient's mouth and turn the head sharply backward as far as possible. This opens an almost straight air-passage from the nasal orifices to the larynx, raising the base of the tongue and the epiglottis out of the way. The same end may be accomplished, but not so thoroughly, by pressing the angles of the jaw forward with the thumbs. Do not put your fingers into the patient's mouth and try to force it open. Your manipulation of the chin will only press it against the sternum, making a faulty position worse. Open the mouth when necessary with a screw gag. The more efficient you become, the less you will use either this or the tongue forceps. Seize the tongue with the end of a towel when possible, and avoid the use of forceps. They almost invariably bruise the member. Use in preference a silk thread passed through the tongue from side to side with a curved needle. No other method equals this for traction, and the patients complain of little soreness afterward.

When you notice the nares have become obstructed, so that air does not pass through, do not allow the tongue to be pressed forward against the half-open teeth. It will shut off more than half the air that should pass through the mouth. Let it fall back a little, or open the mouth with a gag.

The next trouble will be with mucus, excessively secreted during ether anæsthesia, and with blood, pus, or vomited matter. Open the mouth with a gag, and keep the pharynx clear by sponging out with a soft, moist sponge on a long holder. If a piece of sponge or vomited matter enters the larynx, tell the operator at once. Do not wait a second, for if it can not be dislodged readily a tracheotomy must be performed.

Do not allow towels to accumulate so as to obscure your view of the respirations, and never permit an assistant to lean on the patient's chest or abdomen.

Rapid, jerky respirations show a tendency to vomit. This will be referred to under that head. Increased respiratory movements usually mean that the patient is reacting. They may, however, occur, during profound anæsthesia, from manipulation of the peritonæum, testicles, ovaries, or rectum. Be sure of the condition of the reflexes and pulse before increasing the anæsthetic. Shallow, sighing respirations occur with great loss of blood.

Slow, shallow, sighing respirations, with or without cyanosis, indicate impending respiratory paralysis. Remove the mask, and, if the respirations do not immediately improve, resort to artificial respiration. With the methods of performing this—Schultze's, Hall's, Sylvester's—you should be familiar. It is not necessary to describe them here.

You may see the oxygen reservoir, the O'Dwyer apparatus, electricity, etc., used, but after all you will find that when artificial respiration, produced thoroughly and persistently with your own hands, does not revive, revival does not take place.

Snoring and stertorous breathing, produced by paralysis of faucial and pharyngeal muscles, is an indication of profound narcosis. With ether it is not necessarily dangerous, but with chloroform the anæsthesia is usually profound enough to make one anxious. Frequently, extending the head sharply, or changing it from a position of extreme lateral rotation on one side to a corresponding one on the opposite side, will usually stop it. If not, and the patient shows no signs of reacting, remove the anæsthetic for a few respirations.

With very fleshy persons, and in those with hypertrophied tonsils or adenoids, very frequently snoring and disagreeable respirations will persist during the entire anæsthesia.

Do not allow the patient to be placed in any position that will interfere with the safe and efficient administration of the anæsthetic. The convenience of the anæsthetist is necessarily the last to be considered. Put up with all you can, but take no chances.

Trendelenburg's posture, and especially the nephrotomy posture, frequently give rise to trouble. Watch your patient carefully, and if the respiration becomes embarrassed have the posture changed immediately.

In chloroform narcosis at night by gaslight, the fumes are decomposed, liberating acetylene and chlorine gases. While very irritating to every one in the room, they are especially depressing to your patient. Provide ventilation.

12. *Stimulation.*—When the pulse has become rapid, 130 to 160 in a child, 120 to 140 in an adult, and you have felt it become gradually weaker for a few minutes, or when the respirations become slightly embarrassed, and the conditions do not improve upon removal of the anæsthetic, resort to stimulation. Announce the fact that it is necessary and then go ahead. Do not wait for the patient to collapse first. When you do resort to stimulation, stimulate freely. Strychnine is the most reliable drug, especially in chloroform narcosis. Inject from one twentieth to one fifteenth of a grain. Atropine is the next most reliable, in doses of a sixtieth or a fortieth of a grain. Give tincture of digitalis or strophanthus, alone or combined. If no improvement is noticed in from a minute and a half to two minutes, repeat.

Where necessity for stimulation arises from deep narcosis, avoid the use of alcohol. It will only add to the depression by substituting one narcotic for, or superimposing it upon, another. Avoid also amyl nitrite and nitroglycerin. The condition calling for stimulation is likely to be a weakened heart and paralyzed dilated blood-vessels. We want those vessels contracted, and the nitrites have the opposite effect.

13. *Accidents: (a) Asphyxia.*—This may arise from any one of several causes—viz.:

From muscular spasm of jaws, diaphragm, or glottis. The latter is the only really dangerous one. Stop the anæsthesia and extend the head fully. See that the lower jaw is extended and the tongue drawn forward. Employ amyl nitrite. The operator will be ready to perform tracheotomy if necessary.

From mucus, vomited matter, or other foreign matter in the throat. Turn the head completely to one side, open the mouth with a gag, and remove the matter with a sponge. Be careful not to break or loosen teeth, and so add a new source of danger to those already existing.

From trouble with the tongue, already discussed. In any case the symptoms to be watched for are the cessation of respiration, lividity of the face with swollen features, protrusion of the eyes with dilated pupils, and turgidity of the neck and face with the blood extremely dark.

(*b*) *Respiratory Paralysis.*—With ether this is the most common danger, and, while with chloroform either cardiac or respiratory failure may occur, unless the heart is diseased, the latter is much more common.

Remove the anæsthetic and employ artificial respiration. Your operator will indicate the method he wants used, if he does not take the case out of your hands. Accessory points worth knowing are the use of a soft catheter passed through the nares into the larynx, and expansion of the patient's lungs by using your own.

Seizing the abdominal wall in both hands and raising it up suddenly contracts the diaphragm and causes instant inspiration. Use rhythmic pressure over the ribs with each expiration. Sprinkle ether on chest. Use flagellations with a cold, wet towel, forcible dilatation of the anal sphincter, and hot rectal injections. Heat is one of the best stimulants, and the hot solution absorbed into the blood is carried directly to the centres. Employ hypodermic stimulation.

(*c*) *Cardiac Failure.*—This usually occurs with chloroform anæsthesia. It may appear coincident with respiratory failure, or wholly independent of it. It appears in one of two stages—viz.: (1) In the early part of the anæsthesia, before the patient is anæsthetized, often before thirty drops of chloroform have been used, there is a sudden fluttering of the pulse, with extreme pallor, sudden wide dilatation of pupils, cessation of respiration, and death. It is all over in a minute or less. (2) In the latter stages, while the operation is in progress. Here you have much more warning. The above-mentioned symptoms occur, but not so suddenly; the blood is dark, and hæmorrhage in wound ceases.

Stop the anæsthesia. Lower the head of the table or invert the patient. Employ free hypodermic stimulation with strychnine, atropine, and digitalis; very hot applications over the cardiac area; and rapid forcible compression with the thumb in the fourth or fifth interspace at a rate of about 120 a minute. The body surface should be kept warm, and the limbs bandaged alternately. Artificial respiration should be used, even if breathing has not ceased. It will deepen respiration, and so hasten the elimination of the narcotic poison. Employ intravenous saline infusion, to which a drachm of aqua ammoniæ has been added. Inject about two pints at a temperature of 120°.

Hot rectal injections are of doubtful value for immediate effect, as the circulation is practically at a standstill.

(*d*) *Vomiting.*—Rapid dilatation of pupils, spasmodic contraction of diaphragm, short, jerky respirations, or rapidly increasing respirations, with a pulse of increased rapidity, and repeated efforts at deglutition, indicate a tendency to vomit. Be on the lookout for these constantly, especially dilatation of the pupils and rapid respirations. Once they appear, unless recognized promptly, the patient will be vomiting in a few seconds. Push the anæsthetic, whether ether or chloroform, and abolish these reflexes. As soon as it is evident that the patient will certainly vomit, remove the mask and turn the head quickly to one side—that away from the field of operation. Clean the mouth and pharynx and place the head in the proper position of extension before resuming. Allow the patient to "come out" fully, if necessary.

In a severe attack of vomiting under chloroform, be prepared for sudden collapse.

Remember that in mastoid operations irritation of the auricular branch of the pneumogastric frequently causes vomiting.

(*e*) *Brachial Paralysis.*—With a new beginner or a careless anæsthetist this is a common accident. The arms are held or tied above the head for convenience, partly to have them out of the way, partly that the anæsthetist may feel the radial pulse. Neither reason is sufficient. The arms should be placed at the side, tucked in with sheet or blanket. If due care is exercised, however, there is no danger from the position. If you will lie down and put your own arms up in the same manner, you will readily see how any sudden jerk, any overextension, or any pressure exerted upon them, forcing them down to the level of the prone body, will meet with resistance, and if persisted in become very painful. With the body relaxed under anæsthesia there is no muscular resistance to protect the nerves from accident. They are either pressed directly against the humerus by the anæsthetist or an assistant, or they are stretched, and the damage is done—a paralysis of the circumflex or musculospiral, complete or partial, results, that will take weeks, possibly months, to cure, leaving yourself or the institution liable to a suit for damages.

(*f*) *Chloroform Burns.*—See that the face is well smeared with vaseline before administering chloroform. In unskillful hands the mask becomes saturated, and, coming in contact with the face, produces a burn sometimes deep enough to leave a scar. Be careful that no drops fall on the face or trickle down the side of the bottle and fall on the neck. If they do, wipe them off instantly.

There is no possible excuse for a brachial paralysis or a chloroform burn. Both are results of culpable negligence.

14. *Relation of Anæsthetist to Operator.*—As a rule, the young anæsthetist, before he becomes inured, allows the caustic remarks of some operators, often called forth in sheer exasperation, often from habit, frequently without excuse, to confuse him. Don't. Neither you nor your patient can afford it.

In a case of life or death, or the success or failure of some nice technics, some delicate operation, the operator is not likely to use the mildest terms in addressing you for your neglect, carelessness, or ignorance.

You will need instruction often—take it willingly.

You will need reprimanding frequently—take it gracefully.

You will need censure occasionally—take it silently.

But you never need abuse, and, if the operator so far forgets himself as to resort to it, you are foolish to put up with it. A man in any position can command respect. If he does not, the fault is his own.

You are not supposed to "crowd the anæsthetic" to "get the man under," simply because you are told to do so. It may happen that you are compelled to remove the anæsthetic on account of the patient's condition, whether the operation is interrupted or not. It is disagreeable for the operator, it causes delay, but the patient's welfare is the first consideration.

If the time comes when his condition will not allow the operation to proceed, say so, and in no uncertain terms. Nothing can be more exasperating than the half-hearted, uncertain, non-committal remarks of an anæsthetist when asked his patient's condition. Know it always, and state it clearly. The very tone of your voice will often tell the operator whether he can depend upon you or not. Remember that what the men at the helm, at the lookout, at the lead line are to the captain of the ship you are to the operator; often you are his sheet anchor, and just in proportion as you are careful, thorough, cautious, and wide awake will he put confidence in you and feel that his patient is safe in your hands.

Concluding Remarks.—Remember that danger exists from the time the mask is put on patient's face until he is again conscious in his own room or ward, and that then, and only then, does your responsibility as anæsthetist cease.

Never let the trivial nature of the operation relax your watchfulness. Every anæsthesia requires all your attention, all your caution. Do not attempt to follow the steps of the operation, and never allow any one to converse with you. Give your attention exclusively to the patient. With his life in your hands, any inattention is criminal negligence. The importance of your position is scarcely secondary to that of the operator, while your responsibility—certainly your moral responsibility—is even greater. Be extremely careful in anæsthetizing infants, very old people, persons in collapse or with bad cardiac lesions, general peritonitis, or abdominal distention from whatever cause.

You will occasionally find persons, usually alcoholics, who simply can not be put and kept under the influence of ether or chloroform. The anæsthesia will be most disagreeable, and the operation performed under the greatest difficulties, but the fault is not yours.

Remember that chloroform deaths occur on the table; the fatal effects of profound ether narcosis, as shown by acute nephritis, with its accompanying suppression of urine, the subsequent development of bronchitis, pneumonia, or œdema of the lungs, in from a few hours to a few days following the operation, tell their own tale, while concealing from statistics numbers of ether deaths.

Do not pin your faith on any one reflex or condition. You will learn to take in a dozen minute details in one comprehensive glance. Watch muscular relaxation, reflexes, pupils; watch the heart's action, the aeration of the blood, the color of the face and ears. The operator will call attention to the color of blood from time to time. Watch the length, depth, and frequency of the respirations, the actual entrance and exit of air, the superficial veins of the chest and neck, and the surface temperature. Watch the outside dangers of draughts, impure air, positions, assistants. Then, and only then, are you in full communication with all the possible sources of danger.

Put your knowledge of anæsthesia in such a shape that it is always available; know the risks; know the accidents; know the precautions; know the remedies.

Keep a cool head in case of accident. If there is any one person in the room at such a time who should be calm, alert, collected, it is the anæsthetist.

Be master of yourself and your subject. Think quickly, act promptly. Seconds are precious, and any indecision, any hesitation, any lack of confidence in yourself may cost a human life.

Above all, do not lose your self-control, even in the presence of certain death. Never let the sense of your own responsibility overwhelm you; if you do, you have no place in surgery.

42 James Street.

Therapeutical Notes.

Potassium Permanganate in the Treatment of Fissured Nipples.—Dombrovsky (*Semaine médicale; Nord médical*, October 15th) recommends painting the nipples several times a day with a solution of the strength of from two to five per cent.

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THE PLAGUE IN VIENNA.

Elsewhere in this number of the *Journal* we give a summary of the facts thus far known concerning the cases of plague that have recently occurred in Vienna. Dr. Müller, one of the victims, was a member of the commission to investigate the plague sent to Bombay by the Imperial Academy of Sciences of Vienna. His case is a fresh instance of self-sacrifice in the cause of science, and the memory of the laboratory attendant, Barisch, who was the first to die in consequence of the unfortunate transfer of the poison from inoculated guinea-pigs under observation, must go down as that of a man who lost his life in the performance of a perilous duty. So far as we know now, neither of the two nurses attacked has succumbed, and it is to be hoped that there will be no further spread of the disease. In our opinion, however, a long time must elapse without a fresh case before it can be considered perfectly certain that all danger is at an end. Without in the least wishing to play the part of the alarmist, we may intimate that what may be taking place among the rats of Vienna in their widely ramifying subterranean haunts is of immense importance. It is well known that rats are the chief medium of the dissemination of the plague bacillus, and it seems probable, according to Dr. Sticker, a member of the Vienna commission (*Wiener klinische Rundschau*, 1898, Nos. 10 and 11; *Deutsche Medizinal-Zeitung*, October 31st), that they are powerfully assisted by various insects that wander from the sewers into houses. All the animals used in the experiments conducted by the commission after its return to Vienna have been killed. It is to be hoped that no rats have had access to the dead animals.

Concerning this matter of the part played by the lower animals in spreading the plague, our knowledge is still very incomplete, says Sticker, except as to rats and mice. Preliminary experiments now under way for the purpose of clearing up this question seem to show, however, that pigeons, hens, geese, and swine are insusceptible to the disease, while dogs, cats, sheep, goats, cows, and horses react to the infection by at least a transitory morbid state that ends in recovery. It appears also that monkeys are in the highest degree susceptible, especially the so-called sacred ape. It is altogether likely that in Vienna there is no danger from any other animals than rats, mice, and insects, but the danger from them must not be overlooked.

To what an extent a few cases of such a dreaded disease may derange the working of a great hospital may be inferred from the following passage from a telegraphic dispatch published in the *Lancet* for October 29th: "As soon as the first case of plague was clearly recognized the plague commission permanently closed Professor Weichselbaum's institute. All the animals used for experiments were killed, and the drains of the institute were disinfected; Dr. Nothnagel's clinic was cleared and disinfected and the medical men and nurses belonging to it were isolated; the public were refused access to the General Hospital, all the medical men and the nursing staff were kept indoors, and some supposed febrile cases were transferred from the institute and Professor Nothnagel's clinic to the Infectious Hospital. Barisch's wife and brother were also admitted to the Infectious Hospital and received prophylactic treatment."

TYPHOID FEVER AMONG SOLDIERS.

We have heard so much of late about the number of needless and preventable deaths from typhoid occurring among our soldiers during the recent war that it is both interesting and instructive to learn the conditions obtaining in other armies far more favorably situated in every respect, from their settled organization, to cope against disease than was our hastily raised and equipped expeditionary force. It would appear from the *Lancet* for October 29th that typhoid fever has broken out with considerable virulence even among the admirably organized and administered troops of General Kitchener in the Soudan campaign. The Cairo correspondent of the *British Medical Journal* for October 29th says that "there are about four deaths in the hospital every day from enteric. Numbers have the disease, both officers and men." We further learn that of the regiments which have returned to England one hundred and sixty men are in hospital, about thirty of the cases being typhoid, while the majority of the remainder are diseases of the digestive organs. The typhoid cases are said to be of a serious character, giving anxiety. The *Lancet* points out that this result was only what was to be expected in accordance with England's previous experience in connection with campaigns in tropical and subtropical climates, and with that of similar expeditions conducted by every other nation. "It is, unfortunately, always the case," says the *Lancet*, "that an army in the field suffers far more from sickness than from the assaults of the enemy to which it is opposed"; but it goes on to remark that although losses from sickness are practically unavoidable under such circumstances, still it must not be forgotten that their amount is very sensibly lessened in proportion to the forethought and care bestowed on perfecting the hygienic and medical arrangements in the field. As in the case of this country, the prevalence of typhoid among the English forces is attributed to the fact that the use of unwholesome and contaminated water by troops can not be entirely prevented; while the character of the rations, also inevitable on active service, comes in for its share of the blame as a predisposing element, together with the hardships and fatigue necessarily incident to campaigning. The latter factors lower the general vital resistance, which, as the *British Medical Journal* states, is shown to be least in the case of the younger and short-service soldiers; while the former exert their special deranging influence upon the very part of the economy attacked by typhoid—namely, the alimentary canal.

The *Lancet* says that the time for the disease toll to be exacted comes when the physical wear and tear and the excitement and strain of the nervous system have abated or passed away. It also remarks that the experiences of the French campaigns in Tonquin, Madagascar, and elsewhere, and still more recently the very lamentable experience of the Americans in Cuba, contrast very unfavorably with those of England in Ashanti, Egypt, and the Soudan. This is attributed to the fact that England has gone on improving of late years in respect of the sanitary and medical preparation, organization, and management of its military expeditions.

Although we must admit that our results have been very serious, we can not help taking note of the facts that England has a marked advantage in the question of military experience, owing to its being nearly always at war, small or great, somewhere on the face of the globe, which fact naturally tends toward the perfection of its organization to meet the conditions of warfare; while the United States, on the other hand, was undoubtedly at an enormous disadvantage from the fact that the major portion of its army consisted of those same younger and short-service soldiers who, as we have seen, are the least able to offer successful resistance to the onslaughts of disease.

MINOR PARAGRAPHS.

THE FIGHT AGAINST TUBERCULOSIS.

At this latter end of the nineteenth century, the fight against "the white plague" is commencing in earnest. In the very nature of things it will be slow and gradual, but, as a knowledge of the principles of sanitary warfare gains ground, the results will become increasingly evident. Sir William Broadbent, in opening a new sanatorium for infectious cases at Huddersfield in England on October 22d, subsequently delivered a practical address, according to the *British Medical Journal* for October 29th, On the Prevention of Consumption and Other Forms of Tuberculosis. He dwelt on the dissemination of tuberculosis by means of dried sputa, the necessity for guarding the milk supply from contamination from without, as well as from infection from within, and on the disinfection under the supervision of the sanitary authorities of rooms wherein tuberculous patients had died. He impressed upon his hearers the necessity of living as far as possible in fresh air, day and night, summer and winter. Closely fitting windows, he said, were a delusion and a snare. Every person ought to sleep with the bedroom window open. This would not only reduce the mortality from consumption to probably one half, but would have the further effect that there would be fewer coughs and colds. For those suffering from consumption, the curative was not any particular air, but fresh air. He pointed out that consumption was not an inevitable disaster inflicted by a mysterious fate, but was one of the products of men's ignorance and carelessness, and, while medical men had learned how the ravages of tuberculosis might be stayed, knowledge percolated slowly, and many hundreds of lives were likely to be sacrificed ere it was brought home to the general public. It seems to us that in this direction the lay press might afford material assistance. If, instead of vaunting hypothetical discoveries, or prematurely making public the steps in a chain of experimental investigations after the real ones, for the mere purpose of creating a sensation, and with the inevitable result of doing irreparable damage to medical research, they would open their columns to practical articles by men of approved standing, in popular language, on the means for preventing the spread and transmission of disease, they would do a real public service. Such articles would in no sense be objectionable, inasmuch as they would deal with public medicine on principles which applied to the community, and not with individual medicine, in which "what is one man's meat is another man's poison."

THE ANTIVIVISECTION DANGER.

A joint committee on vivisection representing the various scientific societies of the city of Washington is alive to the danger that in December, when the American Humane Society is to hold a meeting in that city, the antivivisection bill now pending in the senate of the United States may be called up and passed. Abundant testimony has been laid before our readers to justify them in using all their personal influence with congressmen to defeat this tyrannical bill—indeed, to make it incumbent on them to do so—and we again urge them to spare no effort in that direction.

THE DYSPEPSIA OF STUDENTS.

M. Legendre, as we learn from the *Progrès médical* for October 22d, presented to the Congress of Gynæcology, Obstetrics, and Pædiatry at Marseilles a very interesting report upon dyspepsia as occurring among students, and dwelt upon its varying causes. As a result of a medical inquiry among various instructional establishments in France, he brought to light this curious fact, namely, that dyspepsia is much more frequent among students now than in the time of our fathers, while hygiene at the present day is superior to what it was then. The author accuses heredity for this condition. Acquired dyspepsia, neurasthenia, etc., exemplified itself in the child by gastro-intestinal troubles. A defective hygiene and rapid eating might be occasional causes, but the custom of permitting children to talk during meals was a note of progress in that direction. The dyspepsia of students, he said, presented itself under very different clinical types, often very difficult of diagnosis. The author especially dwelt upon the nature of the drinks, and condemned on principle red wine, which should be replaced by simple water, cider, or beer. He deplored, moreover, the almost complete absence of milk and eggs in the usual regimen. He recommended as a prophylactic measure a careful hygiene, a prevention of the abuse of physical sports, slow eating, etc., and suggested that school children should be brought to the doctor oftener than is customary. There can be no doubt that the foundation of much future misery and ill health, leading even to hypochondriasis, is laid by the neglect of proper attention to the digestive functions during childhood. The period during which those functions could be most easily regulated is the one during which they are most commonly neglected.

THE PROTECTIVE FUNCTION OF THE LYMPHATIC GLANDS.

M. EUGÈNE MARTIN, according to the *Gazette hebdomadaire de médecine et de chirurgie* for October 28th, in a thesis presented to the faculty of Paris, proclaims, from cases communicated by Dr. Haan, the very important functions of the lymphatic glands in syphilis. According to M. Martin's observations, he allots to the lymphatic glands the function of elaborating an internal bactericidal secretion; and further considers that from a purely physiological point of view they have the defensive duty of opposing the further progress of such bacteria as may have escaped destruction at the point of inoculation. The lymphatic gland constitutes a rallying point for the reenforcement of the defensive stand made by the leucocytes at the first place of attack, and it completes its functional activity by attenuating the virulence of the poisons. In short, according to the author, the lymphatic gland plays an extremely active part both against the microbes and their toxines, not only in general, but also in local infection.

A CONSOLIDATED CANADIAN JOURNAL.

IN its November issue the *Canadian Medical Review* announces its amalgamation with the *Canadian Practitioner.* The title of the new publication is to be the *Canadian Practitioner and Medical Review.* The editors are undoubtedly justified in expecting it to be "an unusually strong journal."

THE TELEPHONE AND INFECTION.

WITH the air of having got its information from one of the city health commissioners, one of the newspapers lately stated that when the nature of the late Colonel Waring's illness became apparent the colonel's telephonic connection was severed. We have long known that our board of health was most efficient, but we do not believe it dreads infection through a copper wire.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 12, 1898:

DISEASES.	Week ending Nov. 5.		Week ending Nov. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	56	14	71	21
Scarlet fever	92	5	108	5
Cerebro-spinal meningitis	0	8	0	6
Measles	104	3	98	4
Diphtheria	133	14	130	22
Croup	6	3	14	10
Tuberculosis	178	152	181	154

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon general of the United States Marine-Hospital Service during the week ending November 12, 1898:

Small-pox—United States.

Lake City, Fla	Nov. 2	1 case.	

Small-pox—Foreign.

Antwerp, Belgium	Oct. 8–15	4 cases,	1 death.
Bahia, Brazil	Oct. 15–22	20 "	2 deaths.
Bombay, India	Oct. 7–11		1 death.
Moscow, Russia	Oct. 1–8	10 "	5 deaths.
Odessa, Russia	Oct. 8–15	4 "	1 death.
St. Petersburg, Russia	Oct. 8–15	1 case.	
St. Petersburg, Russia	Oct. 15–22	3 cases,	2 deaths.
Warsaw, Poland	Oct. 8–15		3 "
Valencia, Venezuela	Oct. 22	150 "	

The United States consular report for October 22d states that the epidemic is decreasing, and will doubtless soon be extinct.

Yellow Fever—United States.

Jackson, Miss	Nov. 2–10	2 cases.	
Madison, Miss	Nov. 2–10	4 "	1 death.
Yazoo City, Miss	Nov. 2–10	2 "	

Yellow Fever—Foreign.

Tampico, Mexico	Oct. 16–23		2 deaths.
Vera Cruz, Mexico	Oct. 20–27		13 "
Monterey, Mexico	Oct. 28–Nov. 6	1 case,	5 "

Cholera—Foreign.

Calcutta, India	Sept. 17–24		2 deaths.
Madras, India	Sept. 24–30		35 "
Madras, India	Oct. 1–7		22 "

Plague.

Bombay, India	Oct. 7–11		240 deaths.
Calcutta, India	Sept. 17–24		2 "

Plague in Vienna.—According to the *Lyon médical* for October 30th, a case of plague appeared in Vienna on the 14th of October, in the person of a laboratory attendant named Barisch, who alone, besides Dr. Albrecht and Dr. Ghon, who were making experimental investigations, had access to the infected locality. His duty was to feed the animals and to clean their cages, etc. His disease was at first thought to be influenza, but the characteristic spuma ultimately made the diagnosis clear.

He was treated by Dr. Müller and two attendants recently returned from Bombay. Serum had to be procured from a distance, hence there was considerable delay. The patient died. One of the attendants, who were isolated, and Dr. Müller were next attacked. Dr. Müller also died, but the attendant, treated with serum from the Pasteur Institute in Paris, got better. In consequence of this outbreak a large quantity of serum was sent by the Pasteur Institute from Paris in the care of Dr. Marmorek.

The Therapeutics of Hot Drinks.—According to the *Medical Brief* for November, the *Medical Press and Circular* says that chronic indigestion is sure, sooner or later, to be followed by disturbance of the motor apparatus of the digestive tract, usually affecting more particularly the stomach, which reacts less readily to stimulation. There results a condition of impaired secretion, plus a greater or less degree of muscular atony, which must be combated at an early stage if we wish to avoid an incurable degree of gastric dilatation. Among the remedies at our disposal hot drinks have, of late years, attained considerable vogue. The ingestion of tepid fluids exerts a marked sedative action on the gastric mucous membrane and often relieves the painful sensations following meals in chronic dyspepsia. Less recognized, perhaps, is the influence of hot drinks on the motor functions of the stomach. In the ordinary course of events nothing remains in the stomach six hours after a meal, and the presence of alimentary *débris* after that period indicates the presence of some degree of muscular paresis. This condition of things may be greatly benefited by the use of hot water with or immediately after meals; but in chronic cases permanent benefit can only be obtained by perseverance, the treatment being methodically carried out for some months. As might be anticipated, the hot-water treatment does not ameliorate the secretory defects in the same degree as the muscular weakness, but by maintaining the stomach in a hygienic condition we may, at any rate, hope to check further degradation of the peptic glands. The temperature of hot drinks should be from 105° to 110° F., and their employment is especially indicated in cases of hyperacidity associated or not with some degree of gastric dilatation.

A Christian Scientist Arrested.—According to the *New York Times* for November 15th, a Christian scientist has been arrested at Cincinnati by order of the State board of health as being accessory to the death of a patient suffering from typhoid fever.

Light in the Treatment of Lupus.—Under the title Méthode de Finsen the *Journal de médecine de Paris* of September 11, 1898, according to *Medicine* for November, describes the work of Dr. Finsen in the treatment of lupus. This author has been perfecting the details of his apparatus since 1895. He has determined that a certain bactericidal action is found in the direct rays of light, but that the different portions of the spectrum are of differing values in this respect. Thus the ultra-violet rays had three hundred times the microbicidal value of the red rays. He has employed sunlight with effect, but as this is not constant he has used the powerful light of a fifty-ampère arc. The violet rays are separated by a solution of sulphate of copper, and the heat rays by rock crystal. The part, so far as possible, was exsanguinated and the rays focused by a lens upon the affected tissue. The treatment was uniformly successful, being followed by marked improvement, though we are not informed that any cures have been effected.

A Tapeworm Toxine.—According to *Medicine* for November, Schauman and Tallquist (*Deutsche medizinische Wochenschrift*, May 19th) assert that the *Bothriocephalus latus* contains a toxine possessing globulicidal properties.

Relationship between the Thyreoid Gland and Female Genitals.—Freund (*Centralblatt für Gynäkologie*, August 13, 1898; *Medical Review of Reviews*, October) reaffirms his views, which have been called into question, as follows:

He has carefully studied for a long period the relationship of the thyreoid to pregnancy, birth, and the puerperal state:

1. Swelling of the thyreoid, merely from congestion, is always present in pregnancy, and also during menstruation.

2. Whenever there is energetic or persistent irritation, involving the uterine muscles, it will cause a persistent and permanent swelling of the thyreoid. Under the same conditions colostrum is always to be found in the breast.

3. Ovarian tumors, tubal dropsy, and the like, never lead to enlargement of the thyreoid, except when, as in rare instances, they encroach upon and irritate the uterine muscle.

A Woman Medical Inspector.—We are informed that Dr. Mary H. Murray has been appointed by the board of health medical inspector of the twelve schools of the Third Ward of the borough of Queens.

Injections of Carbolic Acid in Tetanus.—Dr. Ascoli (*Bollettino della regalia accademia medica di Roma*, 1897–'98, fasc. iv; *Gazette hebdomadaire de médecine et de chirurgie*, October 23d) has made a long comparative study of the value of various modes of treatment of tetanus, and considers as a result of his researches that hypodermic injections of carbolic acid after Bacelli's method give the best results. The carbolic acid should be employed in large doses; its efficacy is more certain so. Professor Bacelli makes a ten-per-cent. solution in sterilized oil, of which from thirty to forty-five minims are injected at a time, four times a day. This method of administration is convenient, rapid, and economical, induces speedy sedation of the contractions, and sensibly diminishes the spasms. The special action of carbolic acid in tetanus is that of an antiseptic and modifier of the reflex excitability of the nervous centres. Energetic local disinfection and the support of the patient's strength are said to be the best remedies for tetanus. Serum therapy the author considers more useful as a preventive measure.

The New York Society for the Relief of Widows and Orphans of Medical Men.—The annual meeting was to be held at the New York Academy of Medicine on Wednesday evening, the 16th inst.

The Society of Medical Jurisprudence.—At the one hundred and thirty-seventh regular meeting, on Monday evening, the 14th inst., Dr. Henry J. Garrigues was to read a paper entitled Apparent Death.

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, the 17th, Dr.

William H. Welch, of Baltimore, was to deliver the anniversary discourse entitled The Landmarks in the History of Pathology.

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 18th inst., Dr. W. R. Townsend will read a paper on The Prevention of Deformity after Excision of the Knee in Children. Patients will be presented and photographs in illustration of the paper.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 21st inst., the following papers will be presented for discussion: A Contribution to the Clinical Stages and to the Technics of the Operation for Sinus Thrombosis, by Dr. Frederick Whiting; and Two Cases of Otogenous Pyæmia; Operation; Death and Autopsy in One, and Recovery in the Other, by Dr. H. Knapp.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 23d inst., the following papers will be read: The Abuse of the Electric Cautery in the Nose, by Dr. H. Holbrook Curtis; and Nasal Catarrh in Children; its Cause and Treatment, by Dr. Clarence C. Rice.

At the next meeting of the Section in Obstetrics and Gynæcology, on Friday evening, the 25th inst., the following papers will be read: Functional Neuroses and their Relation to Diseases Peculiar to Women, by Dr. H. J. Boldt; and Symphysiotomy, by Dr. R. L. Dickinson, of Brooklyn.

The Chicago Society of Internal Medicine.—At the next regular meeting, on Thursday evening, the 24th inst., the following papers will be read: Musical Heart Murmurs, by Dr. Henry F. Lewis; The Principles of the Dietetic Treatment of Diabetes Mellitus, by Dr. Charles W. Purdy; and A Report of a Case of Typhoid Fever with an Unexpected Termination, by Dr. Isaac N. Danforth. The secretary, Dr. Edward F. Wells, of No. 4571 Lake Avenue, Chicago, announces that the subject of the annual discussion at the January meeting will be Acute Articular Rheumatism, and all who desire to take part are requested to notify him of the scope of their contributions and the probable time required for presentation.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 15th inst., the following papers were presented for discussion: Carcinoma of the Duodenum, by Dr. Charles D. Aaron, of Detroit; and On the Origin of Vertigo, by Dr. Charles G. Stockton.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 12th inst., Dr. Fisch read a paper on Experimental Research about Mixed Infection in Pulmonary Tuberculosis.

Changes of Address.—Dr. A. D. Rockwell, to No. 25 East Forty-fourth Street, New York; Dr. Grace Peckham Murray, to The Langham, corner of Fifth Avenue and Fifty-second Street, New York; Dr. Henry W. Wandless, to The Pierrepont, No. 45 West Thirty-second Street, New York.

Society Meetings for the Coming Week:

MONDAY, *November 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *November 22d:* New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *November 23d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

THURSDAY, *November 24th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, *November 25th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *November 26th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Married.

BARLOW—SOLANO.—In Los Angeles, California, on Tuesday, November 8th, Dr. Walter Jarvis Barlow and Miss Marion Brooks Patterson Solano.

GREENLEAF—ADAMS.—In Lenox, Massachusetts, on Tuesday, October 25th, Lewis Greenleaf, son of Dr. Richard C. Greenleaf, and Miss Margaret Adams.

MEAD—CLEVELAND.—In New York, on Wednesday, November 9th, Mr. Robert G. Mead, Jr., and Miss Elizabeth M. Cleveland, daughter of Dr. Clement Cleveland.

ROCKWOOD—SHURTLEFF.—In Bennington, Vermont, on Thursday, October 20th, Mr. Arthur W. Rockwood and Miss Mary E. Shurtleff, daughter of Dr. John T. Shurtleff.

SMITH—THOMAS.—In New York, on Thursday, November 10th, Dr. Henry Harmon Smith and Miss Julia Mary Thomas, daughter of Dr. J. Clarke Thomas.

Died.

AMES.—In Dekoven, Kentucky, on Monday, October 31st, Dr. J. D. Ames, aged eighty years.

BARKER.—In Norwich, Connecticut, on Friday, October 28th, Mrs. Fordyce Barker, widow of the late Dr. Fordyce Barker, of New York.

DAVENPORT.—In Port Gibson, Mississippi, on Friday, November 4th, Mrs. S. A. Davenport, wife of Dr. Joseph W. Davenport, of Russum, Mississippi.

DAVIS.—In Smyrna, Tennessee, on Monday, October 31st, Dr. J. W. Davis, aged seventy-seven years.

DEWEY.—In North Adams, Massachusetts, on Sunday, November 6th, Dr. D. R. Dewey, Assistant Surgeon, United States Volunteers, aged thirty-four years.

FOX.—In Wethersfield, Connecticut, on Wednesday, October 26th, Dr. Roswell Fox, aged seventy-three years.

Hall.—In San José, California, on Monday, November 14th, Dr. J. Underwood Hall, Sr., in the eighty-fifth year of his age.

Head.—In Centralia, Missouri, on Saturday, October 29th, Dr. J. H. Head, aged fifty-eight years.

Lindsey.—In New York, on Sunday, November 13th, Dr. B. Abbott Lindsey, in the forty-second year of his age.

Paschall.—In Arlington, Tennessee, on Tuesday, November 1st, Dr. B. H. Paschall, aged seventy-three years.

Snow.—In Winthrop, Maine, on Tuesday, October 25th, Dr. Albion P. Snow, aged sixty-nine years.

Vandergriff.—In New Orleans, on Friday, November 4th, Dr. John B. Vandergriff, aged seventy-one years.

Letters to the Editor.

THE CHLORINE TREATMENT OF DIPHTHERIA.

Davenport, Iowa, *November 11, 1898.*

To the Editor of the New York Medical Journal:

Sir: On March 5th you published a letter from me in which I set forth at some length my views on the subject of diphtheria and the best manner, in my opinion, of treating and preventing it. In this letter I gave the exact formula, specifying each and every ingredient used by me in producing the corrected chlorine, for inhalation, in the treatment of this disease.

In your issue of the 5th of this month you publish on page 675 thereof a letter from Dr. P. David Shultz, of New York, a letter which is highly commendatory of my chlorine method of treating diphtheria. On page 674, same issue, there is a letter from Dr. H. D. Brown, of Potsdam, N. Y., which is as follows:

"In your edition of October 29th, page 634, is a paragraph on the use of chlorine in the treatment of diphtheria and a reference to a letter in your issue of March 5th. Now, in the letter of March 5th the author says: Mix the solution of chlorinated soda, standardized to 2.6 per cent. available chlorine, seventy parts, with the corrective, thirty parts. He then says the corrective is made of menthol, camphor, eucalyptol, and salicylate of methyl dissolved in alcohol and water, but does not give the amount of any of the drugs or the quantity of the alcohol and water. I should like to know the formula so as to be able to use it if I have occasion. Can you in your *Journal* give me the desired information?"

On the foregoing letter of Dr. Brown's you make the following editorial comment: "We think Dr. Braeclin would be conferring a benefit on the profession by supplying us with the answer to our correspondent's question."

Your suggestion is reasonable and just, and, in so far as is possible, consistently with reason, I will endeavor to satisfy your correspondent as to the justice of my position in not giving a complete working formula for the making of my remedy. It will be conceded, I take it, that the profession, as such, are not manufacturers of the medicines which they use and prescribe in their daily practice. Now, if a remedy is to be used, it follows logically that some one must manufacture it; and, in order to be effective, the ingredients must be properly combined. The chlorine remedy is one which can not be prepared offhand, as the technique is complicated and it requires about twenty-four hours' constant attention to make it properly.

Ordinary preparations of Labarraque's solution will not do, as they do not contain a large enough percentage of chlorine to be effective in the treatment of diphtheria.

In my own defense, and that I may be enabled to confer the greatest favor upon the profession, ultimately, and upon humanity generally, I take it that the profession should be charitable enough to allow me, at least temporarily, to select the persons whom I desire to have manufacture the article for which I am going to be held responsible. By this I do not mean that I am going to withhold the benefit of my ten years' experimentations from the profession. I have not, neither will I, as Dr. Behring has done, patent my formula or the process of manufacture. I will give the profession the benefit of it, but, in order that they may derive the most from it, I am sure it will be best for them, as well as me, to let me see to it that the article which is used is a good one and not one which might prove a failure; it is extremely likely to do so unless properly prepared, and this can not be done by every one.

I have placed the full and detailed directions for its production in the hands of the New York board of health to enable that body to manufacture it for the use of the health department of that city.

The daughter of a friend of mine, the Hon. J. J. Russell, whose office is in the Townsend Building, Twenty-fifth Street and Broadway, New York, was the first patient to whom I administered the chlorine remedy. She recovered, and, as he had lost a son of diphtheria a few days previously, he felt very grateful to me, and since then has taken this matter up and has been calling the attention of the profession to the great merits of the remedy. In the interest of humanity and as a public-spirited citizen, he has, since then, spent time and money to make known the merits of this remedy. Under my detailed directions he has had the remedy prepared by competent chemists in Chicago and New York, and has given it to hundreds of physicians entirely free of charge to them, in consideration of their promise to test its merits. The results of his labor have been gratifying indeed.

From the reports which I have thus far received, the death-rate under the treatment has been less than three per cent. The official tests in the Brooklyn Hospital, under the supervision of the New York board of health, show a death-rate of four per cent.

My opinion is that the disease can be entirely eradicated in the near future by the timely use of this remedy. Prior to my discovery of the usefulness of corrected chlorine, I had, during twenty years of practice, passed through ten epidemics of diphtheria with a death-rate of from twenty-five to thirty per cent. Since I began to use the present method, six years ago, my death-rate has been less than three per cent.

Kindly inform your correspondent that just as soon as I have proved my case to the satisfaction of the profession I will endeavor, through your *Journal*, to enable those skilled in the art to produce it in such a way as to give satisfactory results. In the mean time any physician who wishes to use it may get it through Mr. Russell, and an article which I will vouch for. I have seen so many failures to produce the genuine article that I fear for the results should it be made by Tom, Dick, and Harry.

With all the skill and caution of the New York chemist, when he first began to make it he made some five failures before he succeeded in producing a satisfactory combination.

This was due to the purchase of Labarraque's solution then on the market. He was forced to have the Labarraque's solution specially made, which was done by Dr. Squibb, of Brooklyn.

P. M. BRACELIN, M. D.

EPILEPSY AND DIGESTION.

PALMER, MASS., *November 5, 1898.*

To the Editor of the New York Medical Journal:

SIR: Surprise was the predominant feeling experienced by me when I read the criticism in the *Journal* of October 22d, by Dr. W. P. Spratling, of Craig Colony, intended for my article of October 1st on Epilepsy and Digestion. My surprise was great at the nature of the criticism, but far greater that he should have criticised at all without reading the article through: it is very evident that the article was not read, or the remarks made would have been left unsaid. He simply *assumed* that I meant to say *all* epilepsy was caused by dyspepsia and malassimilation; had he read on further he would have found: "The writer has never yet seen a case of so-called *idiopathic* epilepsy in which the kitchen did not figure. Of course there *are other causes,* but indigestion and malassimilation are the roots of evil in the great bulk of cases." How could anything be plainer or more pointed?

Further, in an article A Brief Study, etc., by the gentleman from Sonyea, in the *Medical Record* of October 19, 1895, he says: "The growth of the child's brain is rapid, and anything that interferes with *its nutrition* is a serious matter." And he classes teething as one of the events that interfere with its nutrition, and says: "With rickets as a combining cause, seventy-five per cent. of all cases of epilepsy that begin during the first three years of life are due to infantile convulsions ascribed to teething." Has a prolonged residence in the back districts changed the gentleman's views or caused him to forget statistics?

Then, again, had he read the *Medical Record* of July 30, 1898, he would have found that I gave in The Study of Epilepsy a complete classification of causes. And this sentence in particular ought to arrest his attention: "*Among* such derangements of physiological functions causing epilepsy, malassimilation with its parent, dyspepsia, holds without dispute, in my mind, first place." And when it is remembered that that speaks of only one of four groups of immediate causes laid down by me, my position is readily understood.

In the *Boston Medical and Surgical Journal* of July 14, 1898, under the head of Relation of Epilepsy to Other Diseases, I laid great stress on the aid given it by numerous ailments.

But let us revert for a moment to that preserpentine Garden of Eden in the Genesee Valley: there is no wonder that the superintendent thereof lays so little stress on nutritive derangements when he can show in his garden alone, out of about three hundred and fifty inmates, three hundred perfect stomachs, three hundred normal body metabolisms, over eighty-five per cent. of people whom the law has pronounced incapable of self-maintenance, without a care, with never a fear of what they eat, of when they eat, of where they eat. That is, indeed, marvelous; would that men of the business world could make such a showing. But, seriously, does the superintendent of Craig Colony mean to assert that the cell metabolism of these people is normal in the brain, in the nerve, in the bone, and in other tissues? Could seriousness and such rashness go together?

And I object to having my friend Hippocrates given such a slap as to say that "scientists" were trying seven hundred years before he was born to find the cause of epilepsy. Does the Sonyea Historical Society countenance such statements? Or, perhaps, this society has included Hygeia, daughter of Æsculapius, among the "scientists" for having mythically cured Hercules of his fits.

How far short of the average of their fellow men do the patients at Craig Colony fall in stature, in weight, in lung and muscle capacity? How many dilated stomachs and irritable hearts are there among them? How many dry skins and sparsely covered pates? How many finger and toe nails show corrugations? How many livers and spleens and other glands are perfect? Each answer to those questions would, doubtless, cause numbers to drop from the ranks of the three hundred elect—for all these points show perverted nutrition.

The reasonable critic should not for a moment permit himself to be led into a needlessly irrelevant criticism of an article unread by him.

EDGAR J. SPRATLING, M. D.

Book Notices.

Diseases of the Stomach. A Text-book for Practitioners and Students. By MAX EINHORN, M. D., Adjunct Professor in Clinical Medicine at the New York Post-graduate Medical School and Hospital, etc. Second Revised Edition. New York: William Wood and Company, 1898. Pp. xvi–486. [Price, $3.75.]

THE popularity of the book is shown by the early appearance of the second edition. As a year only has elapsed since the first edition, it can not be expected that we are to be confronted with many startling innovations. Nevertheless, the book has been improved in many ways by the addition of new matter, and is in every respect thoroughly up to date. It may safely be recommended as the best text-book on the subject in the English language.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. Med. MARTIN CHOTZEN, Spezialarzt für Hautkrankheiten in Breslau. Heft VII. Heft VIII. Heft IX. Pp. 79 to 107. Pp. 109 to 119. Heft X. Pp. 121 to 134. Hamburg und Leipzig: Leopold Voss, 1898.

THE first six parts of this atlas have already been reviewed, and, while full credit has been given to the valuable intentions of the author, praise could not be given for the illustrations which constituted the pictorial part of the work. The same may be said in regard to the present numbers. Plates 38 and 39, showing leucoderma colli and syphilis, may be considered apart from the others as notably good, but the remainder suggest much more the reproductions of portraitures of cutaneous disease seen in the works of Cazenave and Schedel, Alibert and Roger, and other earlier publications in this sphere, and can not be brought into comparison with those exquisite plates of modern workmanship represented by the *International Atlas of Rare Skin Diseases,* etc. The text is very good, but it would be difficult to recognize from the illustrations the diseases which the author intends to represent, or to reconcile them with what is seen in the living subject.

The Treatment of Skin Cancers. By W. S. Gottheil, M. D., Professor of Dermatology at the New York School of Clinical Medicine, etc. New York: The International Journal of Surgery Company. Pp. 67.

The author of this work hopes that it will contribute to remove from the hands of unauthorized practitioners these forms of disease and to place the caustic method at the disposal of the profession at large. The gist of the publication is comprised in the pages devoted to treatment. All caustic methods are touched upon, while space is also given to such procedures as curetting, electrolysis, etc. The author considers arsenic to be *par excellence* the best caustic. He alleges certainty of action for it, but states that "repeated applications may be needful." It is not, however, said whether "repeated applications" are necessitated by relapses or for what reason. He prefers Marsden's paste after curetting, but refers to other procedures. We regret that the statement should be made that the use of caustics is the most certain means of cure of cancer. "I have yet to see a case of return *in situ* . . . after its proper employment," says the author. Experience has taught all who see much of the disease that returns occur no matter what method is employed. Numerous illustrations accompany the text.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic, etc. With Ninety-nine Illustrations. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xv–9 to 307.

In an exceedingly concise manner, Dr. Schamberg disposes of the subject of diseases of the skin in No. 16 of a series of *Quiz Compends,* and illustrates the subject with numerous pictures representing the gross and clinical appearances of the diseases and also the histological changes in the tissues. The most prominent symptoms of all forms of cutaneous eruption are dealt with, and at a glance the diagnosis of any case presenting itself to the practitioner or student would be suggested. The book may be recommended to all who desire and need a concise reminder of things they have forgotten, inasmuch as it is a compendium of the works of many of the best dermatologists we have, to whom, besides, credit is given in the author's preface. We would only advise better proof-reading, as it would be difficult to find on the skin the disease "post-mortem prostate" (*vide* Contents).

Prize Essays on Leprosy. By J. Ashburton Thompson, M. D., D. P. H., and James Cantlie, M. A., M. B., F. R. C. S. London: The New Sydenham Society, 1897. Pp. 3 to 413.

The present volume is no exception to the rule that all the publications of the New Sydenham Society are of great interest and value. The first essay, by Thompson, is entitled A Contribution to the History of Leprosy in Australia, and he deals with the two questions: Has Leprosy recently increased in the Australian Continent? If so, to what may that increase be due? In dealing with the first, he sketches the physical conditions of the land, the modes of life of the aborigines, and the general conditions under which they lived, their means of intercommunication, and also their association by voyages, etc., with other countries and races of people, with a view of tracing a probable importation of lepers among the natives. He concludes that the matter is doubtful, and then proceeds to inquire by a review of literature as to whether there was any evidence of the existence of leprosy among the natives at the time of their discovery. The result of his investigations is that "no record of lepra among the aboriginals in any explored part of the continent has ever been made"; and no records exist suggesting the suspicion of leprosy. That the natives are susceptible to the disease, however, is shown by the existence and recognition of leprosy among them to-day, though no cases were recorded prior to 1892. The chapter is replete with information on the subject and is well worth careful perusal. The same may be said in regard to sections vi to xiv, dealing with the occupation of Australia by the whites and by the Chinese. Particularly interesting is section xvii, General Remarks on Communicability. It may be especially recommended for careful study to those persons who inculcate in unmeasured terms in the daily and medical press the excessive contagiousness of leprosy and would make of the occurrence of one case the starting point of an epidemic. The literature bearing on this question is carefully sifted by Thompson, and he decides against the "inoculability of leprosy in its morbid products."

The remaining sections deal with the subjects: Was Australia free from leprosy in its primæval condition? Recorded occurrences of lepra among the Chinese in New South Wales and Victoria. Recorded occurrences of lepra in the whites in New South Wales and Victoria. Provisional conclusions. He says that, doubtful as many points remain, two seem tolerably well established: I. Although lepers were imported to Victoria during a long term of years and in considerable numbers, and always remained entirely unrestricted in their movements among the whites, *no* Victorian native white who has *never left the colony* has ever been attacked. Moreover, the disease died away in Victoria independently of restrictive measures, which were first instituted in March, 1893. II. Notwithstanding colored aliens of many races, which have furnished cases of leprosy in Australia, have been imported for many years, and although native whites who had never left the country have been attacked in New South Wales and Queensland, yet no ground exists for surmising that any native white who lived south of the thirty-fifth parallel of south latitude ever acquired leprosy.

The appendix contains all the data upon which the writer has based his work. The essay is of vivid interest to those interested in leprosy, and can not be too highly recommended for study to the contagionists.

Cantlie's essay also is full of interesting material bearing on the subject. Our space does not allow of an extended review of it, and it need only be mentioned that it contains reports on leprosy obtained in answer to circulars sent to observers throughout the countries already mentioned, as well as to others in Oceanica. It rounds out the book and makes of the volume a most valuable contribution to our knowledge on the subject of leprosy.

A Clinical Treatise on Diseases of the Breast. By A. MARMADUKE SHEILD, M. B. (Cantab.), F. R. C. S., Senior Assistant Surgeon and Lecturer on Practical Surgery to St. George's Hospital, etc. London and New York: The Macmillan Company, 1898. Pp. xvi–510. [Price, $5.]

THIS book, which is one of the most valuable additions to the literature of this very important subject, is largely given up to the discussion of tumors of the mamma, and when one considers the relative importance of these as compared with other diseases and the frequent errors in their diagnosis and treatment, this seems a natural and just division. A chapter each is given to the structure of the breast, mastitis, acute and chronic, and affections of the nipple and integument, but the bulk of the book is devoted to the pathology, diagnosis, and treatment of tumors. The breadth of the author's clinical experience has enabled him not only to offer many practical suggestions, but also to select from the literature those facts that would prove most valuable from a clinical standpoint. The text is thoroughly clear and well written and shows abundant evidence of a rare power to define and classify. Its tone is thoroughly conservative on all such controversial topics as the relation of psorosperms to malignant disease, yet sufficiently radical when the author upholds the demand for the widest removal of all suspected tissue in operations for carcinoma. Too much can hardly be said in praise of the chapter on the diagnosis of cancer, with its simple, concise statement of facts and its careful weighing of the importance of symptoms. The illustrations, which are almost all original, have been beautifully produced and the large number of colored plates adds much to the value of the book. The excellent work of the publishers ably seconds that of the author and leaves little to be desired.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M. D., LL. D., F. R. C. P., Examiner of Midwifery to the Universities of Cambridge and London, and to the Royal College of Physicians, etc. Seventh American from the Ninth English Edition. With Seven Plates and Two Hundred and Seven Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xvii–33 to 687.

THIS latest edition of Dr. Playfair's well-known work contains no marked changes. The chapter on Conception and Generation has been rewritten and brought up to date; otherwise the only additions are a revision of the text, with a few new illustrations.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by JUDSON DALAND, M. D. (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. MITCHELL BRUCE, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen, etc. Volumes I and II. Eighth Series, 1898. Philadelphia: J. B. Lippincott Company, 1898. Pp. ix–355; xii–336.

IN reviewing a work of this kind it is impossible to do much else than to speak of the more striking features, yet one hesitates to select lest he shall seem to discredit parts in no way less worthy. Of the general character of the work it is unnecessary to speak here; former series have made it well known and highly valued. It is enough to say that the lectures selected cover the same wide range and are as aptly chosen as ever. In volume i Hayem's brief synopsis of the treatment of chlorosis and von Leyden's masterly classification of myocarditis, while containing nothing essentially new, are very attractive. In volume ii the article by Professor Grancher on The Treatment of Tuberculosis touches the right note, for he points out the importance of an early diagnosis, and shows how much may be done by proper attention to rest, diet, and hygienic surroundings. In the search for a specific we are too prone to forget these therapeutic aids, without which no specific is of any value. This volume also contains a lecture by Ewald on Some Forms of Gastralgia which will be an aid to diagnosis in this comprehensive condition. The most important of the surgical articles is the paper upon the Ætiology and Classification of Cystitis, by Senn, which shows that author's usual aptness for classification and throws much light on a condition too little understood. In short, if we may judge by these two volumes, there is no reason to fear that the eighth series of *International Clinics* will in any way fall behind its predecessors.

BOOKS, ETC., RECEIVED.

Manual of Diseases of the Skin. With an Analysis of Twenty Thousand Consecutive Cases and a Formulary. By L. Duncan Bulkley, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. Fourth Edition, revised and enlarged. New York and London: G. P. Putnam's Sons, 1898. Pp. xi–362. [Price, $1.25.]

International Clinics. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (Univ. of Pa.), Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. Mitchell Bruce, M. D., F. R. C. P., London, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and David W. Finlay, M. D., F. R. C. P., Aberdeen, Professor of Practice of Medicine in the University of Aberdeen, etc. Volume III. Eighth Series. Philadelphia: J. B. Lippincott Company, 1898. Pp. ix–355.

An Epitome of Human Histology. For the Use of Students in Connection with Lectures and Laboratory Work. By Arthur W. Weysse, A. M., Ph. D., Instructor in Biology, Massachusetts Institute of Technology, Boston. New York, London, and Bombay: Longmans, Green, & Co., 1898. Pp. ix–90.

A Pocket Medical Dictionary giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences. Including very Complete Tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilli, and Thermometric Scales, and a Dose List of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures. By George M. Gould, A. M., M. D. A New Edition, entirely rewritten and enlarged, including over Twenty-one Thousand Words. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. 9 to 530. [Price, $1.]

The Medical News Visiting List, 1899. Thirty Patients a Week. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 3 to 192.

Archives of the Röntgen Ray (formerly Archives of Skiagraphy). Edited by W. S. Hedley, M. D., M. R. C. S., in charge of the Electrotherapeutic Department in the London Hospital, and Sydney Rowland, M. R. C. S., etc. London: The Rebman Publishing Company, 1898. Volume III. No. 1. Pp. 41. [Price, each part, $1.]

L'Occlusion intestinale. Par M. D. Bauby, Chef des travaux de médecine opératoire à la Faculté de Toulouse, etc. Paris: Masson et Cie., 1898. Pp. 5 to 206. [*Encyclopédie scientifique des aide-mémoire.*]

Énergétique musculaire. Par M. F. Laulanié, Professeur de physiologie à l'École vétérinaire de Toulouse. Avec une préface par M. A. Chauveau, Membre de l'Institut. Paris: Masson et Cie., 1898. Pp. 5 to 206. [*Encyclopédie scientifique des aide-mémoire.*]

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. med. Martin Chotzen, Spezialarzt für Hautkrankheiten in Breslau. Heft XI. Pp. 135 to 145. Heft XII. Pp. 147 to 161. Hamburg und Leipzig: Leopold Voss, 1898.

Transactions of the Pathological Society of Philadelphia. Containing the Report of the Proceedings of the Society from October, 1895, to June, 1897.

Proceedings of the Academy of Natural Sciences of Philadelphia, 1898. Part II. April–September.

Tenth Report of the State Board of Health of the State of Maine. For the Two Years ending December 31, 1897.

Transactions of the Michigan State Medical Society. For the Year 1898. Volume XXII.

Transactions of the Grant College Medical Society, Bombay. From January to December, 1897.

Deaths (Ten), Surgical, and Causes. By B. Merrill Ricketts, M. D., of Cincinnati. [Reprinted from the *Cincinnati Lancet-Clinic.*]

Serpents and their Venom: Copperhead, Coral, and Rattlesnake. By B. Merrill Ricketts, M. D. [Reprinted from the *Cincinnati Lancet-Clinic.*]

The Dermal Coverings of Animals and Plants. By B. Merrill Ricketts, M. D. [Reprinted from the *Cincinnati Lancet-Clinic.*]

Three Cases of Amaurotic Family Idiocy. By A. Jacobi, M. D. [Reprinted from the *Archives of Pædiatrics.*]

Dermoid Cyst over the Centre of the Large Fontanelle. By A. Jacobi, M. D. [Reprinted from the *Archives of Pædiatrics.*]

Ergot in Chronic Malaria. By A. Jacobi, M. D. [Reprinted from the *Medical News.*]

Manifestations of Syphilis in the Mouth. By L. Duncan Bulkley, M. D. [Reprinted from the *Dental Cosmos.*]

The Dangers of Specialism in Medicine. By L. Duncan Bulkley, M. D. [Reprinted from the *Bulletin of the American Academy of Medicine.*]

A Contribution to the Study of the Muscular Dystrophies. By Augustus A. Eshner, M. D., of Philadelphia. [Reprinted from the *American Journal of the Medical Sciences.*]

Orchitis, or Epididymitis, as a Complication or Sequel of Typhoid Fever. By Augustus A. Eshner, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Symptoms and Diagnosis of Caries of the Spine. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Philadelphia Medical Journal.*]

The Trendelenburg Position for Prolapse of the Funis. By R. Abrahams, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

An Additional Case of Double Congenital Microphthalmos. By Cassius D. Wescott, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

What should the General Practitioner know about the Eye? By Cassius D. Wescott, M. D. [Reprinted from the *Corpuscle.*]

A Case of Quinine Amaurosis. By James Moores Ball, M. D., of St. Louis. [Reprinted from the *Ophthalmic Record.*]

Kryofine. A New Antipyretic, Analgetic, and Sedative. By Arthur B. Mink, M. D., of St. Louis. [Reprinted from the *Tri-State Medical Journal.*]

The Surgical Treatment of Uterine Myomata. By Henry O. Marcy, M. D., of Boston. [Reprinted from the *Journal of the American Medical Association.*]

Some Further Notes on the Use of Bromide of Strontium in Epilepsy. By Antony Roche, M. R. C. P. Irel., etc. [Reprinted from the *Lancet.*]

Dermatological Excerpts from the Case Book of a General Practitioner. By Adelphi Gottlieb, M. D. [Reprinted from the *Medical Review of Reviews.*]

Present Status of Serum Therapy. By George W. Cox, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Intravenous Injection of Normal Saline Solution. By Horace Tracy Hanks, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Miscellany.

The Treatment of Lead Colic.—According to the *Cleveland Medical Gazette* for October, Deléarde, of Lille, France, treated five sick with lead colic by injecting five hundred cubic centimetres of physiologic salt solution under the skin of the abdomen; in all the cases muscular pain soon disappeared; after twenty-four hours, instead of the constipation, a beneficial diarrhœa set in, lasting for two to three days, when it ceased.

An Unusual Case of Carcinoma of the Stomach.—Dr. C. W. Dulin (*Kansas City Lancet,* October) records the case of a man, fifty-six years old, who enjoyed excellent health until twenty-seven months previously, when, after having accidentally ingested an unknown poison, he had an attack of gastritis. He had followed treatment prescribed by various physicians for cirrhosis of the kidneys, dysentery, nervous dyspepsia, and tuberculous enteritis. He lost a hundred pounds in weight. For five weeks, until the time of death, he had a severe diarrhœa with from eight to thirty passages of a clear watery fluid every twenty-four hours. Sometimes a small amount of white mucus of the consistence of egg albumin appeared in the stool.

When examined three weeks before death, he had not vomited for two years. He never passed blood from mouth or anus. The appetite was always good, and ingestion of food caused no inconvenience except slight flatulence and aggravation of the existing diarrhœa. The temperature was normal, the pulse eighty to ninety; the tongue coated, and there was *fœtor ex ore;* the chest normal; the heart and lungs negative; the abdomen scathoid; the liver normal; the spleen not palpable; there was slight tenderness on deep pressure over the epigastric region, but no tumor or induration was demonstrable in any point in the abdomen or pelvis. After a fast of eighteen hours a small flexible stomach tube was introduced, and a few cubic centimetres of gastric juice were withdrawn. The stomach was then filled with tepid water. The patient did not complain of the least inconvenience until three and a half pints had been poured in, when he complained of pain in the umbilical region. The stomach could not even then be outlined either by inspection, palpation, or percussion, and when the water was withdrawn only one pint could be obtained.

After an examination of the gastric juice Dr. Dulin found an absence of free hydrochloric acid, an abundance of lactic acid, and no reaction for pepsin or pepsinogen; also a large number of red blood-corpuscles. He then made a diagnosis of carcinoma of the stomach.

At the necropsy the stomach measured eight by four inches, and held only one pint. The walls were enormously thickened, varying from half an inch along the greater curvature to an inch and a half at the cardiac end and pylorus. The mucous membrane and submucosa were thickly infiltrated with epithelial cells supported by a dense growth of connective tissue. The serous membrane showed only a few points of invasion by the carcinomatous growth. The duodenum and œsophagus were each normal at points an inch from their respective gastric ends. The glands along the lesser curvature were very slightly enlarged, but showed a dense carcinomatous infiltration; those along the greater curvature were in no way involved.

The small intestine was normal, except that at several points it was atrophied and the lumen diminished from inactivity alone. The mucous and serous membranes were smooth and shining throughout. The great omentum was drawn up in a mass so that it covered only the lower portion of the stomach and the anterior surface of the transverse colon. No adhesions were to be found anywhere about the stomach or great omentum.

This case, says Dr. Dulin, illustrates very forcibly several points that he has often tried to emphasize:

1. That carcinoma of the stomach in the early, and sometimes in the later, stage presents no pathognomonic physical sign or symptom, but that exactly the same physical signs and symptoms are found that are met with in chronic catarrhal gastritis, gastric ulcer, neuroses of the stomach, and in dilatation.

2. That by a careful examination of the gastric juice and the gastric contents we may obtain definite facts whereby we are enabled to make an accurate diagnosis in the incipient stages of all gastric disorders.

3. That death from carcinoma of the stomach is not in the majority of cases due to a systemic infection, but to obstruction by the tumor or to destruction of the gastric glands and the resulting diarrhœa, caused by the toxic products of delayed gastric digestion.

Poisoning by Paraffin.—A. M. Dougall (*Medical Chronicle; Annali di farmacoterapia e chemica,* September, 1898) records the case of a child eighteen months old who swallowed a small quantity of "oil of paraffin" (coal oil). There was no vomiting, but a severe cough was induced, and in a short time a complete loss of consciousness. Then followed four convulsive attacks, marked cyanosis, complete rigidity of the limbs, and upward rotation of the eyes. Little by little the respiration became slower and more superficial, though the pulse remained fair, and the pupils remained normal, reacting well to light. However, the cyanosis increased, and, in spite of artificial respiration, the child died in two hours. Attempted lavage of the stomach proved useless because the catheter became obstructed by mucus. At the autopsy the œsophagus was found to to be reddened, the stomach pallid and containing much mucus mixed with drops of the oil.

The Purpose of Examinations.—Dr. C. J. Cullingworth (*Lancet,* October 8th), in his introductory address at the opening of the medical department of the Yorkshire College, Leeds, England, made the following remarks: It is well that examiners should be reminded from time to time of the main object of examination—namely, to test the fitness of the candidate to be intrusted with the care of the sick. The importance of keeping this in view was brought home very forcibly to all who were present by an amusing incident which took place at a meeting of the board of studies when the regulations of the Victoria University were under discussion. A member of the board, overflowing with compassion for the unfortunate candidate, proposed to lower the pass standard for the M. B. degree from one half of the maximum number of marks obtainable to one third. It was a bold suggestion, and after the resolution had been duly seconded there was for a few moments an ominous silence. Then one of the arts professors rose and asked the chairman, in the most innocent manner, if he was correct in supposing that this degree would confer upon its possessor a legal qualification to practise his profession. The chairman replied that it would. "Then I presume," continued the professor, still in the blandest tone, "that if we vote in favor of this resolution it will be equivalent to saying that we shall be quite satisfied if, when the newly qualified graduate has become the medical attendant in our own families, he is correct in his diagnosis and treatment once out of three times." It is needless to say that nothing more was heard of the resolution. Obviously the community must be considered in this matter as well as the candidate.

Study of Tactile Impressions.—M. Dussaud (*Tribune médicale,* October 19th) recorded his study of the impression produced by causing to pass more or less rapidly in contact with the fingers a series of reliefs of an object in motion in its successive different positions, after the fashion of the kinematograph. The reliefs, all of the same dimension, were produced in succession upon a band passing evenly below an aperture equal to each of them for a determined lapse of time. In this manner he had been able to study the tactile sensations in regard to the time necessary for their production more or less well defined, the duration of their persistence, and their amenability to education. With a little practice he found that a relief is quickly recognized, and since no account is taken of the substitution of the following relief in consequence of the rapidity of the change, an impression that the object is in motion is produced. This procedure permits people deprived of sight to acquire by practice a perception of the action of movement and of the displacement of things, as, for example, the breaking of waves, the waving of branches, the flight of birds, etc.

Kitchen Bacteriology.—According to the *Dietetic and Hygienic Gazette* for November, a Königsberg doctor, Privat-docent Dr. Jäger, recently gave a course of hygiene and bacteriology for ladies, which included practical exercises in applied bacteriology, for instance, in the preparation and preservation of food by methods used in bacteriological work. At the close of the lectures the hearers were allowed to invite their friends to an exhibition of kitchen products—some raw and some cooked—that had remained in a warm room for periods varying from five to sixteen days, and which were all found perfectly fresh and quite unchanged in appearance and taste. Nor had any complicated procedure been required to obtain this result. The method simply consisted in: 1. The use of vessels with well-fitting, overlapping lids, instead of the inside lids used in kitchens the world over, which allow stray bits of matter that may adhere to their rim to fall into the food. 2. Avoidance of opening the vessels in which the food was kept, or, where this was indispensable, careful manipulation as in bacteriological work. 3. The use of cotton wool as a covering. Cotton-wool lids had been specially prepared to fit the wide tops of the food vessels; they consisted of a circular disc of cotton wool, tightly held between two metal rings, the outer of which formed the overlapping rim of the lid. The *Gazette* says that it is to be hoped that Dr. Jäger will find imitators, and that "kitchen bacteriology" may become a study with ladies. Certainly there is much room for improvement in the old-fashioned kitchen methods to which our "family plain cooks" cling with such desperate energy, and which they seem to regard with an almost superstitious reverence.

The Triumphs of Modern Surgery.—The *Public Health Journal* for October must be held responsible for the following:

They sawed off his arms and his legs,
  They took out his jugular vein;
They put fancy frills on his lungs,
  And they deftly extracted his brain.
'Twas a triumph of surgical skill
  Such as never was heard of till then;
'Twas the subject of lectures before
  Conventions of medical men.
The news of this wonderful thing
  Was heralded far and wide;
But as for the patient, there's nothing to say,
  Excepting, of course, that he died.

The Treatment of Tabes Dorsalis.—Dr. Savary Pearce (*Therapeutic Gazette,* October 15th) is more hopeful of this condition than are most therapeutists. He says: Treat syphilis thoroughly. Keep up the general health of the patient in suspected tabes. At all hazards look to the stomach; treat any rheumatic or other diathesis; continue small doses of iodide of potassium and bichloride of mercury, which are valuable alterative adjuncts in most cases from any cause. Cod-liver oil is the nutrient *par excellence.* Diet is paramount and should be a most nutritious one, suitable to the individual case. Donovan's solution, five to ten drops three times daily, and chloride of gold and sodium, one sixtieth to one fifteenth of a grain, sometimes act wonderfully well as alteratives. Antipyrine and phenacetine are the most valued of analgetics, but heart and circulatory depression, which I have seen disastrous in several instances of painful tabes, should be guarded against. Use morphine only as a last resort, else you add to tabes another almost as serious a malady. The phosphates and testicular fluid injections have been proved of value to aid nerve nutrition.

Suspension by the Mitchell or Lombard apparatus (head-elbow) has been fully reported on by Hinsdale, with beneficial effects in some cases. This is probably due to its stretching the membranes of the cord, freeing the posterior roots, and hastening circulation in the posterior columns.

The training of coordination, also used at the infirmary for nervous diseases for the past twelve years, consists in having the patient stand with eyes open, then closed, approaching the fingers to the nose, etc., under these two conditions, and also walking upon a straight line; of flexions of the limbs and trunk, and training of static coordination (a treatment recently elaborated by Fränkel). I have seen this treatment do great good, as evidenced by a case reported by me in the *University Magazine* for May, 1898. The more extreme gymnastic measures should be used in the order of strength of the patient—*i. e.,* according as he is in the incipient, the ataxic, or paralytic stages.

Cauterization of the spine may much alleviate pain. Bromides may occasionally be required to allay irritability of the nervous system. Strychnine is apt to do harm, but small doses of nux vomica may do good in toning up the digestive tract. Keep the bowels well open, and the urine normal by diuretics.

Electricity in the form of faradaism and descending galvanism and franklinization are in this order agents of value not frequently enough scientifically used. Hydrotherapy has an important rôle—hot and cold baths. Hydrotherapeutics in the shape of hot and cold douches applied to the spine especially for five minutes daily is often of great stimulating power.

A rest treatment may be essential for the best results in a stubborn advancing case. Such patients should never exercise to tire, and should be in the fresh, dry air much, especially at great altitudes, thus favoring peripheral circulation by decreased pressure. Massage and electricity properly applied are most valuable. The use of a stimulating liniment rubbed well over the surface of the body has proved also of great value in stimulating circulation, so deficient in this class of patients.

The following prescription has done well in the author's hands:

℞	Ammonium chloride	3 drachms;
	Glycerin	1 ounce;
	Tincture of capsicum	½ "
	Peppermint water q. s. to make	12 ounces.

M. Rub on the body daily for twenty minutes, with massage.

Reduction of Strangulated Hernia by Collodion.—According to the *Medical Times* for November, Dr. Schliep, of Stettin, states that applications of collodion are effective in reducing strangulated hernia, and will often succeed in cases in which ether profusely applied to the tumor is without effect. Dip a thin layer of wadding as large as the hand in collodion and apply to the hernia, the parts being previously shaved; keep the wadding saturated with the liquid. The uniform compression made by the collodion, united with the refrigerating action of the ether which it contains, will easily induce reduction, he says, in almost every instance.

Death from Oil of Wintergreen.—According to the *Druggists' Circular and Chemical Gazette* for November, a man who had been drinking too much alcoholic liquor took some essence of wintergreen, which he had heard was good as a restorative. Neither the strength of the essence nor the precise quantity taken seem to be known. Symptoms of poisoning developed and the man applied at a hospital for relief, but the physicians were unable to help him and death ensued.

A case is quoted, says the *Circular*, in the *United States Dispensatory* from the *Medical Examiner*, in which half an ounce of the oil produced in a boy severe vomiting, purging, epigastric pain, hot skin, frequent pulse, slow and labored respiration, dullness of hearing, and excessive gastric irritability, accompanied by an intense desire for food. The patient finally recovered; but the same amount was said by other authorities to have caused death in other cases.

In view of the frequent use of wintergreen as a flavoring ingredient these facts should not be forgotten.

A Sleep of over Fifty Days.—Dr. Markham Skerritt and Dr. James Stewart (*British Medical Journal*, October 1st) record the case of a youth, seventeen and three quarter years of age, who slept for over fifty days under their observation. Attention was directed merely to the prevention of body waste, there being the greatest possible difficulty in getting him to take any food even in a liquid form. At this time his pupils were much contracted and but little affected by light even after he had been roused as much as possible from sleep. There was nothing in any way suggestive of catalepsy. There was a good color in cheeks and lips; the extremities were fairly warm; there was no anæsthesia; he never complained of headache; the pulse was slow and weak; the temperature normal; there was nothing remarkable about the urine, but the tongue was thickly coated with light-brown fur; the knee-jerk was exaggerated, particularly on the left side, and there was at times some ankle clonus.

He lay in a calm, placid sleep uniformly, and when roused to take liquid nourishment (every four hours) he would speak, in reply to direct questions, very much as one does who talks in his sleep. It would sometimes take ten minutes or a quarter of an hour to rouse him sufficiently to prevent his being choked in the attempt to get down the egg and milk, or beef tea, or other nourishment. Indeed, he would frequently drop off to sleep while in the act of putting the cup between his lips. The sleep was never a "profound" one, and when the calls of Nature demanded his attention there was an obvious desire to respond to them; but he would frequently drop off to sleep again before he could be assisted, and the inclination to evacuate his bowels or bladder would then disappear. Gradually this partial response ceased, and he passed in bed his motions, which cascara sagrada kept fairly free. Every effort was made to get him to empty his bladder naturally by propping him up against the wall and otherwise, but it was generally a failure. During this period priapism was very marked, but there were never any seminal emissions, and his hands had to be tied to the bedstead to prevent his practising masturbation—a habit to which he had never been addicted. Another troublesome symptom was the frequent sickness, principally after the first meal of the morning, but this rarely occurred more than once in the twenty-four hours. It may be mentioned that ever since an attack of rheumatic fever, by which his heart was affected, at the age of eight, there had always been a great difficulty in getting him to take sufficient breakfast for a growing lad.

He remained in this condition till the middle of March; then he began, while half awake and half asleep, to talk as if in a dream, sometimes saying things which were ridiculous, and occasionally asking how long he had been ill. He also showed evidence of an emotional tendency unusual to him. His weight, which previously had been gradually decreasing, began now slowly to return to the normal condition, and he was allowed to sit up for an hour or two daily from March 30th. The sense of taste, which was apparently quite absent previously, also gradually returned, but was not entirely restored till very recently.

The first thing he had to do when he commenced to stay partially awake for any length of time was to learn how to balance himself standing; and, next, to learn how to walk without falling to one side. (Even at the present time—six months and a half since his seizure, and nearly four months since the end of his sleep—he is somewhat unsteady in his gait, particularly if he is the least fatigued.) On April 10th he was taken out in a wheel chair, two months and six days after he had been put to bed. Ever since that date he has been spending as many hours as possible in the open air.

There is no impairment whatever of his mental faculties. His memory is quite clear with regard to events prior to his journey to Plymouth on January 17th, and those which have happened since the beginning of April last. As to what occurred in the intervening period, he has no recollection whatever beyond the fact of his brother and sister meeting him at the Bristol Station on January 27th. Everything between that date and the end of March is to him a complete blank.

A New Hot-water Bottle.—According to the *Druggists' Circular and Chemical Gazette* for November, the expensiveness and want of durability in the ordinary rubber bottles and ice-bags which have been so essential in the sick chamber have long been a perplexing problem. Experiment with rice paper, covered inside and out with a coating of Japanese lacquer, led Professor Jacobsohn to recommend this material to the Berlin Society of Internal Medicine as far superior to rubber. In strength, flexibility, imperviousness, lightness, and durability it is said that this bottle leaves little to be desired.

Christian Scientists et Hoc Genus Omne.—A correspondent of the *British Medical Journal* for October 29th suggests the passage of a short act of parliament, making it a penal offense for any one to practise any part of the medical profession for gain unless he or she is a registered medical practitioner. This would be rather hard on the dentists, however, whose art is surely a part of the profession of medicine, and a very important one at that.

Death of Dr. Azzio Caselli.—Under the heading of Death of a Great Surgeon, the Roman correspondent of the *Lancet* for October 29th says:

Italian surgery has of late years progressed conspicuously, mainly from its adoption of the antiseptic therapeutics and the tidiness, not to say cleanliness, they imply. Formerly the mortality consequent on its intervention was out of all proportion to the skill in diagnosis and the manual dexterity it evinced. Excellent anatomists and "artists with the knife," the surgeons of Italy had too often the chagrin of seeing all their professional insight and "assured boldness" frustrated by sequelæ due to slovenliness in treatment. Thanks to "Listerism," however, all this is changed, at least in the great centres of the healing art—nowhere, indeed, more strikingly than in the clinic of Dr. Azzio Caselli, professor of operative surgery in the University of Genoa. He was a man, whether as a teacher, an operator, a consultant, or a citizen, whom Italy could ill spare; but now—such has of late been her evil fortune—he has gone to swell the list of her prematurely "lost leaders," having succumbed to a lingering and intractable disease at the early age of fifty-one years. Azzio Caselli inherited an honored name in surgery, his great-grandfather, his grandfather, and his father having each been distinguished in the art as well as known to fame far beyond their native Reggio Emilia. There he himself was born in 1847, and thence, with a view to the medical career, he proceeded as a student to the University of Bologna. From that seat of learning he passed to Naples, where he became a pupil of the eminent surgeon Rizzoli, who quickly discerned in him the makings of a sound and self-reliant operator. Graduating at the age of twenty-two years, he was first called to fill the post of *chirurgo primario* in the hospital at Reggio, and in that capacity laid the foundation of the esteem in which he was held in France, Germany, Austria, Hungary, and the British Isles. He created at Reggio the "Museo di Anatomia Patalogica," which even yet rewards a visit by reason of not a few of its remarkable preparations and which forms a kind of running commentary on the many brilliant operations he performed between his twenty-fifth and thirtieth year. As a teacher, moreover, he was careful to insist on "guiding principles" amid the details which, in their sheer multitude, are so apt to bewilder; and many were the ingenious and memorable generalizations of his which helped the student to a mastery of his subject in theory and in practice. In 1882 his reputation, by this time securely established, led to his appointment to the professorship of clinical surgery in the University of Genoa, a post he held with increasing popularity till his death on October 19th. Keeping pace with all the resources of the modern school, when, indeed, he did not contribute others of his own, he made his clinic the resort of ardent young aspirants to the surgical career from the remotest corners of the kingdom. Operations apparently hopeless seemed to turn out well in his hands, imparting the lesson so useful in these days, especially to Italians, "never to despair of the healing art." In laparotomy, in thoracic and in cerebral surgery, his results were generally as gratifying as they were encouraging and stimulating—indeed, those of Billroth, his lifelong friend, had scarcely a more inspiring effect on pupil and colleague alike. Add to this a nature finely "touched to the issues" of art and literature, a sense of citizenship which fructified in many an act of public philanthropy, a power to make and to keep friends in all ranks of life and under every variation of circumstance, and the outside world will have some appreciation of the feeling of loss which in the week now closing accompanied Azzio Caselli to the grave.

Presentation to Newark Eye and Ear Infirmary.—We learn from the *Newark Evening News* for Saturday, November 12th, that Dr. J. Ackerman Coles has presented to the Eye and Ear Infirmary two six-per-cent. first mortgage bonds for five hundred dollars each, the interest to be expended in the purchase of new instruments.

The University of Tennessee.—On Friday, November 11th, we regret to learn, the building occupied by the medical department was destroyed by fire.

The Combined Scleroses of Pernicious Anæmia.—At a meeting of the New York Neurological Society held on November 1st, Dr. Charles L. Dana read a paper in which he said that seven years ago both Dr. Putnam and himself had stated that this affection occurred chiefly in middle life and later, and was associated with cachexia. In 1893, Hochhaus had reported a case in a German journal, but the German investigators had endeavored, for the most part, to establish an organic change in the spinal cord. When the specific germ or poison was not known, the identity of the symptoms and their sequence furnished a better guide to the nosologist than the anatomical findings did. He had seen six cases in the last three years, and in his experience the disease was more common than multiple sclerosis and nearly as common as spinal atrophy. Much light had been thrown upon the affection by a study of the pathological lesions found in the spinal cord in cases of pernicious anæmia. There was usually a degeneration affecting the posterior columns, sometimes the posterior and lateral together, but never the lateral alone. This degeneration was chiefly in the nerve fibres, and was unaccompanied by shrinking of the cord, such as was seen in locomotor ataxia.

Dr. Dana then reported the case of an engineer, about fifty years of age, who was not syphilitic. About a year before coming under observation the man had noticed that, without apparent cause, the fingers became numb, first those of the left hand and then those of the right. Two months before he was seen by the speaker he had felt a band sensation about the waist, and he was affected with weakness of the lower extremities and wasting of the muscles of both upper and lower limbs. On his admission into Bellevue Hospital he was quite feeble and complained of pain in the back and of insomnia. There was decided paresis of the lower extremities, with a weakness of the arms, but the latter could be moved in all directions, although coordination was very imperfect. The knee-jerks were exaggerated. The chief characteristics of his sensory disturbances were great prominence of muscular anæsthesia and ataxia, with some loss of the pain and temperature senses, and slight loss of the tactile sense. The pupils were normal, and there was no nystagmus. The general symptoms were those of a person suffering from spastic paralysis of the legs and marked ataxia with some weakness of the upper extremities. He was emaciated, but the anæmia was so slight that the blood was not examined. There were no special diarrhœas or hæmorrhages. His mind was clear up to the last week of his illness. There were no convulsive seizures. He was under observation for over six weeks, during which time the paralysis of the legs became almost complete, and he lost control over the bladder. He died from exhaustion on November 8th. The autopsy was made by Dr. Philips, of the Carnegie Laboratory, who also presented a detailed report of the findings in the spinal cord. Outside of the nervous system there were no important pathological lesions found at the autopsy. The liver was reported to be normal, as were also the suprarenal bodies. The brain, pons Varolli, and medulla oblongata showed no gross changes. The dura mater of the spinal cord was slightly thickened and adherent, and the pia mater was decidedly congested over the cervical and dorsal regions. There were also brown atrophy of the heart muscle, chronic diffuse nephritis, and simple atrophy of the liver with pigmentation. The results of the microscopical examination of the spinal cord were illustrated by a series of drawings. There were two original foci of disease in the spinal cord—in the lower cervical and lower dorsal regions, the upper being the older one. The earliest part attacked was the posterior columns in the lower cervical region, especially in the central and deep parts—*i. e.*, the posterior and median columns. The process never entirely involved the root zones. The posterior and lateral columns were diseased throughout their whole length. Below the crossed pyramidal tract the disease was limited so sharply that it might be called secondary, but the microscopic appearances were almost too active for this. The gray matter of the anterior horns was seriously diseased and, in parts, entirely softened. Shortly before death there was a central softening involving the anterior horns and part of the anterior columns at the level of the lower cervical and mid-dorsal segments. The neuraxones were in great part destroyed, leaving vacuoles. In the older areas this was followed by true sclerotic changes. In places the middle and outer coats of the blood-vessels showed a sort of hyaline thickening somewhat resembling that seen in pernicious anæmia.

Dr. Dana said that he had analyzed seventeen cases like those under discussion. The initial nervous symptom was always a persistent paræsthesia, usually of the foot, associated with some weakness. This was generally followed quickly by ataxia and loss of motor power, and severe pains in the back and limbs were not uncommon. The disease progressed rather rapidly, so that often within one or two months the symptoms were well developed. In from six months to a year the process commonly reached its acme, and during this time the anæmia became marked. After a time control of the bladder and rectum was lost, and in the fatal cases death occurred in from six months to two years. It was probable that some cases could be relieved. The essential nature of the process was a primary nerve degeneration affecting the neuraxones first, particularly in the columns of Goll, and the crossed pyramidal tract. The same poison which caused pernicious anæmia was responsible for this disease. It usually developed between the ages of fifty and sixty, and followed the acute infections, prolonged diarrhœal or dysenteric attacks, lead poisoning, malarial infection, etc. In ten per cent. or more of the cases pernicious anæmia undoubtedly coexisted.

Dr. Dana wished to insist especially upon the fact that there was a group of cases which could be recognized clinically, and that underlying them there was a pathological condition described in his paper. Sometimes these were cases of pernicious anæmia, but in the majority of instances this was not the case. There was often a decided secondary anæmia, but even this was not infrequently absent. The changes that he had observed were much more pronounced than those of pernicious anæmia. Dr. Burr had maintained that in pernicious anæmia there was no vascular disease. The speaker had himself examined the cortical cells in severe secondary anæmia, and had noted marked pigmentary degeneration. One very striking characteristic of this malady was its rapid course. Some cases of ataxic paraplegia undoubtedly came on suddenly, usually as a result of thrombosis or rupture of a vessel in the spinal cord, but they could be excluded by the mode of onset and by the duration.

The Alvarenga Prize of the College of Physicians of Philadelphia.—We are informed that the College of Physicians of Philadelphia announces the next award of the Alvarenga prize, derived from the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, for July 14, 1899, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but must not have been previously published, and must be received by the secretary of the college on or before May 1, 1899. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award.

The Alvarenga prize for 1898 has been awarded to Dr. S. A. Knopf, of New York city, for his essay entitled The Modern Prophylaxis of Pulmonary Tuberculosis and its Treatment in Special Institutions and at Home.

Professor von Esmarch's Jubilee.—According to the Berlin correspondent of the *British Medical Journal* for October 29th, on the occasion of the fiftieth anniversary of his doctor's degree, Professor von Esmarch, in Kiel, received a congratulatory telegram from the German Emperor, expressing his grateful appreciation of the eminent services rendered by von Esmarch, during his long career, to his students, to the German army, and to humanity in general.

A Question of Priority.—Dr. G. Fütterer (*Medicine*, November) makes a claim for priority in the discovery of the *Bacillus typhi abdominalis* in the gall bladder. His observations on two cases were published in the *Münchener medizinische Wochenschrift*, 1888, No. 19, under the title Untersuchungen über Typhus abdominalis. Dr. Fütterer concludes:

"In view of these facts I feel that I may justly claim to have been the first to discover the presence of the typhoid bacilli in the gall bladder. I also claim priority for expressing the opinion that the relapses of typhoid fever are caused by typhoid bacilli entering the intestines with the bile, a conclusion easily reached from these findings."

Original Communications.

IS APPENDICITIS A SURGICAL DISEASE?

By CARL BECK, M. D.,
NEW YORK.

(Continued from page 732.)

MOST cases of appendicitis do not come under the observation of the surgeon during the first forty-eight hours. Procrastination to the utmost limit before the surgeon with all his terrors is called upon is the too frequent practice. And it is not only the layman; no, sometimes it is a hyperæsthetically disposed colleague who dreads the sight of steel more than the abominable appearance of a bloody tinged intestine bathed in fœtid secretion. This horrid intra-abdominal picture, of course, is veiled from his eyes, and therefore even from his imagination; so that he can give no attention to it. How often have I thought of the simple words of the peerless Henoch, which he spoke in reference to the treatment of dysentery: "Whoever has seen on the autopsy table the immense destruction which the dysenteric ulcers cause will realize why so often our whole therapy sinks into nothingness." Furthermore, it is to be remembered that from a pyappendix sometimes emanates a subphrenic abscess. Cases of this sort are described in my publication on subphrenic abscess (*Medical Record,* February 15, 1896, and Langenbeck's *Archiv,* Bd. lii, Heft 3).

Abscesses in the liver, the pleura, the brain, may also be derived from appendicitis, the same as pyæmia and some lung affections, which figure as causes of death *per se,* while, in fact, appendicitis should be registered as such. So the statistics on appendicitis, as they are offered nowadays, can not be regarded as other than most unreliable. Only the most careful criticism of the cases and their further observation after a so-called well-overcome attack can do justice to the surgeon.

The following *résumé* may now be made:

1. The fate of patients operated upon unsuccessfully by the surgeon on account of extremely high virulence or undue procrastination is sealed beforehand.

2. The patients who were "cured" under medical treatment would also have recovered had they submitted to operation. For the small number of deaths after operation, of which reports are given once in a while, rather the surgical novice than surgery itself is responsible.

3. Regarding the practice of delaying, even among most of those who advocate surgical interference, to recommend operation until abscess or gangrene is demonstrated, it must be realized that with few exceptions all such cases would finally have proved fatal under the pursuance of medical treatment.

According to the calculation of some of the most eminent surgeons in the country, there are about five thousand annual deaths from appendicitis in the United States alone which could have been prevented by early operation; and this enormous number does not seem to me to be exaggerated. We thus arrive at entirely different conclusions from those drawn from many internal statistics which were collected *bona fide.* I trust that I do not exaggerate if I calculate that the percentage of the fatal cases, treated expectantly or internally, if followed up *ad ultimum,* is about thirty. This percentage could be forced down to ten, or even to five, if the custom was adopted of operating early. Is it not strange that of all the patients whom I have operated upon as early as twelve hours after the onset of the attack, none have died? Unfortunately, this chance was given to me but twenty-seven times, while among those of my patients on whom I operated forty-eight hours after the onset there is a mortality of twenty-four per cent. Why do the internists not take to heart the excellent words of Strümpell, "Better too early than too late." Such golden words, coming from a distinguished internist, do more for the popularization of the surgical standpoint than all efforts of the surgeons themselves; just as it was only after rib resection in pyothorax was indorsed by so popular a man as Gerhardt that this operation was fully recognized by the family physician.

There are yet to be considered those cases of appendicitis which are sent to the hospital under the diagnosis of internal obstruction, ileus, etc., from the standpoint of euthanasia. Such cases being far advanced, differentiation is almost impossible without operation.

But there are still a number of other diagnostic errors which are made by the most experienced internists and surgeons, and which are also cleared up by the operation only.

Empyema of the gall bladder, for instance, is a frequent source of such error. A striking case of this kind was published by me in the *New York Medical Journal,* May 8, 1897. (Compare also *Centralblatt für Chirurgie,* 1897, No. 42.)

The character of the pain is regarded as one of the most valuable points of distinction in this connection. In appendicitis the pain will often be localized around the umbilicus and epigastrium to establish itself at last at the right iliac fossa, while in cholelithiasis the pain remains fixed in the epigastrium and radiates at the same time toward the scapula. Thus the point which is found sensitive on palpation would correspond to the respective regions where the anatomical change has taken place. But to this reflection the objection has to be raised that the subjective localization of pain and the localization of the anatomical lesion do not always correspond, as it has often been proved in similar clinical observations which were followed by operation and revealed the pathological derangement at a distance from the painful region. Considering the pain as trustworthy, it must be remembered, as explained above, how different the situation of the appendix is. It is found far down in the true pelvis and so high up that in an inflamed state it can well be taken for a deeply situated gall bladder, the latter possibility not being so very rare (compare case mentioned above) that, on the other hand, a diseased gall bladder could not be taken for a thickened appendix. Adding to this the fact that in cholelithiasis icterus is more frequently absent than present, we have to confess that in the majority of cases we have to relinquish this symptom, which otherwise is of such immense value for the distinction.

The type of the vomiting is also unreliable. It is regarded, as a rule, that in the early stage of appendicitis there are vomiting attacks, which decrease again after a while and later on increase again, while in gall-stone colic there is continuous and frequent vomiting. Taking it for granted that this is so in the majority of cases, it can not be denied that all the points described are not determining, and the ultimate decision in such cases will only be reached by opening the abdomen.

Pyosalpinx is also sometimes confounded with appendicitis. As both affections indicate laparotomy, a diagnostic confusion is fortunately not of great practical significance. There is, however, a difference of opinion as to whether such confusion is excusable or not. Some say that nothing is easier than to ascertain the presence of a swelling situated laterally from the fornix by bimanual palpation. Such swelling in connection with the immobility of the uterus and a history of disturbances in the sexual sphere could only be interpreted as pyosalpinx. Reliable differential conclusions could also be drawn from the character of the temperature as well as from that of the pains and their radiation. I do not hesitate to confess that this error has happened to me twice, when I have been unable to palpate the pyosalpinx even after an anæsthetic was administered, the uterus having been slightly movable and the annexa having appeared to be normal. The explanation was that the tumor had been pushed upward.

On the other hand, it can easily be conceived that in a case where the appendix reaches far down a pyosalpinx is diagnosticated and a pyappendix is found at the operation. And it also happened to me several times that I was asked to perform an operation for appendicitis where salpingitis could well be distinguished without performing an abdominal section. (Compare cases in my article on Appendicitis, *Berliner klinische Wochenschrift*, 1896, No. 38.)

In five laparotomies performed for pyosalpinx I have found the appendix adherent to the tube or ovary. There the appendix was always removed also. On examination, cicatricial strictures were found in each of these appendices, from which fact it can certainly be assumed that it had participated in the inflammation of the annexa. It is also not excluded that an appendicitis had been the original cause of the inflammation of the annexa.

Three times I have found tube, ovary, and appendix glued together in a colloid mass, undoubtedly the late consequence of old inflammatory processes. There I was compelled to remove a considerable portion of the much-thickened peritonæum in order to be able to proceed radically.

CASE VII.—In the case of a woman of fifty years of age on whom I performed resection for intestinal carcinoma the following peculiar condition was found (see Fig. 8): A tumor originating from the cæcum, of the size of a man's fist, and easily palpated from without, reached from the median margin of the cæcum to the end of the ileum. Above this tumor there was a dermoid cyst (Cy.), a little larger than an apple, and attached to the tubal wall; it adhered tightly to the peritonæum above and toward the renal region. It contained the characteristic pulpy mass and hairs, cartilage, and teeth. The lower end of the appendix as well as the tube on the opposite surface of the cyst, as is evident from Fig. 8, adheres extensively to the dermoid cyst. (T represents the fragment of the tube and A the fragment of the ovary.) By performing a circular resection I succeeded in removing the different masses in their coherence, as illustrated by Fig. 8. In this case strictures could be demonstrated in the appendix also. Considering the adhesions, it could safely be assumed that inflammatory processes had been present in and around the appendix. To these probably could be traced the attacks of pain which the patient suffered once in a while, and which had urged her to the operation. During an attack of this kind the picture of her cæcal tumor would have been veiled, and so the thought of appendicitis could well have arisen. The carcinoma itself did not seem to have caused any direct disturbances, the tumor neither having narrowed the intestinal lumen nor had signs of breaking down manifested themselves. It may further deserve mention that, in view of being able to displace the carcinoma upward and backward, and also considering the good appearance of the patient, the possibility of the presence of a floating kidney had been borne in mind.

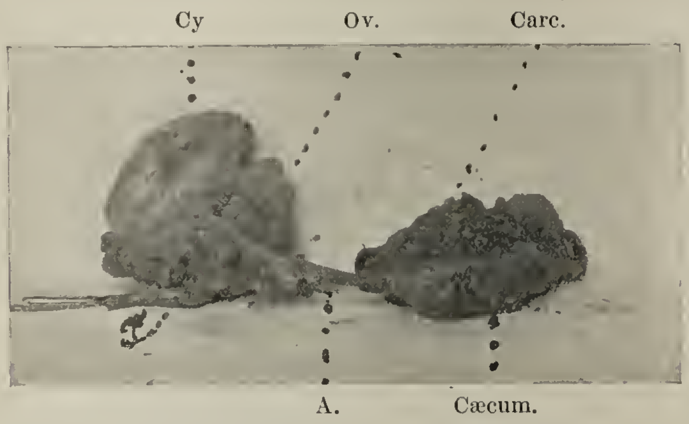

FIG. 8.—Appendix adherent to dermoid cyst, tube, and ovary.

In this connection it should be remembered that periodical hydronephrosis, caused by a right floating kidney, which may exist together with fever, vomiting, and pain in the right side, could give rise to confusion with appendicitis. In comparing with this case the views of Osler,* I think that the mobility of the tumor should decide the question in favor of the affection of the kidney.

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* *Principles and Practice of Medicine*, New York, 1894, p. 720.

I have twice been guilty of a confusion with a right-sided hæmatosalpinx. In both cases the disease had begun with sudden pain in the side and with moderate fever and vomiting in women of middle age. Both patients recovered and have certainly not noticed any disadvantage from the wrong diagnosis.

Extra-uterine pregnancy also presents itself sometimes, and, after peritonitis has manifested itself, makes the meteorism answer to the question of inceptive causes just as difficult as in the diseases of the gall bladder, described above, in which laparotomy had to give the last word of explanation. In extra-uterine pregnancy the absence of menstruation, in connection with the general symptoms of pregnancy, the bloody vaginal secretion, and the sensitive tumor in the fornix have to be mainly considered.

In general, it may be said in reference to the distinction between appendicitis and diseases of the annexa, that the pain, the fever, and the signs of peritonitic irritation are common to both, but that in the latter the progressive tendency of extension to the peritonæum is usually lacking. Thus the consensus of symptoms in diseases of the annexa is not so grave. But we must not forget that sometimes, as already said, in the early stage of even the gravest forms of appendicitis there are no reliable signs of peritonitic irritation. For the disease of the annexa the gonococcus is mainly responsible. The gonococcus is a bacterium of comparatively low virulence. This becomes evident by the fact that gonococcus pus, finding its way into the peritoneal cavity, fails to produce general infection. This explains why the peritonitis, caused by it, generally takes a favorable course. If, during a laparotomy performed for pyosalpinx, the misfortune of the bursting of the pus sac happens, so that pus is freely discharged into the peritoneal cavity, it can be positively ascertained by microscopical examination in a few minutes whether there is gonococcus or streptococcus or staphylococcus pus. (See my *Manual of the Modern Theory and Technique of Surgical Asepsis.* Saunders, Philadelphia, 1895.) If the innocuous gonococcus diplococci are found, the abdominal cavity may safely be closed, while in the latter case the iodoform-gauze tampon is to be preferred.

But all these points are of only a general nature and in a special case appearances are often deceitful. It is also to be considered that the proof of benignity is often furnished only after the process has taken its course. But in appendicitis there is no time for delay. Immediate action is required here; the patient not profiting after the lapse of a few days, we find that there is no hope for him any more. Had we given him the practical benefit of our diagnostic doubt in time, he would probably have been saved by an operation.

As said above, the surgeon is not infrequently requested to operate for alleged *internal obstruction,* for *invagination, intussusception, volvulus,* or for *adhesions* of inflammatory or congenital origin, in which the intestine is caught as in a mouse-trap. In such cases appendicitis is often found. Considering the great similarity of the symptoms—viz., the suddenness of the attack and of the pain, the vomiting, and the subsequent peritonitis—the confusion is obvious. Here it must also be considered that in internal obstruction the pain concentrates nearly never to the right iliac fossa, but more or less to the region from which the lesion in question itself originated. Furthermore, it should be borne in mind that in these cases the vomiting is nearly constant from the early stage on, and soon assumes a fæculent character, which hardly ever happens at the early stage of any type of appendicitis. Meteorism also supervenes only late in appendicitis.

In intussusception, a painless tumor can usually be palpated. Fever is generally absent.

In volvulus, digital exploration by the rectum often gives the desired information.

In mouse-trap cases there is generally a history of a preceding peritonitis.

The difficulty of distinguishing between internal obstruction, gallstone ileus, and appendicitis was illustreated by me in a fatal case, described in the *New-Yorker medicinische Wochenschrift,* February issue, 1897, p. 113.

Sometimes, also, it is difficult to differentiate between appendicitis, renal and gallstone colic. In renal colic it is important to know that the pain on pressure is mainly limited to the lumbar region, there is hardly ever any vomiting, and the pain gravitates toward the scrotal and rectal region. Vesical tenesmus and hæmaturia are also frequently present.

Ureteritis may also be confounded with appendicitis, especially if it becomes combined with cystitis and nephrolithiasis or tuberculous kidney. The presence of blood and pus in the urine and the chronic course should, however, be conclusive in favor of ureteritis. My experience in a recent case of nephrolithiasis, which caused ureteritis shows, however, how these symptoms may be veiled.

Case VIII.—A well-built man, thirty-five years of age, who had always been well until about a year ago, began to suffer slightly from occasional digestive disturbances. On October 1, 1898, while at work, he noticed a pain of moderate intensity in the right iliac fossa. When, a few hours later, nausea and fever set in, medical treatment was obtained, which, so far as could be ascertained, was of a palliative character. On the following day the pain and nausea disappeared and on October 3d the patient resumed work. On the 10th, after having passed a whole week without discomfort, he was suddenly attacked with intense pain in the same region. Under the administration of opium and the use of an ice-bag he was relieved again for a short time, until, on the 11th, the symptoms assumed a grave character. The presence of a tumefaction was discovered then by the attending physicians, and the diagnosis of appendicitis made.

On the 14th, when the patient was referred to St. Mark's Hospital for operation, the following state was found: The emaciated patient's general condition made a grave impression. Little pain was complained of. Its character was by no means of a colicky character, and it radiated somewhat toward the umbilicus. This was not regarded as a pathognomonic symptom, since the absence of intense pain could be explained by the narcotizing influence of the toxines present. The bowels were constipated, but the passage of the urine was normal. Vomiting was moderately frequent. The pulse was 130 and feeble; the temperature was 101.2° F.; and the respirations were 36. The abdomen was distended and slightly painful to the touch. In the right iliac fossa tumefaction and corresponding dullness were found, which filled the iliac fossa and extended anteriorly to the mamillary line. The lumbar region showed nothing particular. Examination of the highly saturated urine showed nothing abnormal; especially were no blood casts or pus detected.

It is obvious that, in view of the presence of these symptoms, so characteristic of appendicitis, the diagnosis was positive. The operation was performed on the same day, after saline infusions had been liberally administered. The incision was made in the symphysis-rib line. When the peritonæum was divided, slightly odorous pus of thick consistence and gray-yellowish color was discharged. Now a large cavity could be inspected, the median wall of which was formed by the cæcum, to which a normal-appearing appendix was attached by loose adhesions. In the bottom of the cavity a mass of necrotic tissue was found in which a hard stone of the size of a large filbert was discovered. Its shape was elliptic and its surface granular. Examination showed it to consist of a nucleus of uric acid with oxalate layers around it and a superficial coat of earthy phosphates. The situation of the ureter could not be made out distinctly among the detritus. Examination of the pus revealed nothing particular. The cavity was drained with iodoform gauze. Recovery was uninterrupted, and the patient was discharged from the hospital a month after the operation. No urine ever escaped through the wound.

It seems to me that the calculus had found its way from the renal pelvis into the right ureter, where, on account of its large size, it was arrested. There it caused considerable irritation and inflammatory changes, producing the formation of adhesions in which the calculus became impacted. This happened probably at the time the patient noticed the first pains, on October 1st. A few days later, probably synchronously with the second attack, perforation with abscess-formation took place, the adhesions then being so dense that they protected the ureteral perforation, thus preventing the escape of urine from there.

In regard to the absence of hæmaturia, the possibility should not be excluded that during the first epoch it might have been present unnoticed. During the second attack it was certainly absent. The normal passing of the urine and the absence of real paroxysms of renal colic are most remarkable in this case.

How coxitis can be taken for appendicitis has been explained above. If there is any doubt, the Röntgen rays will always throw light.

There are reports on typhoid fever in the first week, when moderate fever, slight pain in the right iliac fossa, and meteorism were present, having been confounded with appendicitis. But the history, the general character of typhoid fever, the typical temperature, should permit of no doubt. Regarding perforation of a typhoid ulcer, it can be maintained that the symptoms of a perforation peritonitis are similar to those produced by a perforative appendicitis. But such an event never happens before the third week in typhoid fever, so that from the further course conclusions can be drawn from this fact.

Since it became known that with few exceptions all the forms of inflammation, vaguely termed typhlitis, perityphlitis and paratyphlitis, were identical with the different types of appendicitis, the impression has prevailed among some ultra-radically inclined colleagues that typhlitis has gone out of fashion entirely. But that there are real cases of stercoral typhlitis can not be doubted, the rarity of the cases being of course admitted. At the early stage the diagnosis is difficult, since the symptoms are identical with those of appendicitis. The only distinguishing diagnostic factor would be furnished by the doughy consistence of the tumor. Shrady * has sometimes been able to produce indentation, which phenomenon can be plausibly explained from the fæcal composition of the contents of the tumor. They should, of course, not be confounded with cases of simple coprostasis, as happens frequently. That such cases of coprostasis are always easily cured, be they treated under their proper name or under the false diagnosis of appendicitis, by the omnipotent laxative, does not need further argument.

A most remarkable case which had been operated upon for appendicitis originally, and in which I found an intact appendix by performing laparotomy later, is the following:

CASE IX.—A strong man of forty years of age fell ill on January 15, 1896, with intense pain in the region of the umbilicus and of the right iliac fossa. Nausea and fever were also present. In spite of the gravity of the symptoms the patient walked about until January 29th without consulting a physician. In a septic condition he was then admitted to St. Mark's Hospital. There a small, frequent pulse, high temperature, tumefaction, and a corresponding dullness in the right iliac fossa were noted. The diagnosis was appendicitis perforativa. The operation, which was performed at once, revealed partial gangrene of the cæcum. There was grayish-yellow pus of an offensive odor, but without a serous admixture. The appendix was not found. After the operation the patient recovered somewhat, but soon fell into a state of somnolence. The temperature wavered constantly, and the pulse remained between 120 and 150. Repeatedly abscesses, which formed near the cæcum between intestinal loops,

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* *Medical Record*, January 6, 1897.

were opened. Then there was always slight temporary improvement, soon followed again by the recurrence of septic symptoms, so that we gave the patient up at last. In the meanwhile an ectropion of the extent of the palm of the hand had formed (Fig. 9). Risking a last effort under ether anæsthesia, I, in exposing the upper wound margin, detected a small abscess, which reached upward to the liver. After having discharged the abscess, the presence of which had not at all been suspected by me, the patient recovered rapidly, so that I could proceed to the closure of the enormous ectropion on March 20th. After having prepared the patient thoroughly for several days, and after having packed the afferent and deferent ostia prophylactically, I severed the intestine extensively from the adhesions, this being particularly difficult posteriorly. The freshened intestinal wound margins were coaptated minutely and sewed up continuously after the Lembert-Czerny method. There was perfect union, which seems to be mainly due to the most extensive separation of the adhesions. Many surgeons warn us against resection, as in most cases a little, promising procedure, and recommend entero-anastomosis instead.

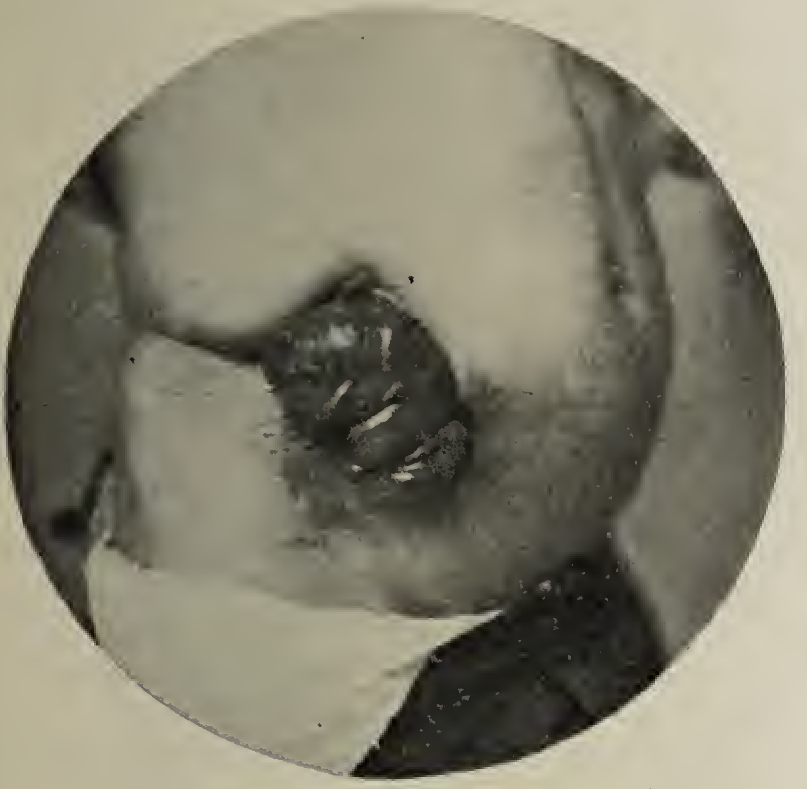
Fig. 9.—Intestinal ectropion after gangrenous typhlitis.

The patient had defæcated through his abdominal opening ever since the operation on January 29th. After the enteroplasty he defæcated by the rectum. Only once, ten days after the last operation, transitorily fæces were found in the wound. On the following day perfect obliteration had taken place and the patient enjoys the best of health ever since. After the separation of the intestine was perfected, an intact appendix was discovered slightly adherent to the peritonæum. Examination showed the mucosa to be normal. Therefore it may be assumed that originally the gangrenous process was confined to the wall of the cæcum.

Among other confusions, the psoas and lumbar abscesses may yet be borne in mind, the recognition of which should not cause much difficulty in view of their slow growth, the deformity, the absence of peritonitic manifestations as well as of grave initial symptoms, together with the history.

In regard to the diagnostic difficulties in peritoneal tuberculosis, I refer to history No. 2.

That diseases of the pancreas have been mistaken for appendicitis can be appreciated better than their confusion with malarial disease, influenza, or pneumonia.

Arriving now at the salient point of the appendicitis question, the therapy, we still hear the unceasing battle cry, "Here opium, here scalpel!" If we realize the infectious and progressive nature of appendicitis, as I tried to emphasize it in the introduction of my article, we shall not expect a cure from internal treatment; while by modern surgical technique we are able to reach the focus of disease and to render it innocuous at its early stage. I must therefore answer the question, "Is appendicitis a surgical disease?" in the clear affirmative. This does not mean that appendicitis should altogether be turned over from the hands of the internists to those of the surgeons. There is no fear of that, because the appendicitis public also has a word to say in this matter. In practice a case of appendicitis never goes directly to the surgeon, since the patient himself never makes the diagnosis appendicitis, but he suffers from the ominous pain, which, more than his feelings of general malaise, causes him to see his family physician. What he demands from him first is that he should cure his "belly-ache."

Now, this family physician should realize that he is confronted with a disease of absolutely surgical character, and that, unless he can cure it surgically himself, he should immediately call in the aid of a surgeon. In this manner most surgical cases do not drift into the hands of the surgical specialist, but nearly always into those of the general practitioners, whose greater or lesser skill in surgery turns the scale, whether or not the case really requires further deliberation with a surgeon.

So we find it natural that in fractures the family physician is called in first. So long as he trusts he can master the case, he would be blamed for summoning a surgeon. But there would be much more reason for blaming him if he did not fully realize that he had to deal with a strictly surgical disease, which he must treat after true surgical principles. Should he encounter any difficulties in the treatment of the fracture, there is nearly always enough time to take a surgical specialist into council and to conduct further treatment according to his advice. But in appendicitis success is mainly determined by immediate interference, and the right to interfere is his only who is competent to execute the cure technically.

That there is plenty of space for cooperation of the family physician, who is conversant with a great many matters which the surgeon again does not know, and whose knowledge is to the surgeon's and the patient's greatest advantage, is beyond question.

It shall not be denied that immobilization of the intestine by opium, after a preceding evacuation of the lower intestinal portion by an enema, will produce a perfect palliative success in a large number of cases of appendicitis. But a real cure can be expected as little as from the mere adoption of the splint in phlegmon of the hand. The administration of opium for the purpose of arresting intestinal peristalsis, agreeable as it is for the patient, has the most deplorable consequence that it lulls not only the patient but also the attending physician into a feeling of security, from which both are aroused most cruelly by the early appearance of peritonitic symptoms. Therefore the administration of opiates should be advised against most energetically before a distinct diagnosis is arrived at. After the diagnosis is made, the administration of opium is rational, even if immediately afterward the operation is performed.

However light the clinical expression of appendicitis may be, and how much it may appear to be in favor of a speedy temporary recovery, the operation is always justifiable. As the strength of the infection can never be known with certainty from the beginning, it appears to be wiser to take each appendicitis seriously. Among two evils the smaller should be chosen, and operation is the smaller evil.

The assumption of a simple appendicitis with a tendency to spontaneous resolution is mostly made by a comparatively untrained observer.

If there be nothing more than a simple appendicitis, I can not see how in the hands of an aseptically trained surgeon life should be jeopardized by simple appendectomy, even if it should prove to have been unnecessary. But if there is perforation or gangrene in the nascent stage, the early operation positively saves the life of the patient, who otherwise would probably succumb to internal or expectant treatment.

Thus at the early stage the surgeon is the boss, so to say, while in the late stage he is an adventurer, who is successful, yet only once in a while, under extraordinary circumstances. But times have passed when celebrated surgeons found it expedient to write books on "luck in surgery."

If the attending physician does not care to be converted to this standpoint he should at least regard it his duty to explain the nature of the disease to his patient, and to leave it to him, whether, after he passed his attack, he had better have his appendix preserved in the alcohol bottle than in his iliac fossa, where it represents an explosive stuff which may lead to a catastrophe any moment. He can surely depend upon encountering a second or third attack after having been through one, and there is little doubt that he has to succumb to one of these attacks some day.

Considering that under the auspices of asepsis the mortality of simple appendectomy is nearly nil, every colleague should regard it his duty, no matter to what colors he has sworn, at least to communicate these facts to his patient. Up to date I have performed simple appendectomy seventy-four times without a single death. I know that there are several surgeons in this city who could report a much larger number of similar cases with the same gratifying result.

Even extensive adhesions should not cause disturbances in the course of the wound treatment. And these adhesions are, as a rule, only present if there has been more than one attack, as after one attack generally only slight adhesions are detected.

As alluded to above in the pathological part of this article, most patients who have gone over one attack of appendicitis suffer more or less from disturbances of stomach or intestine, which becomes worse on the slightest provocation. The fear of injuring themselves forces a regimen upon them which impairs their nutrition and becomes unendurable in the end. Thus, even when well-marked local symptoms fail to show themselves, a picture similar to hypochondriasis develops. If the appendix is removed in such patients, one is surprised to see how at one swoop all these symptoms disappear, and the patient becomes an entirely new man.

In drawing conclusions from what has been said we may condense them into the following theses:

1. Appendicitis is a surgical disease and should be treated surgically as soon as the diagnosis is made.

2. So long as no physician is able to ascertain the grade of bacterial virulence at its early stage, the safest therapy consists in the early removal of the appendix.

3. If the patient or his advisers should object to operation, the expectant immobilization treatment should be instituted, and, after the attack is over, the necessity of appendectomy thereafter should be made clear to the patient.

4. Should the conditions surrounding the patient be of an extremely unfavorable nature, should no competent surgeon be obtainable, and should there be other difficulties, the risk of the expectant treatment should be preferred to that of a badly performed operation in an acute attack. Then, if he should pass over the attack, the patient should submit to appendectomy later.

5. Considering that the mortality of simple appendectomy is almost nil, its performance should be urgently recommended to the patient after the first attack.

I well realize that doing this will often cause the greatest difficulties to the family physician. So many prejudices, so many family considerations obtrude on him that he will often fail to have the courage to contend with the whole weight of his personality for these theses, although he is convinced of their scientific truth. Nor will I throw a stone at the family physician who, *jurans in verba magistri,* intoxicates himself with the sphere music of internist statistics, and shows the surgeon, who advises operation, sneeringly the list of dissuading internists. I simply deplore things as they are, and add my share to the better appreciation of a disease which, to its full extent, is recognized by none of us yet. But I may hope, with those who agree to my views, that the day will come when its surgical prospective will be everywhere acknowledged.

But what we are entitled to demand imperatively from every one who undertakes treating appendicitis is, that he learn enough of the pathology of the appendix to appreciate from the beginning the risk which the patient runs during his acute attack, and that information should be given accordingly. Penzoldt well says of appendicitis: "In none of these cases can a gloomy sensation of gravest responsibility be suppressed. The physician who does not know this sensation does not know the nature of this disease."

(To be concluded.)

THE DIAGNOSIS OF INJURIES AT THE HIP.

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The diagnosis of injuries at the hip is of paramount importance, not only to the surgeon, but also to the general practitioner. When we reflect that the patient is first seen, as a rule, by the general practitioner, that just at this time correct diagnosis is imperative and can be made in over seventy-five per cent. of all cases, and that a mistake in diagnosis, and therefore a mistake in treatment, causes results which can hardly, if ever, be rectified, we see that the general practitioner ought to be as familiar with this class of injuries as the surgeon.

In looking over the ills that flesh is heir to, we are struck by the fact of how few of them there are, comparatively, in which, from a *therapeutic* standpoint, absolute diagnosis is essential during the first few days. Such, for instance, is the case with scarlatina and measles, with typhoid fever and pneumonia, etc. A case may be treated very rationally for the first few days without our being able to state whether it is measles or scarlatina, or whether pneumonia or typhoid fever. While, of course, absolute diagnosis in these cases is important, it is not essential to the proper treatment. Numerous other examples might be cited. In the domain of surgery, we even open the abdomen without having previously made an accurate diagnosis. In most abdominal cases there is always a safe course—*i. e.*, to operate.

But in the treatment of injuries at the hip there is no safe course except in correct diagnosis. If we mistake a dislocation for a fracture, and put the patient in a splint for only a few days, the chances of reduction, if not entirely lost, become considerably diminished; and if the error is not recognized till the time when the splint is generally removed were it a fracture, the patient may become a cripple for life, as the operative treatment for unreduced dislocations at the hip has not as yet yielded even approximately perfect results.

If we make the opposite error, and call a fracture a dislocation, the result may be even more disastrous, as the manipulation of a fractured limb to reduce a supposed dislocation may set up a severe osteitis and periostitis, or even suppuration, which will certainly lengthen the time of union, if it does not prevent union, or it may even threaten the patient's life.

If a fracture or dislocation be called a contusion, and treated as such, unwelcome results will certainly follow. If the opposite error—*i. e.*, calling a contusion a fracture—is made, and treated accordingly, no serious results, it is true, will occur, but the patient is unnecessarily confined to bed for six to eight weeks, and the stiffness and atrophy thus resulting will certainly prevent all very active exercise for some time. In this last case the patient generally never finds out the error, and sometimes neither does the physician, who may be quite proud of the good result, without any shortening, produced by his treatment.

It is the object of this paper to give a regular, practical, systematized method of diagnosticating for purposes of *treatment* the more common injuries at the hip. The ætiology, pathology, and treatment will not be considered. Its object is sought to be, first and foremost, *practical*, therefore rare conditions, such as simultaneous fracture and dislocation, etc., will not be considered. When speaking of fractures at the hip, no attempt will be made at diagnosticating between intracapsular and extracapsular fractures, etc. It is enough to know, for purposes of *treatment*, that a fracture is or is not present. When speaking of dislocations at the hip, I will only consider the common variety, in which we have *flexion, adduction*, and *inward rotation*, as the forms with *extension* or with *abduction* and *outward rotation* are rare surgical curiosities and may well be left out of account in a *practical* treatise of the subject.

When a person who is supposed to have sustained an injury at the hip is seen for the first time, he ought to be placed on a firm, flat surface, as a mattress, without pillows under his head. The clothing should be removed from both lower extremities up to the level of the umbilicus; this is absolutely essential, no matter how trivial the injury appears to be. Now, for all practical purposes, the diagnosis may be considered to rest between (1) fracture of femur; (2) contusion of hip; (3) dislocation of femur.

The relative frequency of these injuries is of great importance in diagnosis. Out of two hundred and twenty-one cases of injuries at the hip admitted to Bellevue Hospital during 1896—

135,	or 61	per cent.,	were fractures;
82,	" 37	"	" contusions;
4,	" 2	"	" dislocations.

These statistics are slightly misleading in that they give a too low percentage of contusions, and for the following reasons: A patient entering the hospital with either a fracture or dislocation of the femur is certainly put down as such on the records, but if he has a contusion of the hip, and at the same time a fracture or dislocation of some other bone of the body, as the radius or ulna, for example, his is very apt to go on record as a case of fracture or dislocation of the radius or ulna and *not* as a contusion of the thigh. I recollect many cases of severe contusions of the hip in which the diagnosis had to be made between it and fracture of the femur, which went on record as scalp wound, fractured ribs, etc.

In other hospitals there is apt to be still another source of error. In some of our large private hospitals the ambulance does not bring in a contusion, or even a fracture of the thigh, and thus the percentage for dislocation is made still higher. Although it is very difficult to guess at the absolute proportion of these three classes of injuries, I think it would not be very far from the truth to give to dislocations between one and two per cent., and divide the rest equally between fractures and contusions. It will thus be seen that dislocation of the femur, even the most common form, is a very rare condition, inasmuch as so large an institution as Bellevue Hospital only sees about three or four a year.

As the patient lies upon the bed, notice—

1. If the injured limb lies flat upon the bed—*i. e.*, hip in extension. If it does, we can at once exclude *dislocation*, for in *every dislocation* there must be *flexion*. I would again like to remind my readers that I am only considering the common form of dislocation. I am fully aware that there is a rare form with extension of the thigh; but this is a very rare form of dislocation, and, as dislocations themselves are exceedingly infrequent, this rare form may practically be left out of consideration. The diagnosis now lies between (*a*) fracture of femur, (*b*) contusion of thigh.

2. Ask the patient to raise his heel from the bed; if he can do so, even one or two inches, it *can not* be a *fracture*. A patient with a fractured thigh may, in rare cases, be able to walk, but he can *never* raise his foot from the level of the bed when he is lying down. We have thus, by exclusion, made the diagnosis of contusion of the hip, and have done so *without even touching the patient*.

Let us now suppose that the patient is in the same position as before, lying flat on the mattress, hip in extension, but that he *can not* raise his foot from the bed. We can only exclude, as before, dislocation, and our diagnosis lies between (*a*) fracture of femur, (*b*) contusion of thigh.

I think it would make matters clearer to discuss right here the practical value of the signs of fracture of the femur found in our principal text-books. Prominent among these comes the relationship of the great trochanter to Nélaton's line. This time-honored sign seems to be of very little practical value, as almost any trochanter can be made to go above it or below it, according to the wish of the surgeon. The spine of the ilium is a surface and not a point, and this applies with even greater force to the tuberosity of the ischium. Besides, in order to make this test, the patient must be more or less rolled over, which, to say the least, is very inconvenient and painful. I will not say that in certain well-marked fractures or dislocations of the femur it can not be made out, but just in these cases we have more pronounced signs, and in doubtful cases this sign is not pronounced enough. In fact, I have seen several surgeons examine the same patient, some of whom placed the trochanter above, while others placed it below this line.

Of more practical value, and based on the same principle, is the relationship of the great trochanter to Bryant's line (not Bryant's triangle). As before said, the principle is the same, but it presents the following most important advantages: (1) It can be applied without moving the patient and (2) as long as the transverse bandage is at right angles to the median line of the body, or, in other words, as long as you choose corresponding points on the spine of the ilium on each side, it does not matter what point you select. It is applied as follows: A broad bandage is applied circularly around the body, its lower border touching the anterior superior spines of the ilii. From its lower border we measure perpendicularly down to the tip of the great trochanter on each side. In a contusion both distances will be *equal;* in certain forms of fractures and dislocations the distance on the injured side will be *less* than on the normal side; finally, in a very rare form of dislocation, with extension, the distance is said to be *greater* than on the normal side. This method can, of course, not be made use of where the joint is so much swollen that the great trochanter can not be easily made out. When it can be applied, we may lay down the following rules:

a. If both distances are *equal*, it is *probably* a contusion, although we can not absolutely exclude anything.

b. If the distance on the injured side is *less*, we can *generally exclude* contusion.

c. If the distance on the injured side is *greater*, it is *probably* a rare form of dislocation.

Like many other signs, taken by itself, it means very little, but in combination with others it is of real value.

2. *Shortening* is another sign found in some forms of fractures and dislocations of the femur. This sign has been greatly overestimated. It is of value only when present, and in a marked degree; when absent, no conclusion can be drawn from its absence. The best method to test shortening is one described in Holden's Landmarks in Gray's *Anatomy*. It is as follows: See that the pelvis is absolutely straight, the head in the median line, and the feet symmetrically placed; then let the patient hold the tape measure in his mouth, between the central teeth, and measure from this point the distances on either side to the inner malleolus. This method has the advantage that only one point is used to measure from. If shortening is not present at the first

examination, remeasure in a few days, and it may then be found, if a fracture exists.

3. *Eversion* and *inversion* are among the most important signs of injuries at the hip. In a fracture, either the foot is everted, or the amount of inversion possible is less than normal as compared to the opposite side. In a dislocation, the limb is inverted. In a contusion, there is no special rule, but inversion is *rare.* I am fully aware that cases have been reported of fracture of the femur in which inversion was present, and of dislocation with eversion, but all authorities agree that these cases are rare exceptions, and so can have no place in a practical discussion of the subject. We may *practically* lay down the rule that if we see a foot inverted we can immediately rule out fracture, and if everted, rule out dislocation.

4. *Crepitation* is another much-abused sign. It is a sign that, if accidentally discovered, indicates fracture. *It ought never to be looked for.* Many a case of arthritis or periostitis or delayed or faulty union has been caused by looking for crepitation.

5. *Rotation of the trochanter* has, unfortunately, but limited application. In a normal limb, if the thigh is rotated, by everting or inverting the foot, the finger on the great trochanter will distinctly feel it rotate. If in an injured limb this rotation is distinctly appreciated, we can certainly rule out fracture below the great trochanter. If the trochanter can be *distinctly felt,* and on rotation at the ankle it does not rotate, we may generally diagnosticate fracture below the level of the great trochanter. The disadvantages of this sign are, first, that it is generally painful to perform; secondly, the hip may be swollen, so that we can not distinctly make out the great trochanter; and, thirdly, that it gives us absolutely no information of the condition of the femur above the level of the great trochanter. As before said, its usefulness is decidedly limited, and it is only of value when decidedly present or decidedly absent.

6. *Relaxation of the fascia lata* ought, theoretically, to be present wherever shortening is present, but it can generally not be made out. It is at best a sign of very minor importance.

7. *Depressibility of Scarpa's Triangle.*—Under normal conditions the fingers can be pressed quite deeply into Scarpa's triangle, while in fracture of the neck of the femur this depressibility is said to be markedly diminished as compared to the normal side. In some cases a hard bony tumor is felt. I have carefully investigated this sign in many cases, and have come to the conclusion that it is at best only a corroborative sign. In some cases it is, indeed, very marked, in others not at all, while in quite a number of cases the tissues in the normal limb are actually *less* depressible than on the injured side.

Having discussed the more important signs of injuries at the hip, let us now return to our patient. We have said that there is no flexion, and that he can not raise his foot from the bed; we have excluded dislocation, and the diagnosis rests between fracture and contusion. Now see if the foot is *everted* or *inverted.* We must, however, be careful not to be deceived by accidental eversion or inversion. In case the foot is everted, see if it can be inverted, and *vice versa.* In other words, if the foot is in eversion, we must investigate if this is purely accidental or not, and try to place the foot in inversion. What can we conclude from this sign? If the foot is *inverted,* we may almost certainly *exclude fracture,* for fracture with inversion is rare, and we thus, by exclusion, make the diagnosis of *contusion of the hip;* and again we have come to this diagnosis without measuring, without Nélaton's line, and by hardly touching the patient. If the foot is everted or straight, our diagnosis rests as before between fracture and contusion.

We next test the rotatability of the great trochanter; if we can distinctly feel it, and it does not rotate, we diagnosticate *fracture of the femur* below the level of the great trochanter. If we can distinctly feel it rotate, we can only exclude fracture below the trochanter, and our diagnosis still rests between contusion and fracture (head of femur).

We now measure the distance from Bryant's line. If there is a *marked* diminution, we diagnosticate *fracture of the femur;* if both sides are equal, no absolute diagnosis can be made, although it is slightly in favor of *contusion.* We now test for shortening, and if this is *markedly* present we diagnosticate *fracture* of the femur.

There will now remain a very small percentage of cases, very small indeed, in which, after making all the above tests, the diagnosis still remains in doubt. In other words, we have fractures of the femur without shortening, without diminution of the trochanter from Bryant's line, and without certain non-rotation of the trochanter, and we have contusions of the femur, with inability to raise the limb, with diminished inversion, and where rotation of the trochanter can not be made out.

These cases must be watched for a few days. Apply a Hamilton splint, and if it is a contusion, in a few days there will be ability to raise the foot from the bed, inversion will be obtainable, and the rotation of the trochanter can then be made out; in case it is a fracture, the inability will remain, shortening may make its appearance, and the non-rotation of the trochanter will be certain. There is no harm done in waiting, for just in these cases the treatment during the first few days is the same for fractures as for contusions.

Having discussed all the possible cases in which there is no flexion, let us now start with a patient in whom there is flexion at the hip; in other words, where the limb can not be brought flat down on the level surface. The diagnosis rests between (*a*) dislocation, (*b*) contusion, (*c*) fracture.

We again start by asking the patient to raise his limb from the bed. If he can, we may certainly *exclude fracture*, and almost certainly dislocation, and make the diagnosis of contusion; but, to be systematic, we shall only exclude fracture, and our diagnosis rests between (*a*) contusion, (*b*) dislocation.

We now test for inversion and eversion. If *everted*, we exclude dislocation and make the diagnosis of *contusion* of the hip, having again come to the diagnosis by exclusion, and without measurements or manipulations. If inverted or normal, the diagnosis rests as before. We now examine if the head of the femur is out of place and can be felt in a new position; if so, we diagnosticate *dislocation;* if normal, we diagnosticate *contusion.* We may also notice the relationship of the trochanter to Bryant's line, and, if the distance is markedly diminished, as compared with the normal side, we may safely diagnosticate *dislocation.* In conclusion, it may be said that the diagnosis between dislocation and contusion of the hip, or even between dislocation and fracture, is generally very easy. In dislocation there is a marked change in the axis of the limb, it is adducted and rotated inward, besides being flexed, and can not be abducted or rotated outward; in no other injury at the hip does such a condition exist.

We now come to the last possible case. Let there be flexion, but let the patient be unable to raise his foot from the bed. Our diagnosis rests between (*a*) dislocation, (*b*) fracture, (*c*) contusion.

Notice now if the foot is everted or inverted; if *everted*, we exclude *dislocation;* our diagnosis rests between fracture and contusion, and is to be obtained by the same process of exclusion as described above. If the foot is *inverted*, we exclude *fracture;* the diagnosis rests between dislocation and contusion, and may be obtained in the same way as described in those cases where the patient can raise his foot from the bed.

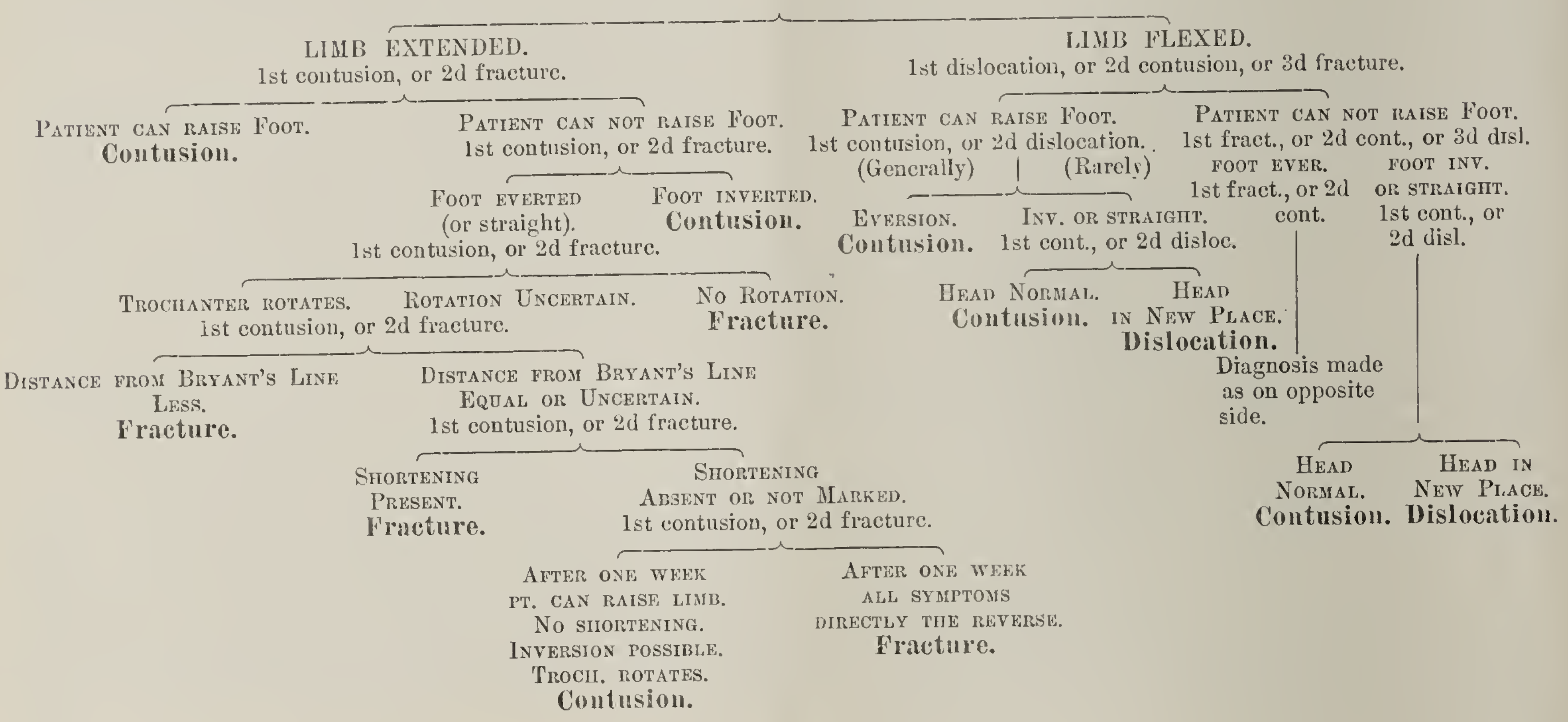
A few general rules may now be cited:

1. Fracture with *inversion* is rare.
2. Dislocation with *eversion* is rare.
3. Fracture with *flexion* is rare.
4. Dislocation *without flexion* is rare.
5. Shortening (when marked) *excludes* contusion.
6. No shortening *excludes* dislocation (generally).
7. Ability to raise the foot *excludes* fracture, and generally dislocation, and it usually *indicates* contusion.
8. Crepitation is of value in fracture of the *shaft* of the femur. In fractures at the head or neck, *do not look for it.*

It will be noticed that crepitation and shortening do not play the important rôle in diagnosis which some of our text-books seem to indicate.

I would also desire to state that fracture of the *neck* of the femur is not at all uncommon in young persons. After careful observation, I have come to the conclusion that the rule is that a fracture of the femur in an *old* person is generally at the *neck*, while in a *young* person it may be either at the *shaft* or *neck;* less frequently, it is true, at the latter place.

HIP INJURIES.


LIMB EXTENDED.
1st contusion, or 2d fracture.
PATIENT CAN RAISE FOOT.
Contusion.
PATIENT CAN NOT RAISE FOOT.
1st contusion, or 2d fracture.
FOOT EVERTED (or straight).
1st contusion, or 2d fracture.
FOOT INVERTED.
Contusion.
TROCHANTER ROTATES.
ROTATION UNCERTAIN.
1st contusion, or 2d fracture.
NO ROTATION.
Fracture.
DISTANCE FROM BRYANT'S LINE LESS.
Fracture.
DISTANCE FROM BRYANT'S LINE EQUAL OR UNCERTAIN.
1st contusion, or 2d fracture.
SHORTENING PRESENT.
Fracture.
SHORTENING ABSENT OR NOT MARKED.
1st contusion, or 2d fracture.
AFTER ONE WEEK PT. CAN RAISE LIMB. NO SHORTENING. INVERSION POSSIBLE. TROCH. ROTATES.
Contusion.
AFTER ONE WEEK ALL SYMPTOMS DIRECTLY THE REVERSE.
Fracture.
LIMB FLEXED.
1st dislocation, or 2d contusion, or 3d fracture.
PATIENT CAN RAISE FOOT.
1st contusion, or 2d dislocation.
(Generally)
(Rarely)
EVERSION.
Contusion.
INV. OR STRAIGHT.
1st cont., or 2d disloc.
HEAD NORMAL.
Contusion.
HEAD IN NEW PLACE.
Dislocation.
PATIENT CAN NOT RAISE FOOT.
1st fract., or 2d cont., or 3d disl.
FOOT EVER.
1st fract., or 2d cont.
Diagnosis made as on opposite side.
FOOT INV. OR STRAIGHT.
1st cont., or 2d disl.
HEAD NORMAL.
Contusion.
HEAD IN NEW PLACE.
Dislocation.

The foregoing is a diagrammatic scheme, illustrating in condensed form the points brought out in this paper.

358 EAST ONE HUNDRED AND TWENTY-FIRST STREET.

The St. Louis Academy of Medical and Surgical Sciences.—At the regular meeting, on Tuesday evening, the 22d inst., the following membership theses were to be read: The Diagnosis and Treatment of Iritis, by Dr. E. C. Renaud; Medical Climatology, by Dr. L. C. Boisliniere; The Relation of Experimental Physiology to Practical Medicine, by Dr. H. S. P. Lare; and Diabetic Coma without Sugar, by Dr. R. Amyx.

A CASE OF
BRONCHITIS AND PNEUMONIA
CAUSED BY THE INHALATION OF THE FILLING FROM A TOOTH BROKEN IN EXTRACTION.

By CHARLES O'DONOVAN, M. D.,
BALTIMORE.

On March 21, 1891, I was asked to see Mrs. F. B., white, aged forty-six, married, mother of three children, the oldest about twenty-three. She was a stout woman, of medium height, with very florid complexion, who had always been healthy, except for occasional colds that were hard to shake off, and often caused mild bronchitis. On the day before she had had a tooth extracted, under the influence of nitrous oxide, by a perfectly competent dentist, but he had broken the tooth and had caused her a considerable amount of pain in the operation. She took the gas but once, but did not recover well from its inhalation. She felt very much "stuffed up" after returning home, and breathed with difficulty. She thought that she had taken cold while at the dentist's, but paid little attention to the matter, fully expecting to be rid of it by the next morning. On the contrary, she was much worse; she had a very restless night, sleeping but little on account of the oppressed breathing, and being distressed by a teasing but uncontrollable cough, which was rasping and dry, coming on in paroxysms, but giving rise to no expectoration. I examined her throat and chest very carefully, but could detect nothing wrong; so I ordered a simple expectorant, containing a slight amount of morphine, and told her that she would soon be all right. By the next day I had reason to change this opinion, for I found her in the same condition, having coughed nearly all night, her nervous system rapidly showing signs of distress, her pulse up to 110, and temperature to 101°, and a process of bronchitis developing in the medium-sized bronchi about two thirds down the right lung and midway between the spine and the axillary line. From this the bronchitis spread in a few days throughout the entire lower third of the right lung, with considerable elevation of temperature and quickened pulse rate, accompanied by great prostration. At the same time her expectoration became quite free, beginning as mucus and froth, but rapidly becoming purulent. Meanwhile the other lung remained perfectly clear throughout. In spite of absolute rest in bed, the best of nourishment, excellent nursing, and various different expectorants and sedatives, she continued to grow worse daily; she lost her appetite, she slept very irregularly and without refreshment, her bowels became costive, her cough continued, she complained always of an oppression about her chest, and began to have a cutting pain in the right lung with each cough or forced inspiration. On April 10th a distinct dull spot was made out just where the original focus of inflammation had been; it was not pneumonic, it had no tendency to spread, but seemed to be a dead, flat spot about as large as a pigeon's egg, surrounded by an area of dull, infiltrated tissue, that faded imperceptibly into the bronchitis surrounding the area. This spot grew slightly larger as time passed, but no new foci developed anywhere else; the upper two thirds of the lung remained clear and resonant, but the lower third was very dull upon percussion, almost approaching a hypostatic pneumonia, with moist râles in the medium and finer tubes to be heard all through the inflamed area. The left lung showed also some few moist râles, but no dullness. She had every evening a rise of temperature to 102° to 104° F., with a fall during the morning to 99° to 100° F. She was evidently very ill, but unaccountably so. Tuberculosis was thought of, as her family history showed some taint, but the sudden onset and anomalous development of the trouble made it unlikely; however, some of the sputa was examined and showed no bacilli. Her nourishment was forced, and she was encouraged to sit up a while each day, but she was not improved, and asked to be allowed to stay in bed. Quinine and other antipyretics were given, but had no effect upon the fever, which became more and more hectic in character, with chilly sensations before the rise, and the expectoration began to have blood in it in increasing quantities, never any large amount, but quite as much as in pneumonia. By the end of April the original spot showed evidence of softening, and the formation of a cavity soon followed: it was clearly defined, not larger than a walnut, with well-marked amphoric breathing, some ægophony, but very little or no bubbling. In the rest of the lung there was no change in the general condition, the area of inflammation and infiltration did not extend, nor did the bronchitis show any sign of improvement. After consultation the condition was readily agreed upon, but no reason could be assigned for this trouble, nor could a satisfactory prognosis be given. Her cough continued to be always troublesome, interfering much with her rest at night, and giving rise to a very free expectoration of thick yellow stuff, with frequent admixture of a little blood; her pulse was rather hard and jerky, beating about one hundred to the minute, and her temperature was constantly above the normal, with a suspiciously regular rise each afternoon. Except for the inability to find bacilli, and her excellent health in the past, I should have diagnosticated tuberculosis without hesitation. All through May and early June she continued in this condition. She had a trained nurse, who devoted great care to her nourishment, that being given the first place in treatment rather than any medicines; of these, various expectorants and tonics were used, including a fair allowance of whisky. As a result she lost no flesh, rather gaining than otherwise, and she presented no appearance of illness beyond the frequent cough with expectoration. Her symptoms, however, pointed to a very serious condition. She described herself as constantly breathing with the greatest oppression, and so weak that the slightest exertion caused her to become faint and brought on severe paroxysms of coughing, although she was forced to get up every day in spite of daily protests. The lowest third of her right lung became gradually waterlogged, with general, diffuse bronchitis through it, giving rise to moist râles everywhere, with exudation and infiltration, especially as the original focus was approached, this being a cavity surrounded by a zone of consolidation. In the left lung some bronchitis appeared also, but this affected only the medium-sized tubes and did not produce much extra-bronchial infiltration. On June 17th she went to Atlantic City, being in the same general condition, with oppressed breathing, frequent cough, much purulent and some little bloody expectoration, no appetite, but taking food under compulsion, sleeping badly, and in a very wretched frame of mind. It was hoped that the sea air would benefit her, but she failed to respond in any way to the change. On July 7th—more than fifteen weeks from the time that she had so suddenly and peculiarly developed her bronchitis—in a severe paroxysm of coughing she spat up, with the usual purulent and bloody mucus, a piece of amalgam filling from the broken tooth, smooth on one surface, but very rough and jagged on the other, where it had been joined to the decayed and excavated remnant of the tooth; it formed approximately a paralellogram measuring half an inch long, three eighths of an inch wide, and having a thickness of an eighth of an inch; it weighed 28.11 grains. Although very doubtful of the final outcome of such prolonged irritation, I wrote most hopefully to her, and advised her to stay on at Atlantic City. At first her improvement was very slow, causing her much discouragement, and leading her to leave the seashore early in August for a Blue Ridge Mountain resort; here she grew gradually stronger and better, gaining in various ways. I did not see her until late in September, when I found her practically well, except for the cavity in the right lung, evidently the place where the foreign body had been lodged. This cavity, although perfectly apparent and readily made out, was much smaller than it had been in June, and slowly contracted during the succeeding months, disappearing finally during the winter. She continued, for several years, more than usually susceptible to colds, and always found with each new cold that bronchitis was apt to develop in the right lung with a good deal of pain at the site of the cavity. In time this disappeared also, and she is now (October, 1898) perfectly well.

THE IMPORTANCE OF
EARLY DIAGNOSIS IN INJURIES TO THE ABDOMEN.

By H. N. CHAPMAN, M. D.,
ST. LOUIS.

Katie B., aged seven years, a strong, robust little girl. No history of previous illness.

Was called to see her on Sunday, 3 P. M., and found her suffering from what appeared to be a severe colic. Temperature normal, pulse 130, of fair volume. Pains were intermittent and recurred about every three minutes. Vomiting everything taken into the stomach. Vomitus consisted of whatever was taken and mucus.

History.—In the morning was perfectly well; had gone out to play about noon, and said she was struck in the stomach by a little girl younger than herself with her fist, and also that she had fallen from a wagon and struck her stomach on a brick. Her bowels had been moved by an enema since the accident.

Physical examination revealed nothing except slight tenderness in right hypochondrium. No tumor could be made out anywhere. No evidence of bruising on surface of abdomen, and nothing to indicate that her story was true.

Gave a hypodermic of morphine and atropine.

Saw patient again about 9 P. M.; very little change. Thirsty, pains still of same character, but not so severe, quite restless, and tossing. Gave morphine and atropine, dilute hydrocyanic acid in essence of pepsin, which was retained if given cold.

Was called at 3.30 A. M. Monday.

Found very profound change, evidence of severe shock, radial pulse almost imperceptible, Hippocratic countenance, and very great restlessness.

Physical examination revealed some tympany and great tenderness of abdomen. Dr. W. A. McCandless was called, and patient removed to St. Mary's Infirmary at 5 A. M. Abdominal section was done. Patient took the anæsthetic well, being fortified with strychnine.

As soon as the abdomen was opened there was a great gush of bloody serum, followed by coils of deeply congested and gangrenous-looking intestines. A slight fæcal odor was also noticed.

It was found on examination that a diverticulum had passed through a loop of mesentery and a constriction formed which shut off the circulation below; this was released, and diverticulum tied off. About three feet of the bowel was affected, but circulation was speedily restored after the constriction was removed. A perforation was also found about the point of constriction, about a quarter of an inch in diameter, which was sutured.

Patient was now in a very precarious condition, and gradually sank, dying in less than an hour after the operation.

The chief points of interest in this case are the serious injury done to the internal organs, and none to the superficial structures, and the rapidity with which death supervened—fifteen hours after the patient was first seen by me, and eighteen hours after the accident.

THE
TREATMENT OF COUGHS WITH HEROIN.

By MORRIS MANGES, M. D.,
VISITING PHYSICIAN TO MOUNT SINAI HOSPITAL, NEW YORK.

The recent publication by Dreser and Floret of their experiments and clinical trials with heroin, a new substitute for codeine (*Therapeutische Monatshefte*, September, 1898, p. 509), has induced me to present the results of my own observations with it for the past three months.

Dreser has reported his work so clearly that I can not do better than quote his statements. After showing the remarkable effect of codeine upon respiration, as demonstrated by Heinz's experiment, he proceeded to the study of the question whether codeine was that substitution product of morphine which had the most highly specialized effect upon respiration. The study of this question with various substitutions for the combinations of the three atoms of oxygen in the formula of morphine, $C_{17}H_{19}NO_3$, revealed the fact that the diacetic-acid ester of morphine had a more profound sedative effect upon respiration than morphine itself. Heroin was ten times more powerful than codeine, for one milligramme would produce the same slowing of respiration in rabbits which would follow the administration of one centigramme of codeine. At the same time the fatal dose of heroin was ten times that of codeine. The explanation for this he sought in the fact that codeine had a greater convulsive action than heroin.

Furthermore, by means of graphic methods, Dreser showed that the respiratory curve after the administration of heroin proved that not alone was the frequency of respiration lessened, but also that there was a decided prolongation of inspiration. In addition, after moderate doses, the volume of the individual respiration was increased, sometimes even doubled. The advantage of this combined effect in respiratory diseases is too self-evident to require any comment. With very large doses the volume of the individual respiration diminishes, but not to the same marked degree as the number to the minute; consequently the safety of the drug is increased.

Dreser also studied the effect of heroin upon the respiratory muscles, a question of great importance in decrepit and weakened patients—*i. e.*, whether the quieting of the cough was obtained at the expense of lessening the expectorating power of the individual. Careful experiments led to the conclusion that, "although heroin reduces the number of respirations per minute, yet these experiments prove that each individual respiration is more prolonged, a larger volume of air being inspired into the lungs with greater force. The capacity of each inspiration for work and for overcoming obstructions is considerably increased. Under such conditions it is out of the question to fear stagnation of secretory products."

The general effects of heroin were also studied by Dreser. That it had an indirectly quieting effect upon the lungs was evident by mere inspection of the injected rabbits; there was general muscular repose of the entire body. Special experiments in which the consumption of oxygen by animals before and after the injection of heroin was determined showed that it was reduced to four fifths to three fourths of the normal. These same delicate methods also proved the greater convulsive tendencies of codeine as compared to heroin. Dreser found that in a guinea-pig the production of carbonic-acid gas was reduced by one fifth its original volume.

Since the lessened consumption of oxygen means a general slowing of the metabolic processes, temperatures are reduced.

The sensibility of the respiratory centres to the important chemical regulators of respiration was not lessened, as shown by gas analyses of the expired air. On the other hand, by a different series of experiments, the important fact was revealed that the sensibility of the lungs to mechanical distention was lessened, but by no means abolished.

It will readily be observed that these various effects of heroin are complementary; thus, the diminution of the number of respirations is balanced by the greater volume of the individual inspiration, the lessened consumption of oxygen by a still greater diminution in the volume of air breathed in a minute. The total physiological effect of these antagonistic actions must be sought in the condition of saturation of the arterial blood with oxygen before and after the administration of heroin.

When fatal doses were given to rabbits by intravenous injection, it was clearly evident that the primary cause of death was respiratory paralysis, the heart action and blood pressure remaining normal long after respiration had been profoundly affected.

As the result of his experience with heroin, Floret, of Elberfeld, characterizes it as an exceptionally useful, prompt, and reliable drug to allay coughs and pains in the chest in both acute and chronic catarrhal inflammations of the respiratory tract (angina, pharyngitis, tracheitis, bronchitis). He states that in the sixty patients with diseases of this kind who were treated with heroin, all the annoying symptoms were promptly relieved. Even in a few cases of coughs of years' standing, due to chronic bronchitis and emphysema, relief lasting for weeks was obtained from heroin after all other remedies, including codeine, had failed.

In tuberculosis pulmonum good results followed the use of heroin in quieting coughs both in the early and late stages; in only four out of twenty-five cases of this kind did he fail. Prompt relief followed in bronchial asthma.

As a general analgetic and in the treatment of abdominal disorders it was useless. On the other hand, at no time were there unpleasant after-effects from the drug, such as follow the use of morphine—*i. e.*, nausea, vomiting, constipation, anorexia, etc. Only one patient complained of a slight transient vertigo. Patients were able to go about attending to their ordinary duties. Apparently there was no habituation to the drug.

In presenting my own experience with heroin I shall not present any numerical data, for the number of cases of any single observer is after all too limited to permit any final judgment; instead, I prefer to give general impressions from a quite extended experience with this new drug. On the whole I can agree with many of Floret's statements, but not with all of them. While it was very well borne in the great majority of cases, yet in a few of them disagreeable after-effects were observed. The symptoms complained of were referred to the mild disturbances of the sensorium; yet these symptoms were much milder and of much less frequent occurrence than after morphine and codeine. The aged bear the ordinary doses poorly; hence, if the drug is given to them, it must be administered in very small doses, not exceeding a twentieth of a grain.

In allaying coughs the remedy was very prompt and efficacious in a large number of cases; in some of these cases the larger dose of a sixth of a grain was required. It is to be noted that the unpleasant after-effects occurred with these larger doses. The relief usually followed within a half hour after taking the drug. The cases were of the most varied kind, including acute and chronic bronchitis, emphysema, bronchiectasis, pulmonary tuberculosis, pleurisy (acute dry and with effusion), coughing after anæsthetics, pneumonia, etc. In purely neurotic coughs the results were not so good. In some of the cases the relief was most surprising, being obtained where codeine and other drugs had failed. A case of this kind may be cited:

J. W., forty-six years old, has been troubled with bronchial asthma for many years and has been going from place to place for relief without result. The dyspnœa and cough were both very distressing on admission to Mount Sinai Hospital. Examination showed a marked emphysema and chronic bronchitis, with numerous sibilant and sonorous râles to be heard all over the chest. First dose of heroin (a tenth of a grain) given July 15, 1898, and same dose continued three times a day. Patient slept better and felt much less oppression in the chest; cough and expectoration ceased. On July 27th heroin discontinued without the patient's knowledge; return of the symptoms; codeine gave no relief. On July 29th heroin resumed with excellent results. On the return of his attacks after leaving the hospital he came quite a distance for some of the drug, asserting that he could not get along without it.

Equally good results were obtained in a number of other cases of asthma; indeed, the only case in which absolutely no relief followed was one of dyspeptic asthma, in which, *a priori*, such a result might have been expected.

Another case may be cited to illustrate the effect of heroin in quieting persistent dry cough:

Miss M., twenty-two years old, was admitted for pleurisy with effusion, with incipient pulmonary tuberculosis, July 26, 1898. Her chief complaint was a hard, dry, persistent cough which caused her great distress, especially at night. Codeine afforded no relief. Heroin, a sixth of a grain, relieved it within half an hour; when given at night, she slept about six hours without coughing.

In pulmonary tuberculosis the results were not uniform. Better effects were observed in the early stages than in the later; the doses had to be reduced for the latter class. Great relief was reported in quieting the irritant cough, which is so distressing, without any unpleasant after-effects, provided small doses were administered. In advanced tuberculosis the patients are more susceptible than in the early stages. These small doses ought also to be employed for the obvious reason of its long use, some patients requiring gradually increased doses; others, however, react for a long time to the same dose.

A striking reduction of the temperature is observed in quite a number of these tuberculous patients, the average fall being one degree (F.). This can be demonstrated not alone with the thermometer, but the patients also notice it themselves, saying that they are not so warm; and in some instances they report that night sweats are lessened or cease. In a case of acute lobar pneumonia in which heroin was given for an irritating cough which had persisted in spite of codeine the temperature fell 1.5 degree after a single dose of a sixth of a grain. That fever is lessened by morphine is a fact to which Lepine had already called attention; Lepine recommends that the morphine be given in the evening. As I have already stated, Dreser also observed this phenomenon in his experiments on animals. He believes that the metabolic processes are slowed on account of the lessened consumption of oxygen, and hence the temperature falls. This mild antipyretic action, combined with its effect upon the respiratory centres, would permit us to hope that heroin will be found to be useful in the night sweats of phthisis.* No such effects have been obtained with codeine or peronine.

Theoretically, one would expect that heroin would be useful in diabetes mellitus, since it has such a striking action on the metabolism, and because it is so closely allied to morphine and codeine. My experience with it in this field is at present too limited to warrant any opinion. As a general analgetic heroin has proved to be absolutely useless in the ordinary doses.

As to the method of administration, it may be added that heroin is a white, crystalline powder which is very insoluble in water; a solution may, however, be obtained by adding a few drops of acetic acid. It may also be rubbed up with sugar and dispensed in powders; the most convenient form I found to be tablet triturates of a twelfth and a sixth of a grain.

AN UNUSUAL CASE OF SPASMS AFFECTING THE VOLUNTARY MUSCLES.

By JOSEPH G. WILSON, M. D.,
ACTING ASSISTANT SURGEON, SIXTEENTH PENNSYLVANIA VOLUNTEER INFANTRY, CAMP MEADE, MIDDLETOWN, PA.

I WAS called to see Sergeant —— at nine o'clock in the evening. He was lying on his tent floor, extremely nervous, and occasionally exhibiting slight muscular twitchings of the arms and legs. He informed me that he was then in the premonitory stage of what would soon be an attack of muscular cramps. He said that he had these attacks about three or four times a year, and had suffered from them for fifteen years. He insisted that I should at once give him a large hypodermic of morphine. He had already taken half a grain by the mouth about twenty minutes before I saw him. He said that nothing controlled the spasm absolutely, but that anæsthetics and morphine moderated it to a considerable degree. As there was present a physician who was a private in his own company and who had seen him in similar attacks, who fully corroborated his statements concerning the large amounts of morphine which he was able to take, I at once gave him half a grain of morphine combined with one one hundred and fiftieth of a grain of atropine as a hypodermic injection. The nervous manifestations gradually increased, and in about fifteen minutes he was seized with a violent cramplike spasm of the muscles of the right leg. The spasms gradually grew more violent, attacking the muscle groups of the body in rapid succession. The biceps, the adductor magnus, and hamstring muscles were most frequently attacked. The spasm of each group of muscles lasted from thirty to sixty seconds. It could be relieved by a violent blow just above the point of insertion of the muscle affected. Following these blows, which the patient himself directed to be given, the limb was forcibly straightened by attendants. The spasms rapidly increased in severity and began to attack the muscles of the back and neck. I gave another hypodermic of morphine, a quarter of a grain, and then began the administration of chloroform. At the end of an hour there was no result from either of these drugs. The patient now assumed complete opisthotonus at frequent intervals. It was relieved by sitting on his chest and violently forcing it down. Every paroxysm was accompanied by intense pain. The intervals between the seizures varied. Generally they were short, lasting from five or ten seconds to two or three minutes. Often two or three groups of muscles would be undergoing spasms simultaneously. The muscles of the back of the neck were frequently affected. It took all the muscular force which I could possibly exert to move his head and overcome the spasm. When two or more groups of muscles were affected at the same time it took four men to hold the patient, who was a large, muscular man, weighing in the neighborhood of a hundred and ninety pounds. At the end of an hour and a half there was no abatement in the severity or frequency except that he had one interval of ten minutes free from any seizure. I now gave another quarter of a grain of morphine hypodermically, and continued the administration of chloroform with increased vigor. At the end of the second hour the spasms grew slightly less in number and severity, and at the end of two hours and a half the chloroform took effect. I stopped its administration and found I had given two ounces and a half. The man slept until five o'clock the next morning, when he was again seized with slight cramps in the limbs, and the nervous prodromata were again manifesting themselves. I at once gave a grain of morphine hypodermically. In fifteen minutes he went to sleep and slept until noon, when he roused slightly. At no time did the morphine contract his pupils. His respirations were never below twelve a minute. His pulse was of good volume at all times. During the muscular seizures it was high in tension and rapid.

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* Brunton. *On the Action of Medicines*, 1897, p. 519 *et seq.*

The previous history of the patient throws no light on the subject so far as I am able to see. The first attack occurred when he was eighteen years old. It came on while working in the harvest field. He is now thirty-three years of age, and has had on an average three or four attacks a year in the last fifteen years. The attack described in this paper was not so severe as usual. He is a robust plethoric man, but, aside from this, there is nothing to suggest a gouty or rheumatic tendency. He is a traveling man by occupation. Only once in his life has he had attacks separated by an interval shorter than several weeks or months. The attacks do not bear any relation to dietetic errors or any habit, and the prodromes never last longer than half an hour. He has never been sick in his life except once, when he had typhoid fever, and has had an operation for stone in the bladder. I have ascertained to my entire satisfaction that he never touches morphine except during an attack.

The family history sheds no light on the subject. His father and mother died at an advanced age, one of peritonitis, the other of some enteric disease. In previous attacks he has had a variety of treatment. Some physicians have given him hot baths, others have given chloral, while others have produced violent emesis, but nothing has ever influenced the severity except morphine and anæsthetics. There are none of the stigmata of hysteria present, nor any morbid mental symptoms, so far as I am able to judge. There is no history of syphilis obtainable, nor is there reason to suspect it. Circumstances did not permit of a urinary analysis. After every attack he always has more or less retention of urine, but has never been catheterized. He suffers from no unpleasant after-effects, except soreness of the muscles and the bruises from the blows received in relieving the muscular spasms. Reports of similar cases and comments would be very acceptable.

CEREBRAL EIDOLA.

By WALLACE WOOD, M. D.

If, without reference to the lore of gyri and sulci, one looks squarely at the cerebrum of a cat, *Felis domestica*, from the side, he will see sculptured in high relief upon the hemisphere the figure or shape of an ear. This "cat's ear" is not a vague shadow, but a most clear and striking form.

Possibly he may call it a fancied resemblance, and think no more of the matter; consulting the physiological memoirs, however, he will find that this particular spot on the cortex is the auditory area or centre of hearing. This cat's ear on the brain not only looks like an ear, but performs auditory functions.

It is not limited to *Felis domestica*. It is the most prominent feature on the cerebrum of lion, tiger, or panther, where its shape seems to dominate the entire posterior half of the hemisphere. One is impressed by the idea that with so great an auditory area as this *felis* must be a wonderful listener.

Naturally, the attention at this point would be directed to the auditory centre in other animals. Take first the dog, *Canis familiaris;* while the external ear of *felis* is upright, that of *canis* is usually drooping, and we find that the ear gyrus, the third from the margin, is in *Canis familiaris* also lopped or drooping, thus resembling the shape of the interior of the concavity of the canine outer ear.

In ovines and bovines the outer ear is erect. Is, then, the "cat's ear" or cerebral pinna to be found on the cranial surface of ox or sheep? At the head of the Sylvian fissure in these animals one discovers a triangular lobule seemingly identical in form and position with this auditory centre in *felis,* and looking at this formation in a series of specimens we are impressed with the feeling that we have here also the spiritual apparition in the cortex of an ear, the eidolon or simulacrum of the pinna, the outer auditory shell.

In *homo* this suprasylvian lobule is the gyrus supramarginalis, and when examined in the embryo, together with its accompanying gyri, and compared to those of the ox, one forms the impression that while this lobule stands for the pinna, the first temporal gyrus may correspond to the drum or middle ear, and the second or third temporals to the inner ear—that is, to the vestibule labyrinth. Thus to the whole auditory apparatus of the flesh without would correspond a whole auditory apparatus of the spirit within, and this sculptured plainly upon the cranial surface of the hemisphere. In other words, the ear of the flesh carves its spiritual counterpart upon the surface of the cerebrum.

We now take a step further. If there be literally a cerebral ear, why not a cerebral eye? The ovine, bovine, feline, and canine brains do not at first glance reveal it. In *felis* and *canis* the eye gyrus exhibits a long stamen-like shape, with a clubbed terminus. These eye scrolls or eye stamens are perhaps analogous to the stemmata of lobsters and insects, little stalked eyes, rudiments, and we know also that the mind's eye in these lower mammalia is certainly in a rudimentary state. The big mental eye is found only in creatures with hands, the primates. Let us see the primate brain. Here, indeed, passing from herbivora and carnivora is a radically new type; its characters a lofty fissure of Rolando and a great round overhanging occiput. This back head, this round ball, so simple and beautiful in all the little quadrumana, so noble and wondrously carved in the great bimana, this is the big eye, the eye of the brain. Here is the optic centre, here the visual area. The calcarine fissure is the cortical retina, the occipital lobe is the cerebral eyeball.

It is a carving wrought by the spirit of sight; it is the simulacrum or eidolon of the external oculi; it is the shade or soul of the eye. At one pole of the optic nerve is the eye of the flesh, at the other pole is its immortal counterpart, the eye of the spirit.

Is this true? What is the occiput?—a visual centre merely, a visual map or area, a mere surface folded by hazard and convoluted by the accident of want of space? Shall we not rather say a living orb, a body more glorious than a star, a form within us more vital and more beautiful than the eye from which it sprang?

The evidence of our senses, our scalpels, and our microscopes at present all point strongly in the latter direction.

If we allow a cerebral eye and ear, why not a cerebral nose and tongue? Underneath the temporal convolutions lies a tract in the rhinencephalon variously called the hippocampus, the silkworm, the horn of Ammon, and the gyrus uncinatus. It is in this curious turbinate lobule that Ferrier has located the sense of smell. Here, then, we have to do with another spirit carving, for if we observe and reason right, the hippocampus, the little seahorse shape, is the cerebral nostril. It is cunningly wrought. It is a coiled shell—so also is the external nostril. The essence of the act of smelling is a twist or torsion; the nostril is turbinate; when it scents anything pungent, like the nasturtium, it twists—as the very name of this golden-colored member of the cress family implies. This, then, is the eidolon we are seeking. The nostril of the body has carved for itself a nostril in the brain. This is what we should expect. To smell the actual and the present we require a nose of flesh; to scent the past and the absent we require a mental nose, and why should we conceive this to be without form or void? To scent the absent requires a well-formed nose of gray matter.

Let us still pursue our eidola. The sphenoidal pole or sphenoidal lobule is the seat of taste. At first glance this lobule shows no resemblance to a tongue, certainly no resemblance to a lingua; but we must know that the groove of taste which bears the name of tongue is at its essential and substantial end a very different form from that portion which is usually shown. The true gustatory organ is a bulb or stoma with a groove in it, and we shall find that the sphenoidal pole also is a bulb or stoma with a groove in it more or less clearly defined. This sphenoidal bulb then is the cerebral glossopharyngeum. In this study we must not look for an actual copy, picture, or reproduction, as the vulgar would see it, but we must search for the form of the essence or spirit, something less tangible, more beautiful, higher, more difficult to grasp. While the outer glossopharyngeum is of the nature of a camel shape or *morphe*, the cerebral or psychical glossopharyngeum is of the nature of the higher form or essence, the *eidos*.

The sphenoidal lobule differs considerably in different individuals: there is no accounting for taste, each one has his own, as also in different species. In the lion it is decidedly dainty, quite lingua form. It is well known that all felines have delicate or dainty taste.

Other parts of the cerebrum are, if we mistake not, more fearful and wonderful still. The lower occipital lobe appears, both by its form and position, to be a kind of reverse of the lower temporal lobe; somewhat as in the organism the cloaca is the reverse of the stoma, or the splanchna are the reverse of the œsophagus or pharyngeum. The under occipital lobe is composed of two parts, the lingulate and the fusiform lobules, the pair presenting the appearance of the two parts of an apparatus or organized whole.

It would, perhaps, be hardly correct to call this lobe phalliform, for it is not always so: it resembles variously a cone, a bulb, a heart, a bud, a flower; it is a conus or conoid, an anthos or antheroid. It is safe to say that it simulates some of the manifold forms of the generative spirit as found in Nature and in art. If we seek to know the shapes in which the generative spirit—the spirit of birth and beauty—manifests itself, we shall find that the field is wide. We must first pass in review all the stamens and pistils of vegetation, and not only these, but all fruits and flowers; next the essentials and accessories throughout the animal series, not forgetting the platyelminthes and the mollusca. In art, such shapes as the Assyrian cone and *fleur-de-lis* and anthemion, the

Greek anthemion on the vases and the closed anthemion, the egg ornament, the tongue ornament, the stele, and the primitive obelisk. Little by little we come to see that the most general types of all this matter are the conus, the anthos, the lotus, and the anthemion. These are the symbols of love and birth, generation, antithanos, the force that saves from death. Thus, then, we arrive at that third field, the cerebral, which is neither nature nor art; and if one examines with care the lower occipital lobe of the mammalian series he will, I think, find strong grounds for the conviction that he is looking at the very flower of the sacred arbor vitæ, the tree of life—of life immortal, since it is for the preservation of the race.

Thus it is maintained that the lower occipital lobe is the psychical conus or psychical anthos, as the over-occipital lobe is the psychical ophthalmos. Further investigation may show that the two are intertwined.

Let us next consider the Rolandic region or the lobus centralis. This consists of the ascending frontal and the ascending parietal convolution, or, according to newer nomenclature, of the precentral, postcentral, paracentral, and infracentral gyri. The region is marked on the localization chart by such names as leg, shoulder, arm, thumb, fingers, face, etc. Shall we then expect here to find a spirit face and a spirit hand sculptured upon the surface? Here surely the hypothesis breaks down. Surely there is nothing of this sort to be found about the fissure of Rolando, nothing, indeed, that in any way resembles bodily limbs or members. If the idea is true at all, however, it must be true here, for the central lobe is the most decided and salient part of the brain, both in form and function. In the first place, then, we must note once more that we are not in pursuit of a realistic copy, picture, or reproduction, but of a spiritual semblance, the form of a spirit or essence. Let us, therefore, first ask what is the essence or true form, the essential form of locomotion or of a locomotor apparatus, for this lobus is the sensory motor of the corporeal apparatus, the locomotorum. This locomotor or motor is a mechanism consisting of three swinging limbs, the pes, manus, and maxilla, or leg, arm, and jaw. A moment's thought will suffice to show that either of these three pieces of mechanism is in essence a "toggle joint." Such is the archetype; the leg of a grasshopper may serve as the type. Now if a good specimen of the human brain is brought forward one may demonstrate perfectly the Rolandic region as a chain of three toggle joints or "knee joints" or "elbow joints" (all these are mechanical terms), the first being the cerebral leg, the second the cerebral arm, the third the cerebral jaw, the last curved, perhaps, rather than jointed. The first of these is literally and truly a "knee joint," and the second, with a clearer cut and a sharper curve, most truly an elbow joint, while the third is a curving jaw, the simulacrum of the maxilla which it moves.

It may seem somewhat strange, if not startling, thus to imagine ourselves examining a man's limbs not in the flesh, but, as it were, in the spirit that is not in themselves, but in the mirror of their psychical or cerebral counterparts. The more one observes the more one is convinced that the two poles of the projection system are counterparts—an eye for an eye and a tooth for a tooth, so to speak.

In the brain of the lion, *Felis leo*, the frontal lobe is formed by four hook-shaped gyri reaching forward like semi-outstretched arms, strongly suggestive of the hind feet, the fore feet, the maxilla, and the lingua. The first crouches and springs, the second strikes, the third grips and crushes, the fourth rasps the flesh from the bones. The eye gyri, the ear gyri, and all others in this royal animal are quite remarkable.

164 FIFTH AVENUE.

HENOCH'S DISEASE, OR NERVOUS PURPURA.

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PELIOSIS rheumatica, Schönlein's disease, and nervous purpura, or Henoch's disease, have all been described under the name of arthritic purpura. It is of the last variety that I desire to report a case. From an ætiological standpoint this disease of childhood has been assigned no microbe, and, except where it is associated with some wasting disease, such as scarlatina, variola, typhoid, etc., has been given no explanation. In some cases there are forewarnings of an indefinite character—*e. g.*, vague headache, an "uneasy" head, lack of appetite, lassitude for a period of time from ten to fourteen days (Ziemann). The attack has been described as sudden, the abdomen becoming sensitive, with severe colicky pains sometimes localized in the left hypogastric region. Vomiting and a diarrhœa of a decidedly paroxysmal character set in, either with or closely following the abdominal pain. The patient retches and vomits, and has a peculiar expression of horror upon the face. The matter vomited is usually the contents of the stomach mixed with blood and mucus, and these may soon be followed by bile, etc. The evacuations from the bowels are of a brownish, sticky quality, and of a peculiar odor. The urine passed is cloudy and very dark in color.

Following closely on or accompanying the first paroxysm of vomiting begins the swelling of the ankles, knees, wrists, elbows, shoulders, and buttocks, attended with pain, and the petechiæ make their appearance on the extensor surface of the joints. Soon the paroxysms of vomiting and diarrhœa diminish or cease, leaving bright-red irregular blood spots under the skin. They are found on the extensor surface of the legs, arms, buttocks, and shoulders, mostly on the dependent parts. They do not disappear on pressure, and they vary in size from that of a pin's head to that of a quarter of a dollar. They persist for a week, turning various colors—green, yellow, etc. There are symptoms of a rapid internal hæmorrhage; in the urine you may find blood, casts, blood-coloring matter, and always albumin, the consequence being usually nephritis. The prognosis is comparatively grave (Osler estimates one in four, Ziemann higher), nephritis or the effects of the serious hæmorrhage ending the scene.

The recurrence of the attacks has not been referred to in the books consulted. The treatment as laid down is symptomatic; small doses of opium, preferably morphine, and atropine are given hypodermically. Absolute quiet and rest in bed are enjoined. The after-treatment consists in a rigid system of tonics, of which arsenic seems to head the list. This drug should be pushed to its physiological limit.

Iron, in an easily assimilable form—ferratin, peptonate, hæmoglobinate, etc.—should be given with the arsenic. Ergot, tannic and gallic acids seem to have no appreciable effect on the frequency of the attacks (*Twentieth Century Practice*).

The diet should be light, guarded, and wholesome.

Case.—The patient was a girl, eleven years old, well nourished, and of Polish parentage. The house in which she lived was situated about twenty feet from a rather odorous stream. She was first seen on January 12th, about 10.30 P. M. I found the child recumbent and exhausted; the skin cool and moist; the temperature, 98.8° F.; the pulse regular, soft; the right wrist and elbow, left elbow, knees, and thighs were swollen and covered with petechiæ. The spots on the wrist and elbows were small and indistinct; those on the buttocks large and small, but well marked.

History.—The child had had "cramps and vomiting," commencing late in the afternoon and continuing intermittingly until shortly before I arrived. Some of the stools were of nearly clear blood, and the vomit showed blood also, the vomiting and purging coming in paroxysms. The joints were not painful to the touch, the child suffering no pain except during the paroxysms. The treatment consisted of calomel followed by opium in small doses, liquor potassæ arsenitis, a drop, twice daily, increasing one drop every other day. Diet: Milk. The temperature during the term I attended her, which was three days, never rose higher than 99.4° F. I regret that I was unable to obtain further scientific data from the case, because the child was sent into the country to live upon a farm on the third day after this attack. She has suffered two attacks of less severity since she went into the country, and, as I hear from the mother, "has now points and spots all over her body and face."

ASEPTIC SURGERY IN GENERAL PRACTICE.

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Since the introduction of antisepsis into modern surgery its technique has been carefully studied and systematized, and brought to almost as near perfection as is within the power of science and mankind. The importance of aseptic surgery is underrated at present by no sane physician, the courts recognizing the neglect of antiseptic precautions as criminal.

Since it has been discovered that poisonous chemicals are not always necessary to do "clean surgery," but that harmless drugs and heat are sufficient, some confusion has arisen as to the proper designation of this non-poisonous antisepsis, some authors having styled it "aseptic surgery" in contradistinction to "antiseptic surgery," where poisonous chemicals (carbolic acid, mercury, etc.) are employed.

In the *New York Medical Journal* for September 21, 1895, I pleaded for the following definitions: 1. Asepsis means freedom from germs; and, 2, antisepsis means the application of any means, no matter of what character (mechanical, chemical, or otherwise), to obtain asepsis; hence, washing of the hands with soap and water is antisepsis.

If we were sure that no pathogenic germs were present in the air or on the hands, fingers, instruments, dressings, or body of the patient, there would be no need of any antiseptic measures; but as it has been proved beyond a shadow of doubt that the above-named objects are usually infested with germs unless specially prepared, the greatest care should be exercised in the performance of even the most trivial diagnostic or therapeutic operation. The introduction of an unprepared sound into a non-prepared uterine cavity is apt to cause septic metritis, if not peritonitis and death, as has been again and again demonstrated in silent but sad coroner's records.

It is generally believed by the profession that a perfectly aseptic operation can be done only in a first-class hospital, and that there is no need for being thoroughly aseptic in office or minor surgery. Both views are wrong. As regards emergency surgery on the street, battlefield, or in a filthy workshop, factory, or railroad car, where not infrequently no preparations can be made, ideal asepsis is hardly possible. When preparation, however, is possible, then any private room, or even hospital tent, can be brought to the standard for aseptic work. Errors are made even in the best hospitals, while faultless technique can be practised in a cottage, all depending upon the surgeon and his assistants.

To do aseptic surgery, but few paraphernalia are needed. It is also hardly necessary for practical purposes to devote years of special study to this subject; while continuous reading will put the practitioner on his guard against many errors, the importance of which we are apt to underestimate or to entirely overlook, all that is really needed is a thorough understanding of the principles governing antisepsis and asepsis, some of which can be regarded as surgical axioms. As in many other arts and sciences, the spirit of execution should be grasped.

As hinted before, aseptic surgery can be done by the general practitioner in any well-prepared room. The forearms, hands, finger nails, and region to be operated upon should be treated with brush, file, soap, hot water, and chemicals, as laid down by standard authors, after which they are not to touch anything not rendered aseptic unless the hands are protected by sterile gauze or towels. Instruments can be rendered perfectly aseptic by boiling in an alkaline solution (one per cent. of sodium carbonate) for from fifteen to thirty minutes. For this reason they should be constructed of metal only, wooden handles being unfit for boiling. Such instruments as can not be boiled (particularly hard-rubber ones) must be kept in strong solutions of carbolic acid or bichloride of mercury for at least six hours previous to use, but should be rinsed with sterilized water if it is necessary to bring them in contact with the wound, to prevent poisoning by absorption and irritation of the wound surfaces. A drug which does not require such precaution on account of its nontoxicity, yet possesses the same efficiency, is hydrozone (thirty-volume solution, H_2O_2). It can not be used for the sterilization of metal instruments, owing to the fact that when brought in contact with metal, decomposition takes place; but it is an excellent antiseptic for hands, catheters (soft rubber), and hard-rubber instruments.

Presupposing that you have a well-ventilated room, from which all unnecessary furniture, with the carpet, draperies, curtains, etc., has been removed, and the floor moistened to prevent the raising of dust, you are ready to proceed with an aseptic operation.

During and after the operation, gauze, sponges, cotton, bandages, catgut, silk, etc., are needed. It is well known that no general practitioner has the time, opportunities, and I dare say instruments, to make his own plain or medicated gauzes, sponges, etc., and to prepare his suturing material. Factory-made articles are purchasable at a nominal price, and it is claimed for them that they are always sterile, no matter how long kept in their containers. Dr. Boeckmann, in a paper read before the American Medical Association, deprecates the use of factory-made dressings, and urges the profession to prepare them at the office. But I think the doctor is wrong; for, aside from the fact that a busy practitioner has all he can do to attend to his practice, to make analyses, microscopic examinations, blood counts, and so forth, he must devote several hours to the proper preparation of one or two yards of gauze, he must spend a good deal of money for proper instruments, such as sterilizer, basins, large kettles for boiling, also chemicals, etc. However, there is another side to the story: I have frequently seen druggists and ambitious retail instrument dealers prepare and put up gauzes on an uncovered table on which a few seconds previously another clerk had had his lunch. While preparing the gauze, the operator shook hands with several customers, sold instruments and test tubes, and went back to his work without even washing his hands, as if nothing had happened. Asked whether he meant to guarantee the sterility of his gauze, he answered: "Sure, see how clean the gauze looks!" It is needless to say that I found a good many bacilli on a piece of gauze.

Ever since my acquaintance with American pharmacy and surgical industry, I have relied solely on the dressings and suture material put up by one of our best-known firms, that of Johnson & Johnson, of New Brunswick, N. J. Any physician who can afford to pay a visit to their laboratories will learn what aseptic dressings are. Those who can not, ought to read a description of their costly vacuum sterilizers, and the system by which the goods are handled and prepared. No hospital can offer anything superior, and from my limited observation I can say that the hospital method of preparing dressings is not up to that laid down in those laboratories.

It may be said that dressings in a hospital can be taken out directly from the sterilizer during the operation, all of which is well and good. The general practitioner can not carry with him his sterilizer. Let us remember, then, that double sterilized gauzes, plain or medicated, packed during the final processes of sterilization in aseptic glass containers and sealed hermetically, must remain aseptic indefinitely. Corks and tin screws are unreliable closures for jars, but glass covers, tightly fitting, are ideal, and when opened with sterile hands are fit for any surgical operation. The Red Cross ligatures are, after proper preparation and sterilization, put up in two paper wrappers, both of which are impregnable to germs. When opened before use, they are aseptic, no matter how long kept closed. The advantage dry ligatures have over those kept on rollers in alcohol bottles or carbolic-acid solutions any one who has had any experience with both will admit: there is no danger of twisting, no danger of stitch-hole irritation, and clean suturing is facilitated.

Sponges may be used if bleached, purified, mechanically and bacteriologically clean; but, as a rule, they are unreliable, clumsy, and objectionable. For sponging purposes, pledgets of gauze or cotton are employed, which are thrown away as soon as used. Cotton as put up in loose packages is not aseptic. It should, therefore, be used for dressing and padding purposes only when it does not come in contact with a wound. Bernays sponges, which are nothing else but compressed pieces of cotton surrounded by gauze and put up aseptically, are preferable to anything else.

Lack of space prevents me from dwelling on this subject any further. I only wish to call attention to the fact that gauzes, dressings, and suturing material, aseptic and packed in impregnable containers, have the great advantage for the general or military surgeons that they are ready for emergencies, when no time for preparation is left. It is for this reason that instruments which may be used for emergency work should be sterilized and kept so wrapped in a sterile towel; but of this I shall speak in another article soon to come forth.

1443 Michigan Boulevard.

Therapeutical Notes.

Salol and Cocaine in the Treatment of Burns.—Dr. Capitan (*Cronica medica,* August 31st) asserts that the following ointment suppresses pain and suppuration in burns and promotes healing:

℞ Salol	120 grains;
Cocaine hydrochloride	7½ "
Vaseline	900 "

Dr. Capitan uses in addition compresses moistened with solutions of corrosive sublimate in water of one-quarter to one-half-per-cent. strength, or of borated water, one to fifty.

A Diaphoretic Powder.—According to the *Gazzetta degli ospedali e delle cliniche* for October 4th, von Graefe recommends the following:

℞ Powdered camphor	$\frac{3}{10}$ to 1½ grain;
Powdered opium	⅓ to ½ "
Acetate of potassium	3 to 4½ grains;
Sugar	150 "

M. To form one powder, which is put into a cup of tea and taken at bedtime.

For Local Anæsthesia.—Dobisch (*Revue médicale,* October 19th) gives the following:

℞ Chloroform.	150 grains;
Sulphuric ether	225 "
Menthol	15 "

To be sprayed over the surface to be anæsthetized. The anæsthesia lasts from two to six minutes.

Formaldehyde in Typhoid Fever.—Dr. T. H. Line (*St. Louis Medical Era,* October) recommends the following formula, governing the dose according to age, idiosyncrasies, etc.:

℞ Formaldehyde (forty-per-cent. solution)	1 drop;
Elixir of lactopeptin	1 drachm.

M. This is to be given every one, two, or three hours, according to the severity of the case.

For Intestinal Atony.—Huchard (*Progrès médical; Gazette des hôpitaux,* October 15th) gives the following:

℞ Benzoate of sodium	75 grains;
Powdered rhubarb	75 "
Powdered nux vomica	$\frac{6}{13}$ of a grain.

M. For one cachet. Two or three to be taken daily.

Treatment of Gout by Lycetol.—Hoven (*Deutsche medizinische Zeitung,* 1898, No. 54; *Gazette des hôpitaux,* October 25th) gives the following:

℞ Calcined magnesia	22½ grains;
Lycetol	15 "

M.

Dissolve in eight ounces of water and take half after the midday and the other half after the evening meal.

Gastralgia.—According to the *Practitioner* for November, the following prescription for gastralgia has the high authority of Professor Ewald, of Berlin:

℞ Codeinæ phosphatis	¼ grain;
Bismuthi subnitratis	5 grains;
Sacchari lactis	3 "

M. Sig.: This as a dose every two hours.

Remedy for Rigid Perinæum.—According to the *Medical Times* for November, Dr. Southworth says that he who tries the following remedy in rigid perinæum will never be without it. He considers it indispensable and infallible:

℞ Chloroform	2 drachms;
Ether, Eau de Cologne, of each	1 drachm.

M. Apply locally.

Dr. Southworth further says that it acts quickly and well. He has had large heads pass perinæums seemingly impossible without the least tear when this preparation was used.

The Treatment of Migraine.—Dr. Freiser (*Münchener medizinische Wochenschrift,* 1898, p. 1121; *Gazette hebdomadaire de médecine et de chirurgie,* October 23d) recommends during the attack the following formula:

℞ Valerianate of menthol	75 grains;
Distilled water	375 minims;
Syrup of maidenhair (*Adiantum capillus Veneris*)	450 "

M.

Fifteen drops to be taken twice in an hour.

In those cases accompanied by marked contraction of the pupil he makes use of caffeine according to the following formula:

℞ Citrate of caffeine, Menthol, of each	7½ grains;
Quinine	15 "

M.

Divide into ten powders. One to be taken every two hours.

The Treatment of Influenza.—Baccelli (*Gazzetta degli ospedali e delle cliniche,* 1898, No. 43; *Centralblatt für innere Medicin,* September 24th) recommends the following formula for use in cases that begin with severe fever and nervous symptoms:

℞ Quinine salicylate	3 grains;
Phenacetine	2¼ "
Camphor	⅓ grain.

M. As many as six such powders may be given in twenty-four hours. When catarrhal symptoms appear, from a third of a grain to half a grain of antimony pentasulphide may be added.

Expectorant Mixture.—Beck (*Journal de médecine de Paris,* October 30th), to facilitate expectoration, recommends the following:

℞ Hydrochloride of apomorphine	1½ grain;
Dilute hydrochloric acid	25 minims;
Simple syrup	750 "
Distilled water	3,000 "

M.

For an adult, a tablespoonful to be taken every two or every four hours. For a child, a teaspoonful at the same intervals.

Antituberculous Oil.—The *Cronica medica* for September 15th recommends the following:

℞ Vegetable creosote	150 minims;
Naphthol	45 "
Metallic iodine	2¼ grains;
Cod-liver oil	6 ounces.

M.

A tablespoonful three times a day.

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"CHRISTIAN SCIENCE" AND THE PRACTICE OF MEDICINE.

A recent issue of the *Sun* contained a most admirable editorial article, headed A Dangerous Cult, apropos of the indictment, in England, of a "Christian Science" woman under whose ministrations Mr. Harold Frederic had died. The writer points out that the most dangerous form of quackery is one founded on pseudo-religious superstition, as is the case with "Christian Science." "If," he says, "a man kills his child in obedience to a fanatical belief that the sacrifice must be made as a duty to God, as Abraham prepared to sacrifice Isaac, and as Jephthah actually did sacrifice his daughter, according to the best authorities, he is a murderer, and the more dangerous to society because of the very sincerity of his fanaticism." The writer then goes on to show how the devotees of "Christian Science" have multiplied in this country, and how they constitute such an aggressive host as to have practically, according to all appearances, frightened legislative committees in the States of New York and Massachusetts into reporting adversely on bills intended to put a stop to their particular form of quackery, or into taking action equivalent to such a report. He gives extracts from the impious effusions—as profuse as they are meaningless—by which the champions of the sect have effected such intimidation.

What sort of conscience can a legislator have who suffers his plain common sense to be overborne by the fact that a crowd of fanatics has so overrun his committee-room that he feels constrained to hold the sessions in the senate chamber? Yet the "Christian Scientists" are not by any means the first who have balked wholesome legislation or accomplished what was bad. We have never approved of unnecessary legislation; much less have we ever advocated it. Perhaps in this instance the bills intended to prevent medical practice by the "Christian Scientists" may prove to be unnecessary. We can only tell by observing how the courts deal with persons who may be prosecuted under existing laws, and it will be interesting to note how the case of the woman indicted in London is disposed of. The "Christian Scientists" contend that they are not practising medicine within the meaning of the law, but their contention is arrant nonsense. Whenever one of them takes charge of a sick person, to the exclusion of his care at the hands of a duly qualified practitioner, he or she is unquestionably practising medicine, and should be dealt with summarily, irrespective of the termination of the case.

But we must take things as we find them. Legislative committees, and even legislatures themselves, are overawed by a crowd of blatherskites, unless there is a sufficient force to counteract them, and the counteracting force must be imposing in numbers as well as logically correct. The dose of the antidote must fit that of the bane. Let us of the medical profession, then, effect such an organization as shall command a respectful hearing. Let not the rank and file leave the rights and welfare of the profession to be looked after by a few of the more prominent of its members, but let the force of numbers be felt. The legally registered practitioners of the State of New York, for example, constitute a force quite capable of stamping out the last vestige of quackery, if only they were properly organized.

DR. MARTIN'S FURTHER RESEARCHES ON THE ANTAGONISM BETWEEN TOXINES AND ANTITOXINES

In our issue for September 10th we commented in an editorial on the valuable work of Dr. Martin and Dr. Cherry on the Nature of the Antagonism between Toxines and Antitoxines, as reported in the *Proceedings of the Royal Society*, vol. lxiii, No. 400, for July 29, 1898. In the *Proceedings* of the same society, vol. lxiv, No. 403, for September 28th, Dr. Martin continues the account of his researches as to the nature of the antagonism, and produces evidence which appears to be distinctly confirmatory of the chemical nature of this antagonism.

The admitted discrepancy between the quantities of antivenene required to neutralize a given quantity of venom when they are (1) previously mixed outside the body, and (2) simultaneously injected under the skin in different parts of the body, led him to institute a further series of experiments with the view of obtaining definite data concerning the proportion of antitoxine to toxine necessary to save an animal, under the three following conditions: (1) When mixed prior to injection; (2) when injected simultaneously, the antitoxine into a vein, and the venom subcutaneously; and (3) when injected simultaneously but separately under the skin. The venom employed was taken from the Australian tiger-snake, *Hoplocephalus curtus*. A solution of the dried venom in 0.9-per-cent. sodium chloride solution was made of such strength that one cubic centimetre contained .00001 of a gramme of the venom. The solution was heated to 90° C. in order to destroy a certain poisonous constituent that coagulates at 85° C.; the poisonous proteose then remaining being probably identical with that of cobra poison, which it closely resembles in its toxic effects. The antivenene employed was furnished by Calmette, and was of two kinds—one sample dated November, 1896; the other, December, 1897—having antitoxic values of one fiftieth and one two-hundredth of a normal unit per cubic centimetre respectively. The check experiments, five in number, showed that .00003 of a gramme of venom per kilo of animal weight in rabbits was just on the margin of fatality, one animal surviving for upward of fifty hours while another recovered. Three animals of lesser weight, injected with .00005, .00006, and .00008 of a gramme, respectively, only survived twenty-six, thirteen, and eleven hours. The direct experiments showed that two cubic centimetres of antivenene, when previously mixed with the poison, were effective to the extent of .00003 and .00004 of a gramme; animals inoculated with .00005, .00006, .00007, and .00008 of a gramme, mixed with two cubic centimetres of the antivenene, dying in periods varying according to the toxic dose and weight from seventy-five to twenty-seven hours.

The next series of experiments showed that three rabbits of nearly equal weight survived the simultaneous injection of two cubic centimetres of antitoxine intravenously, and .00003, .00004, .00005 of a gramme of toxine subcutaneously; while three others, slightly greater in weight, died in from twenty-six to twenty hours from subcutaneous injections of .00006, .00007, and .00008 of poison, notwithstanding the simultaneous injection intravenously of two cubic centimetres of antivenene.

In the final set of experiments only two rabbits were used, of eleven hundred and eleven hundred and forty grammes' weight respectively. The first died in fifteen and the second in nineteen hours after a subcutaneous injection of .00005 of a gramme of toxine, notwithstanding the simultaneous injection subcutaneously of ten and twenty cubic centimetres of antivenene respectively.

From these valuable experiments the author concludes: (1) That about the same quantity of antivenene necessary to neutralize the venom *in vitro* is capable of doing so when the former is injected into the blood stream and the latter subcutaneously. (2) That at least ten to twenty times this quantity is required when they are both placed simultaneously under the skin, but in different parts of the body. That the proportion of toxine necessary for neutralization should be the same whether they are mixed prior to injection or the antitoxine is injected into the veins simultaneously with the injection of the venom *sub cute*, the author points out, is only what might be expected if the antagonism is chemical in its nature, inasmuch as by the more rapid absorption intravenously of the antitoxine it is already in the blood to neutralize the toxine when it is absorbed. This additional evidence of the chemical nature of the antagonism, reenforcing that accumulated by Kanthack, Ehrlich, Fraser, Stevens and Meyer, and the author and Dr. Cherry, is such that he says that he does not see that any one can come to any other conclusion.

Of the reason for the much greater proportion of antitoxine required when injected simultaneously, the author speaks as follows:

"The much higher proportion of antitoxine to toxine required when separately introduced under the skin seems to necessitate the inference that antitoxine is comparatively slowly absorbed from the subcutaneous spaces. Our chemical knowledge of this poison in *Hoplocephalus* venom and of the active principle in antivenene, together with what is known of the physiological mechanism of absorption, is quite in accordance with the view that this antitoxine is only capable of slowly penetrating the capillary wall, whereas the venom passes through fairly rapidly. The constituent of the venom which was used in the above experiments is an albumose. It dialyzes slowly, can be filtered through a film of gelatin under pressure, although it does not pass through so readily as water or bodies of simpler molecular constitution. It is rapidly absorbed by the blood-vessels. An animal can be killed by subcutaneous injection of a large dose in a few minutes, and the result is not retarded by previous ligature of the lymphatics from the limb and the thoracic duct."

The concluding paragraph is of therapeutic importance, and states that "the practical indication of this in the treatment of snake bite is to inject the serum intravenously, until the potency of the antivenomous serum which is at the disposal of the public is greatly enhanced."

MINOR PARAGRAPHS.

PROFESSIONAL SECRECY IN DIFFICULTIES.

According to the *Journal of the American Medical Association* for November 12th, there is recorded in the *Klinische-therapeutische Wochenschrift* for October 9th the case of a physician who was consulted in regard to the health of a daughter whom he found pregnant, but who, considering himself bound to professional secrecy, diagnosticated the case to the parents as anæmia. The parents later ascribed the paternity to him, in spite of the girl's declarations to the contrary, as the only possible explanation of his reticence. It appears extraordinary that under the circumstances the practitioner in question should not have protected himself with another opinion. But since the doctor was employed by the parents, and examined the girl presumably with her own consent, it seems to us somewhat doubtful whether the canon of professional secrecy covers the case at all. A simpler course, however, would have been to point out to the girl the fact that the nature of her condition must inevitably manifest itself in due course, and to urge her either to make a clean breast of it to her parents, or to authorize him to do so and plead on her behalf. Should she refuse to accede to this, he would then be fully justified in exacting from her a written confession of the facts, under promise not to use it until after her confinement, and then only in self-defense, with the alternative, in the event of her refusal, of stating that as he was employed by her parents his opinion was due to them, to which proposition, by submitting herself to examination, she had virtually assented.

THE NEW VOLUME OF THE *INDEX-CATALOGUE.*

The third volume of the second series of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army,* has been received at this office. It consists of 1,100 pages of text, and carries the vocabulary through the letter C. The librarian, Surgeon James C. Merrill, states that it gives 11,112 author titles, 10,636 book titles, the titles of 34,314 journal articles, and those of 677 portraits. Like all the preceding volumes, it is most creditable to the surgeon-general's office.

A SUGGESTION TO MAKERS OF MENTHOL "CONES."

The so-called menthol "cone" is a very useful device. Unfortunately, the menthol is brittle, and often the greater portion of it gets broken off, leaving only a thin layer in the cup. Some makers, we understand, obviate this by mixing a certain amount of paraffin with the menthol, but this we must look upon as decidedly objectionable. It seems to us that a slender metallic shaft rising from the centre of the cup through the mass of menthol nearly to the free end of the "cone" would answer the purpose.

"INTERVENTION" *VERSUS* "INTERFERENCE" IN SURGERY.

There are so many questionable expressions in common use by medical writers that it seems almost useless to pick and carp at any one in particular. Our attention has, however, been called to an editorial in the *Richmond Journal of Practice* for November, in which serious exception is taken to the use of the expression "surgical interference," and the suggestion is made that "surgical intervention" should be substituted. In support of this contention, Trench and Webster are quoted as showing that the word interference in ordinary practice implies the offensive, the idea of collision, clashing, opposition, antagonism, while intervention suggests a friendly and kindly disposed mediation. Speaking generally, our sympathies are in favor of intervention, which for the most part we use; but we would point out that in respect of correctness "interference" has just as good a standpoint as "intervention." It depends entirely upon how the surgical measures are regarded, whether as intervening on the patient's behalf, or interfering with the misdirected operations of Nature.

THE SANATORY CLUB OF BUFFALO.

The topic committee of this organization has issued a circular from which we infer that the club has in view a discussion on the advisability of establishing permanent camps of instruction, from the economic, military, and sanitary aspects, with the idea of creating a public demand for such camps. The committee expressly disclaims any intention of criticising the camp management in the war with Spain. In our opinion, a number of permanent camps are highly desirable and will soon be almost a necessity. The club, of which a well-known Buffalo physician, Dr. Hopkins, is the president, will no doubt arrive at conclusions that will be of great value to the government.

THEOLOGICAL MEDICINE.

From the *Practitioner* for November we learn that the Bishop of London, preaching to the members of the Guild of St. Luke, a religious medical fraternity, on the Resurrection of the Body, referred to the "marvelous prospect open to the medical man" by the doctrine of the resurrection of the body, in that the marks of his skill were stamped upon many human frames, to be carried by them into eternity. While he admitted this theory to be imaginative, he thought it would encourage the doctor to a higher sense of his responsibility. The prospect opened to the medical man, says the editor of the *Practitioner,* by the suggestion of the Bishop of London is not merely marvelous, but appalling. Have we not responsibilities enough, he asks, without having to look forward to a further criticism of our handicraft in the next world? If the marks of our skill are stamped on our patients' frames, will not the marks of our bungling be stamped equally deep, and carried, like the others, into eternity? In his opinion, the Bishop of London has added a new terror to medical practice.

CYANIDE OF MERCURY IN THE TREATMENT OF GONORRHŒA.

At the recent French Congress of Urology M. Escat, of Marseilles (*Lyon médical,* November 6th), advocated the use of cyanide of mercury, in from 1-to-1,000 to 5-to-1,000 solution, as an irrigating agent in the urethra. Its antiseptic action, he says, is almost equal to that of corrosive sublimate, and it is remarkably well borne; a quart of the solution may be used without danger. It seems to give rise to a "sero-hæmatic" exudation which constitutes a bad medium for the multiplication of the gonococcus.

THE CHICAGO CANAL.

There seems to be a fear entertained in some quarters that the great canal, soon to be completed, that will divert the sewage of Chicago into the Mississippi River will pollute the waters of that stream to the detriment of communities lying below the emptying point of the canal. This fear we judge to have little if any foundation. The distance that the water will have to flow before reaching the river appears to be an *a priori* guarantee of a natural cleansing process. If this proves untrustworthy, it is probable that expedients will be resorted to that will be effective.

THE SURGEON GENERAL'S REPORT.

Judging from such portions of Surgeon-General Sternberg's report as have thus far been made public, we must say that it affords ample justification for the view we have expressed all along as to the causes of the sickness and deaths in the armies, namely, that they were largely due to neglect on the part of the enlisted men and the subaltern officers appointed from civil life. For that matter, the amount of sickness and the resulting mortality have not been greater than are to be expected in any war.

THE STATE CIVIL SERVICE EXAMINATIONS.

In view of the early date set for the examinations for appointment to medical offices in the State Industrial School, in Rochester, as set forth in our advertising columns, we would advise those of our readers who may be inclined to take the examination to lose no time in filing their applications.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 19, 1898:

DISEASES.	Week ending Nov. 12.		Week ending Nov. 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	71	21	75	11
Scarlet fever	108	5	100	7
Cerebro-spinal meningitis	0	6	0	1
Measles	98	4	149	5
Diphtheria	130	22	186	28
Croup	14	10	15	8
Tuberculosis	181	154	192	142

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 19th inst., Dr. Ernst Saxl was to read a paper on Eye Symptoms in some Constitutional Affections, and Dr. H. W. Hermann was to present two cases of pseudo-hypertrophic paralysis.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, and cholera were reported to the supervising surgeon general of the United States Marine-Hospital Service during the week ending November 19, 1898:

Small-pox—United States.

Mobile, Ala.	Oct. 27–Nov. 5	1 case,	1 death.
	Disease imported from Dwight, Ala., where small-pox was reported on September 12th.		
San Francisco, Cal.	Nov. 7	1 case.	
	Employee on S. S. *Mariposa*.		
Ecorse Township, Mich.	Nov. 9	Small-pox present.	
Edgecombe, N. C.	Nov. 12	10 cases.	
	Imported from Norfolk.		
Cleveland, Ohio	Nov. 14	1 case.	
Norfolk, Va.	Oct. 8	1 "	
	(Seven cases now in city pest house.)		

Small-pox—Foreign.

Antwerp, Belgium	Oct. 15–22	5 cases,	3 deaths.
Moscow, Russia	Oct. 8–15	9 "	2 "
Odessa, Russia	Oct. 15–22	2 "	1 death.
Constantinople, Turkey	Oct. 26–Nov. 17		21 deaths.

Yellow Fever—Foreign.

Barranquilla, Colombia	Oct. 15–22	2 cases,	2 deaths.
Havana, Cuba	Oct. 28–Nov. 3		6 "
Tampico, Mexico	Sept. 16–23		2 "
Vera Cruz, Mexico	Oct. 28–Nov. 3		11 "
Vera Cruz, Mexico	Nov. 3–10		8 "

Cholera—Foreign.

Madras, India	Oct. 1–7		21 deaths.

On October 10th a *Calcutta Gazette* extraordinary was issued, giving official notice that Calcutta was free from cholera.

The Rome, N. Y., Medical Society.—At the first regular meeting of this society, on Tuesday, the 11th inst., the following officers were elected: President, Dr. John F. Fitz-Gerald; vice-president, Dr. H. D. White; secretary, Dr. Thomas P. Scully; and treasurer, Dr. James H. Whaley.

The Late Dr. Philip Arthur Malleson.—At a meeting of the Harlem Medical Association, held November 14, 1898, it was unanimously

Resolved, That the members of this association deeply deplore the sudden and untimely death of their fellow member and president, Dr. Philip Arthur Malleson;

Resolved, That we bear him in fond remembrance for his kindly demeanor and sense of justice in his office, his geniality to his friends, his sympathy for the sufferers intrusted to his care, and his attainments as a physician, which were of a high order;

Resolved, That we tender our respectful and sincere condolences to his family; and be it further

Resolved, That we cause this expression of our regard and esteem to be published in the medical journals of this city.

[Signed.] Emil Mayer,
William Westerfield,
W. H. Stewart.
Committee.

The Prognosis of Cardiac Disease in its Bearing on Life Insurance.—In a discussion on Sir William Gairdner's paper before the British Medical Association, the *Montreal Medical Journal* for October says that the following opinions among others were expressed: 1. A very slow pulse was not of such danger to life as Sir William Gairdner had suggested. 2. The wall should be considered as much as, if not more than, the valves of the heart. Hospital statistics were misleading, since they dealt with the poor and debilitated cases. 3. The normal apex beat was insisted upon as a criterion of a normal heart. 4. Definite conclusions in certain cardiac cases, notably the mitral form, should not be arrived at earlier than twelve months after the first observation.

Strabismus Cured by Curettage of the Nasopharynx.—M. Thomas (*Presse médicale,* October 29th) reported to the Congress of Gynæcology, Obstetrics, and Pædiatry the case of a child ten years of age with divergent strabismus, consequent on an attack of meningitis which he had undergone at the age of twenty-two months, and which left him in a semi-idiotic condition. After curettage of the nasopharynx for adenoids the strabismus entirely disappeared.

Change of Address.—Dr. H. S. Fendler, of New York, to No. 3115 Washington Avenue, St. Louis.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Twenty-one Days ending November 17, 1898:*

Wheeler, W. A., Surgeon. To rejoin station at Cincinnati, Ohio. October 28, 1898. Granted leave of absence for fifteen days from November 16th. November 15, 1898.

Banks, C. E., Surgeon. To rejoin station at Washington, D. C. November 1, 1898.

Kalloch, P. C., Surgeon. To rejoin station at Cairo, Ill. October 28, 1898.

Glennan, A. H., Surgeon. Granted leave of absence for fifteen days. November 1, 1898. To rejoin station at St. Louis, Mo. November 17, 1898.

Wasdin, Eugene, Surgeon. Granted leave of absence for ten days. October 27, 1898. Upon expiration of leave, to report at bureau for special duty. November 1, 1898. To proceed to Havana, Cuba, for special temporary duty. November 8, 1898.

Williams, L. L., Passed Assistant Surgeon. Granted leave of absence for one month and fifteen days. November 1, 1898.

Magruder, G. M., Passed Assistant Surgeon. To rejoin station at Memphis, Tenn. October 28, 1898.

Cobb, J. O., Passed Assistant Surgeon. Upon completion of duties at Oxford, Miss., to proceed to Detroit, Mich. November 2, 1898. To report at bureau for special temporary duty. November 10, 1898.

Geddings, H. D., Passed Assistant Surgeon. To proceed to Havana, Cuba, for special temporary duty. November 8, 1898.

Stimpson, W. G., Passed Assistant Surgeon. To rejoin station at St. Louis, Mo. October 28, 1898. To inspect unserviceable property at Memphis, Tenn. November 1, 1898.

Rosenau, M. J., Passed Assistant Surgeon. To inspect unserviceable property at San Francisco, Cal. November 7, 1898.

Nydegger, J. A., Passed Assistant Surgeon. Granted leave of absence for fifteen days from November 15th. November 4, 1898.

Tabb, S. R., Assistant Surgeon. To report at Stapleton, Staten Island, for temporary duty. October 29, 1898. To report at bureau for special temporary duty. November 1, 1898. Relieved from duty at New York, and directed to assume temporary charge at Vineyard Haven, Mass. November 1, 1898.

Hastings, Hill, Assistant Surgeon. To proceed to New York for duty at Immigration Depot. November 4, 1898.

Lavinder, C. H., Assistant Surgeon. To report at bureau for orders. November 15, 1898. To proceed to Delaware Breakwater Quarantine and report to medical officer in command for temporary duty. November 17, 1898.

Von Ezdorf, R. H., Assistant Surgeon. Granted fifteen days' extension of leave of absence on account of sickness. November 8, 1898.

Foster, M. H., Assistant Surgeon. Granted thirty days' extension of leave of absence on account of sickness. November 8, 1898.

Lumsden, L. L., Assistant Surgeon. To proceed to Egmont Key for temporary duty. November 12, 1898.

White, M. J., Assistant Surgeon. Granted leave of absence for thirty days, on account of sickness, from November 13th. November 14, 1898.

Heiser, V. G., Assistant Surgeon. To proceed to New York for duty at Immigration Depot. November 7, 1898.

McAdam, W. R., Assistant Surgeon. To proceed to New York for duty at Immigration Depot. November 7, 1898.

Gwyn, M. K., Assistant Surgeon. To proceed to Boston, Mass., for duty. November 7, 1898.

Board convened to meet at Washington, D. C., at 10 o'clock, a. m., November 9, 1898, to examine candidates for appointment as assistant surgeon. Detail for the board: Purviance, George, Surgeon, chairman; Banks, Charles E., Surgeon; Woodward, R. M., Passed Assistant Surgeon, recorder. November 1, 1898.

Society Meetings for the Coming Week:

Monday, *November 28th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *November 29th:* Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private).

Wednesday, *November 30th:* Auburn, N. Y., City Medical Association; Medical Society of the County of Tompkins (semiannual), N. Y.; Berkshire, Massachusetts, District Medical Society (Pittsfield).

Thursday, *December 1st:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

Friday, *December 2d:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *December 3d:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Fendler—Altman.—In New York, on Wednesday, September 28th, Dr. H. S. Fendler and Miss Grace M. Altman.

Keyes—Scudder.—In New York, on Thursday, November 17th, Dr. Edward L. Keyes, Jr., and Miss Emma Willard Scudder.

Spencer—Frazier.—In Philadelphia, on Thursday, November 17th, Mr. Theodore Spencer, son of the late Lieutenant-Colonel William C. Spencer, Surgeon, United States Army, and Miss Louisa Helena Carroll Frazier.

Died.

Allen.—In Mansfield, Massachusetts, on Thursday, November 17th, Mrs. Bertha Allen, wife of Dr. William H. Allen, Jr.

CARLTON.—In Salem, Massachusetts, on Wednesday, November 9th, Mrs. C. A. Carlton, wife of Dr. Charles A. Carlton.

EDWARDS.—In Binghamton, N. Y., on Wednesday, November 16th, Dr. Charles C. Edwards, aged seventy-three years.

ROBINSON.—In Brampton, Ontario, on Monday, October 17th, Dr. Charles Robinson, in the sixty-third year of his age.

SCHOPEN.—In Yonkers, N. Y., on Thursday, November 17th, Dr. Emil Schopen, aged forty-three years.

WRIGHT.—In Ottawa, Ontario, on Saturday, October 29th, Dr. Henry Putteney Wright, in the forty-eighth year of his age.

YOUMANS.—In St. Catherines, Ontario, on Thursday, November 3d, Dr. Milton Youmans, aged sixty-one years.

Letters to the Editor.

THE CHLORINE TREATMENT IN DIPHTHERIA.

HUNTINGDON, PA., *November 14, 1898.*

To the Editor of the New York Medical Journal:

SIR: I noticed in the *Journal* of November 5th two articles on the chlorine treatment of diphtheria, by Dr. P. Daniel Shultz and Dr. H. D. Brown, in which it is stated that this method of treatment was originated by Dr. Bracelin, of Iowa. If the doctor claims originality in the method of compounding the mixture the assumption may be correct, but if he claims originality in the use of chlorine in diphtheria, then his claim is false.

If those of your readers who were subscribers of the *Medical and Surgical Reporter* for the year 1861 will turn to the early numbers of that year they will find the lectures published, delivered in the University of Pennsylvania, by Professor George B. Wood, on the treatment of diphtheria, in which he recommended the chlorine treatment. He applied the chlorine gas to the throat by inhalation. The gas was generated by using black oxide of manganese and muriatic acid. Internally he gave a mixture of chlorate of potassium and the muriated tincture of iron in water. Quinine was also given.

During the first and second years of my practice I treated one hundred and thirty cases of diphtheria, in all of which I followed the line of treatment recommended by Professor Wood, and was entirely successful up to one hundred cases. Then I lost two; both patients died in twelve hours after my first visit. These were the only deaths during that epidemic. After a few years I followed the line of treatment recommended by the newer books and journals, and my mortuary record ranged from ten to fifteen per cent. I followed these strange gods for about twenty-five years, when I was reconverted to the old way and returned to my first love and the truth as taught by Professor Wood. In an epidemic of diphtheria which invaded our town a little more than two years ago I treated thirty-three or thirty-four cases, and only lost two. The first one to die was a boy of five, a victim of Bright's disease, who was suffering from suppression of urine when I saw him the first time. He died in about forty-eight hours in uræmic coma. The father's throat, which had been entirely covered with false membrane, had cleaned off nicely, and he was feeling quite well. Contrary to my orders, he got out of bed and walked through the house. Just as he returned to the bed he fell over and died the next evening with heart clot.

The treatment which I have adopted and follow in all cases is the following:

My major solution is made as follows:

℞ Potassium chlorate . . . . 1 drachm;
Water, }
Hydrochloric acid, } each. . . . . . . 1 ounce.

M. Keep the mixture in a ground-glass-stoppered bottle.

For a child one or two years old, I order the following:

℞ Chlorine mixture. . . . . 2 fluid drachms;
Tincture of chloride of iron 5 " "
Water, enough to make. . . 8 " ounces.

M. S.: A teaspoonful, in a tablespoonful of water, every two hours.

In the croupous form I give, in addition, a sixteenth of a grain of pilocarpine every four hours unless its peculiar action is too depressing. Locally I use antiseptics with an atomizer every hour. I give attention to the nose all the time and keep all accumulations flushed out with an antiseptic solution. Do I use antitoxine? No. The chlorine treatment gives better results than the antitoxine treatment. I believe that if we had pure antitoxine, and could administer it in the first onset of the disease, it would be effective, but when we once have the toxine from the destruction or decay of the bacilli the antitoxine is nil.

R. MYERS, M. D.

⁂ If our correspondent will read Dr. Bracelin's original letter, in the *Journal* for March 5th, he will see that Dr. Bracelin did not profess to be the first to make use of chlorine in the treatment of diphtheria.

Book Notices.

A Manual of Otology. By GORHAM BACON, M. D., Professor of Otology in Cornell University Medical College, New York; Aural Surgeon, New York Eye and Ear Infirmary. With an Introductory Chapter by CLARENCE J. BLAKE, M. D., Professor of Otology in Harvard University. Philadelphia: Lea Brothers & Co., 1898. Pp. 398.

THE writer's aim has been to present a sufficiently full consideration of those diseases of the ear which the student and practitioner will frequently meet with, and so to present it that they will properly understand the condition and apply the appropriate treatment. Success must be the verdict upon the author's endeavor. His word-pictures of the common aural affections are vivid and well drawn, and his system of therapeutics is conservative yet efficient. We are glad that in speaking of the relation of enlarged tonsils to ear troubles he advises attempts to reduce the size of the former by internal medication and local treatment before resorting to surgical measures, although the collective experience of laryngologists is, we admit, that the number of enlarged tonsils capable of permanent reduction by medication, either local or general, is small. This remark of the author's merely goes to show his conservative standpoint. A relatively large portion of the manual is devoted to the consideration of mastoid diseases and their possible intracranial complications. Compared with publications of a similar nature, its points of excellence are its logical arrangement, its good English, and the condensation of a great amount of information within comparatively narrow limits.

Nasal Obstruction: The Diagnosis of the Various Conditions Causing it, and their Treatment. By W. J. Walsham, M. B., C. M. Aberd., F. R. C. S. Eng., Senior Assistant Surgeon, Lecturer on Surgery, and Surgeon in Charge of the Orthopædic Department, St. Bartholomew's Hospital, etc. New York: William Wood and Company, 1898. Pp. viii–256.

This book covers much more ground than is suggested by its title. It is written by a man who is known as a general rather than as a special surgeon, but it is a long time since a more valuable addition has been made to the working literature of rhinology. It aims to do for the beginner in this branch of medicine just what the usual manual of experiments does for the beginner in chemistry—that is, it works from the known to the unknown; from the known conditions of the parts, such as redness, hardness, swelling, etc., to the unknown diseases of which they are the signs and symptoms—instead of first describing the disease and then discussing how it may be distinguished from similar affections. The author endeavors to lead the student gradually up to a knowledge of diagnosis and appropriate treatment. The use of boldface type here and there enables one to find with ease his way through any topic.

Nasal obstruction is, of course, the most common symptom of nearly all the familiar nasal affections. Its complete treatment, therefore, covers practically the greater part of rhinology. We know of no more useful book to place in the hands of the student than this one. Practitioners will also receive much benefit from reading it. Naturally, it does not contain anything essentially new, for this ground has been traversed many times, but some books are useful because they clarify existing knowledge. The author's pages are interspersed with many valuable hints and suggestions which are the result of his own clinical experience. The typography of the work is excellent, the illustrations are well executed, and the manual is a credit alike to author and publishers. We believe it will become a classic for instruction in the beginnings of rhinology.

Das Studium der Frauenheilkunde, ihre Begrenzung innerhalb der allgemeinen Medicin. Von A. Mackenrodt. Berlin: S. Karger, 1898. Pp. 35.

The author laments the subdivision of the medical profession and the withdrawal of the general practitioner from the position of supreme influence which he has heretofore occupied. He admits, however, the deficiencies of the general practitioner in the light of the great developments in special subjects within the past generation. No one will disagree with him in his contention that the gynæcologist, perhaps above all specialists, should be well informed as to internal medicine in general, and that he should not enter upon the great responsibilities of his work, especially in the performance of the major operations, until after long and thorough pupilage.

Cutaneous Medicine. A Systematic Treatise on the Diseases of the Skin. By Louis A. Duhring, M. D., Professor of Diseases of the Skin in the University of Pennsylvania, etc. Part II. Classification—Anæmias — Hyperæmias — Inflammations. Illustrated. London and Philadelphia: J. B. Lippincott Company, 1897. Pp. 223 and 494.

The second part of Dr. Duhring's book more than keeps up the expectations aroused by Part I. Beginning with the subject of the classification of diseases of the skin, he reviews the principal ones, which have been brought out by distinguished teachers, such as Hebra, Wilson, Anspitz, and others, and then gives his own—the one followed in his book. Duhring founds his classification on pathology and pathological anatomy especially, and changes his earlier plan by the omission of an ætiological class. He gives more prominence to clinical features in the grouping together of skin diseases, taking also into account their normal and pathological anatomy.

The anæmias of the skin are first considered, and in pregnant and suggestive paragraphs he gives the conditions in which they occur and their diagnostic value. The hyperæmias are dealt with more extensively, as they include the active and passive stages, flushing and blushing, livor cutis, livedo traumatica, calorica, etc., and the various forms of erythema hyperæmicum. Class III contains the inflammations and exudations. Of this very large class, only a part are included in this volume. Erythema exudativum, urticaria, eczema, dermatitis herpetiformis, pemphigus, herpes zoster, and a few others are thoroughly treated of and described. All the descriptions are accompanied by numerous pictures representing stages and types of the diseases, pictures which for the most part are admirable in their choice and in their reproduction. The microscopical anatomy is fully shown by numerous drawings made by Dr. Gilchrist, and the entire pictorial portion of the work is nothing less than admirable. So far as the text itself is concerned, it represents the views and observations of one of the foremost clinicians and observers of cutaneous diseases in America, as well as in the world. And not only are Dr. Duhring's own opinions brought out, but with a remarkable freedom of thought and accurate judgment he has reviewed also those of all prominent dermatologists, and with an accuracy and fullness that render the work almost an encyclopædic one and a source from which can be obtained for the most part the up-to-date literature which is of value on the subject treated of. This feature causes Duhring's work to be doubly valuable both to the busy practitioner and to the student, as it may be looked upon as a book giving clear and accurate clinical pictures of skin diseases, with broad and varied therapeutics, and at the same time it may be used as a book of reference when other opinions besides those of the author are desired.

Among the individual diseases treated of in Part II, there may be particularly mentioned urticaria and urticaria pigmentosa, œdema and its varieties, impetigo, and zoster. As might be expected from the observer who distinguished the disease from the many with which it had been confounded, and who established it as an entity, dermatitis herpetiformis is treated of in a masterly manner, but the greater portion of the book is devoted to the subject of eczema. This, the commonest of all cutaneous affections, is treated of *in extenso*, its varieties are delineated, it is pictorially represented, and its therapeutics is gone into thoroughly. The chapter is the result of a great many years' observation and study, and, though the point of view taken by the author may not entirely and in every particular agree with that of others, yet no question can be raised of the great value of the material which it contains.

It can only be added that the succeeding parts, which will complete the book, may, we hope, soon appear. The care and thoroughness of Dr. Duhring's work are such that we may be positive that there will not be any falling off in the quality of the production, and when it is completed, there can be no doubt that the work will be one of the most valuable dermatological treatises ever published.

An American Text-book of Gynæcology, Medical and Surgical. For Practitioners and Students. By Various Authors. Edited by J. M. Baldy, M. D. Second Edition, revised. With Three Hundred and Forty-one Illustrations in the Text, and Thirty-eight Colored and Half-tone Plates. Philadelphia: W. B. Saunders, 1898. Pp. xxii–17 to 718. [Price, $6.]

The second edition of this well-known work shows evidence of the careful revision that is demanded by the rapid advance of the views held on the subjects with which it deals, and such portions as the editor has found it wise to eliminate have been more than made up for by the addition of a considerable amount of new material. The preparation for all operations and the after-treatment of the patients, instead of being added to the descriptions of operations, are dealt with all together in separate chapters, thus somewhat enlarging the scope of those chapters as they stood before, but saving much needless repetition. Considerable changes will be noticed also in the parts of the book that have reference to plastic work; in the chapter on the bladder, urethra, and ureters, and in the description of the operations of abdominal and vaginal hysterectomy. The last-named section has also been more fully illustrated; indeed, the illustrations of methods throughout the book have been replaced by newer pictures wherever changes in technics seemed to demand it. In short, although the first edition was such as the distinguished character of the authors might lead us to expect that it would be, much has been gained by the revision.

Conservative Gynæcology and Electro-therapeutics. A Practical Treatise on the Diseases of Women and their Treatment by Electricity. By G. Betton Massey, M. D., Physician to the Gynæcological Department of Howard Hospital, etc. Third Edition, revised, rewritten, and greatly enlarged. Illustrated with Twelve Original Full-page Chromo-lithographic Plates and Twelve Full-page Half-tone Plates of Photographs taken from Nature, and Numerous Engravings in the Text. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xiv–394. [Price, $3.50.]

To the matter which is enumerated in the foregoing title should be added an interesting disquisition on the physics of medical electricity, with the description of batteries, currents, and electrical terms, forming no inconsiderable portion of the entire volume.

The book must be considered from two standpoints, as a treatise on gynæcology, and as a treatise on the electro-therapeutics of gynæcology, electricity being almost the sole agent used or recommended. For an intelligent man, which the author certainly is, such a task becomes a very difficult one; he must either be content with defining a very limited field in the gynæcological landscape within which his therapeutic agent can be effective, or he must encroach on the domain of the narrow-minded and disingenuous, and offer his medicine as a cure for all the ills to which women are peculiarly susceptible. The author has avoided the second alternative. Nevertheless, we think him too enthusiastic in his appreciation of a useful therapeutic agent. Not a few fair-minded men have been unable after patient and unbiased trial to obtain with this agent the results which they have desired in the treatment of ectopic gestation, fibroid tumors, malignant disease, and other conditions for which electricity has been recommended, and have returned to their former faith in the knife.

Not all of those who have reluctantly abandoned the use of electricity for these conditions are the reckless sterilizers of women and over-zealous seekers for surgical trophies who have sometimes been met with, especially in the past, and it would seem that no reasonable person who has investigated the subject without prejudice would deny that electricity may be of service as a therapeutic agent in the treatment of pelvic disease. The field for its effective use seems to us a circumscribed one, but within these limits it will not be abandoned and ought not to be.

Ueber die Resultate der Radical-Behandlung des Gebärmutter-Scheidenkrebses mit dem Glüheisen, von Dr. Georg Gellhorn. Berlin: S. Karger, 1898. Pp. 92.

This is the consideration of a subject which for twenty years at least has occupied the attention of the best minds in the surgical world. Aside from the improvement in the technical details of the operative features of the subject it can not be said that the problem is much nearer solution than it was after the epoch-making contributions of Schröder, Billroth, Czerny, and Freund. Perhaps this statement is hardly correct, for it does seem that when cancerous tissue is subjected to the action of great heat the effect is more potent and permanent in many cases than when the knife alone is used. It is the use of this agent by means of the cautery knife which is advocated by the author, and he narrates its efficiency in the histories of thirty-nine cases of cancer of the uterus and vagina in which it was employed. Seven of these operations resulted fatally, a rather large mortality, and there were many accidents from hæmorrhage, injury to the ureters, bladder, rectum, etc., which certainly show defects in the mode of employing the cautery. That twenty-seven patients operated upon during the past three years have as yet shown no recurrence of the disease is an evidence that better results are possible from this means of operating than from the use of the knife alone. By this or some other agent of equal potency the disease must be conquered if it may be conquered at all.

No mention is made of the work which Byrne has been doing for many years in this field by means of the electro-cautery. We have always maintained that in Byrne's work, which has been so conspicuously successful, heat has been the element which was indispensable to the results attained. The perusal of the author's work only strengthens our belief that the solution of this difficult question will come from the application of heat in the early stage of the disease.

Modern Gynæcology. A Treatise on Diseases of Women. Comprising the Results of the Latest Investigations and Treatment in the Branch of Medical Science. By Charles H. Bushong, M. D., Assistant Gynæcologist to the Demilt Dispensary, New York, etc. Illustrated. Second Edition, enlarged. New York: E. B. Treat and Company, 1898. Pp. 6 to 404. [Price, $2.]

This modest work purports to be nothing more than a guide for the diagnosis and treatment of the ordinary diseases which are common to women, and is intended particularly for the use of the general practitioner. It necessarily omits many subjects which are to be found in more elaborate treatises. It is written in a plain, straightforward manner, without excess of verbiage, and must prove useful to those for whom it has been intended. Some subjects which have been untouched might have been added with advantage; for example, the diseases of the bladder and urethra, which are as appropriate to a work of this character as any which have been mentioned.

Essentials of Modern Treatment of Disease. For the Use of Practitioners. (Alphabetically arranged for Ready Reference.) By K. M. Nadkarni, Associate Editor, *Indian Medico-chirurgical Review*, etc. Part I. Madras: N. K. Rao & Co. London: Baillière, Tindall, and Cox, 1898. Pp. vi–212.

This little book, which appears to be a sort of physicians' vade mecum, seems to be up to date, and is certainly very well and briefly written. Its pages contain much common sense that is as applicable to the New World as to the Old. For instance, under the head of constipation, we are advised never to "put a patient on a one-sided diet for too long a time," and are reminded that "the patient should be impressed with the importance of not worrying and bothering about his bowels." The arrangement is systematic, and the printing of important words in heavy type facilitates quick reference.

A Laboratory Text-book of Pathology for the Use of Students and Practitioners of Medicine. By Horace J. Whitacre, B. S., M. D., Demonstrator of Pathology in the Medical College of Ohio (University of Cincinnati). With One Hundred and Twenty-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. viii–9 to 172. [Price, $1.50.]

The author of this volume states in his preface that the work is not to be regarded as a complete treatise on pathology, but as a laboratory text-book which deals briefly with the essentials of the subject while omitting mention of no important detail. Nevertheless the book is offered as a laboratory text-book on pathology for the use of students and practitioners in general. As such it is totally unfit to serve. Its proper sphere is among the author's students, as it contains, in somewhat greater detail and much more logically arranged, what a bright student might take down in the form of notes of lectures on pathology. To replace a laborious system of note-taking by the author's students, therefore, the volume will undoubtedly fill a distinct want, but it is a great mistake to offer such fragmentary information to the general medical profession as a text-book on any part of pathology. Moreover, in several chapters are to be found sweeping misstatements. The treatment of most of the subjects is fairly accurate and concise, but many crude statements are mixed in with others that are both sound and tersely put.

The redeeming feature of the book is a large series of photomicrographs, many of which are excellent.

Suite de monographies cliniques sur les questions nouvelles en médecine, en chirurgie, en biologie. No. 7. L'Eczéma (maladie parasitaire): Nature, pathogénie, diagnostic et traitement. Par le Dr. Leredde, Chef de Laboratoire. Pp. 40. No. 8. La fièvre jaune. Par le Dr. Sanarelli, Directeur de l'Institut d'hygiène expérimentale à Montévidéo. Pp. 36. Paris: Masson et Cie., 1898. [Prix, chaque monographie séparément, 1 fr. 25.]

I.—In this number of *Clinical Monographs on New Questions in Medicine*, etc., Leredde, in the first essay, deals with eczema as being a parasitic disease. He reviews the historical opinions in regard to the nature of the process, and then considers the more recent theories, particularly emphasizing the parasitic origin, which he maintains is based upon these established facts: 1. Vesicles of acute eczema contain large numbers of microbes, the morococci of Unna. 2. Cultures of the morococci produce acute eczema (Unna). 3. Every fissure or opening in the cutaneous envelope may form the starting point for an eczema. 4. The parasitic nature of chronic eczema has been demonstrated by the presence of numerous parasites — morococci — in the scales. 5. Self-inoculability in the acute or chronic form.

Leredde certainly tries to make the disease out to be a parasitic one, but unfortunately the work so far done in that line is too inconclusive to allow precise and absolute opinions to be expressed. What eczema is and what artificial dermatitis is are not settled in the minds of all observers, and, while clinically many cases may be classed or regarded as parasitic in nature, yet proof of it does not exist beyond the slight basis afforded by Unna's experiments, wherein he produced with morococci a vesicle which anatomically was entirely similar to one of acute eczema. The varieties, forms, and types, the history, course, and behavior of the disease eczema is such that to categorically espouse the doctrine of one absolutely causative element as active in its production can not but lead to confusion and obscure an appreciation of the ætiological features in any case of the process coming under observation. Leredde's *brochure* is interesting, but it can not be said that he in any way proves his proposition, and the slender supporting facts on which it is erected do not carry that degree of conviction which would influence or change the opinion held concerning eczema by any dermatologist dealing constantly with cases of the disease.

II.—Whatever may be the decision of the scientific world concerning the final position of the bacillus described by Sanarelli as the cause of yellow fever, its judgment must be influenced by the clear and concise manner in which the author has condensed the results of his investigations into a few pages. Beginning with a clinical picture of the disease, the mode of infection, and its termination, the writer describes in a few words the difficulties encountered in the isolation of the specific germ and its cultural peculiarities.

The results of its injection into animals are very striking. An acute infection is produced closely resembling the disease as seen in man. Sanarelli finally injected the toxines from a filtered culture into the veins of several healthy men. An acute disease was produced showing the clinical symptoms and some of the pathological changes characteristic of the yellow-fever infection when occurring during an epidemic. Finally, the author describes the attempts made to obtain an antitoxic serum. The monograph deserves a wide reading.

BOOKS, ETC., RECEIVED.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Volume III. C–Czygan. Pp. 19–1100. Washington: Government Printing Office, 1898.

Atlas of External Diseases of the Eye. By A. Maitland Ramsay, M. D., Ophthalmic Surgeon, Glasgow Royal Infirmary, etc. With Thirty Full-page Colored Plates and Eighteen Full-page Photogravures. Glasgow: James MacLehose and Sons. New York: The Macmillan Company, 1898. Pp. xvi–195. [Price, $20.]

The Living Organism. An Introduction to the Problems of Biology. By Alfred Earl, M. A., Late Scholar of Christ's College, Cambridge, etc. London and New York: The Macmillan Company, 1898. Pp. xiii–271. [Price, $1.75.]

Manual of Ophthalmic Surgery and Medicine. By Walter H. H. Jessop, M. A., M. B. Cantab., F. R. C. S. Eng., Ophthalmic Surgeon to and Lecturer on Ophthalmic Medicine and Surgery at St. Bartholomew's Hospital, etc. London: J. & A. Churchill, 1898. Pp. xiv–469. [Price, $3.]

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M. D., F. R. C. P., Physician to and Lecturer on Pharmacology and Therapeutics at Guy's Hospital, London, etc. Edited by Reynold W. Wilcox, M. A., M. D., LL. D., Professor of Medicine and Therapeutics at the New York Post-graduate Medical School, etc. Fourth American Edition. thoroughly revised. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. 8 to 704. [Price, $3.]

Cerebral and Mental Symptoms in Relation to Somatic Disease, Anæsthetics, and Toxic Agents, Traumata and Surgical Procedures, with a Review of the Treatment of some Cerebral and Mental Symptoms by Operation. A Thesis presented for the Degree of Doctor of Medicine of the University of Edinburgh in 1895 by James Christian Simpson, M. B., C. M., M. D. London: John Bale, Sons, & Danielsson, Ltd., 1898. Pp. viii–192. [Price, 5*s.*]

On the Study of the Hand for Indications of Local and General Disease. By Edward Blake, M. D. London: Henry J. Glaisher, 1898. Pp. 11 to 53.

Traité de l'allaitement et de l'alimentation des enfants du premier âge. Par le Dr. A.-B. Marfan, Professeur agrégé à l'Université de Paris, etc. Avec 22 figures dans le texte. Paris: G. Steinheil, 1899. Pp. xiii–442. [Prix, 10 fr.]

Leçons de clinique chirurgicale faites à l'Hôtel-Dieu (août-septembre, 1897). Par Pierre Delbet, Professeur agrégé à la Faculté de médecine, etc. Avec 31 figures. Paris: G. Steinheil, 1899. Pp. 376. [Prix, 8 fr.]

Die Krankheiten des Mundes. Von J. Mikulicz, Direktor der chirurgischen Universitäts-klinik, und W. Kümmel, Leiter der Universitäts-poliklinik für Ohren-, Kehlkopf- und Nasenkrankheiten, in Breslau. Mit Beiträgen von A. Czerny, Direktor der Universitäts-kinderklinik, und J. Schaeffer, Privatdozent für Dermatologie in Breslau. Mit 2 lithogr. Tafeln und 62 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. ix–253.

Twenty-ninth Annual Report of the State Board of Health of Massachusetts.

The Advantages of the Trendelenburg Posture during all Operations involving directly or indirectly the Cavities of the Mouth, Nose, and Trachea, with a Report of Two Cases of Epithelioma and Sarcoma of the Tonsil. By W. W. Keen, M. D., of Philadelphia. [Reprinted from the *Annals of Surgery.*]

The Advantages of a Permanent Abdominal Anus and of Total Closure of the Sacral End of the Rectum in Operations for Cancer of the Rectum. By W. W. Keen, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Removal of an Angeioma of the Liver by Elastic Constriction External to the Abdominal Cavity, with a Table of Fifty-nine Cases of Operation for Hepatic Tumors. By W. W. Keen. [Reprinted from the *Pennsylvania Medical Journal.*]

On Resection of the Gasserian Ganglion, with a Pathological Report of Seven Ganglia. By W. W. Keen, M. D., and W. G. Spiller, M. D., of Philadelphia.

Auenbrugger and Laennec, the Discoverers of Percussion and Auscultation. By Edward O. Otis, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

Vitality: An Appeal, an Apology, and a Challenge. By Lionel S. Beale, of London. [Reprinted from the *Lancet.*]

Ergot Aseptic. By E. M. Houghton, M. D., of Detroit. [Reprinted from the *Therapeutic Gazette.*]

Verwerthung Röntgenstrahlen in der Geburtshülfe. Von Dr. Robert Müllerheim, in Berlin. [Sonderabdruck aus der *Deutschen medicinischen Wochenschrift.*]

Note on Four Micro-organisms isolated from the Mud of the River Thames, which Resemble *Bacillus Typhosus.* By A. C. Houston, M. B.

Miscellany.

The Hospital Abuse Question.—According to the *British Medical Journal* for October 29th, Sir William Broadbent, who presided on October 21st, at a meeting of the London Charity Organization Society, in a preliminary speech introducing the lecturer for the evening made the following pertinent remarks on this *quæstio vexata:*

Much energy and much money, he said, ran to waste through misdirection, and money misspent was not only so much subtracted from the available resources of charity, but might have an injurious effect. The weakest point in the hospital system was the outpatient department, where unquestionable abuses had prevailed. People had been in the habit of obtaining relief who were perfectly able to pay their own medical men, and it was unjust that conscientious men should deny themselves in order to devote money to charitable objects, some of which money might go to men even better off than themselves. This was quite independent of the injustice done to medical men, who saw patients able to pay going off to hospitals. Further, there was the general demoralization attaching to such relief, the loss of independence and of that wholesome feeling which kept many of the worthy poor outside of pauperism.

Precautions were being taken at the out-patient departments to prevent persons who were able to pay for medical relief from going to them, but the investigations ought to take place at the homes of the people. If all the out-patients were really fit subjects for medical relief he believed that the hospital staffs would always be ready to do them very fair justice. He did not think that hospitals should be reserved entirely for very serious and acute cases. A chronic case might be as fit a subject for charitable relief as a case in which life was in imminent danger. Again, what was a trivial case one week might be a serious case the next. It must not be forgotten that at the hospitals they had to teach medical students, and that if they never saw a chronic or a trivial case, or did not see them in large numbers, the most important part of their education would be wanting, because such cases would furnish a large proportion of their patients in after life. Moreover, it was most important that medical students should learn how to obviate suffering as well as how to save life. At present an examination of any district in London would show hospitals, provident associations, and clubs working independently. They all drained the local resources, competing with each other, often at cross purposes, and thus led to the cheapening of the article not in a pecuniary sense, but in the estimation of the patients, who had less respect for medical relief because they could go from one institution to another at a moment's notice. If a census was taken of the various institutions, it would be found that a certain number might be squeezed out of existence with advantage to the public. The coordination of all the institutions engaged in a common work was needful. There ought to be an organic connection between hospitals and provident dispensaries, and he would give a distinct preference to the patients of provident institutions over all others because they had shown a desire to help themselves. This ought to facilitate the reform of hospital relief. The same rule might apply to clubs if organized on a satisfactory basis, for some organic connection between clubs and hospitals would be attended with advantages of many kinds. Holding these opinions, he had supported the proposal for a central hospital board, not an authority imposed on hospitals from outside, but a board consisting of representatives of hospitals of every kind. He believed that the first thing such a board would do would be to establish local committees, and get out a census of the kind he had indicated.

The Sixth International Otological Congress will be held in London on August 8, 9, 10, 11, and 12, 1899, under the presidency of Dr. Urban Pritchard, professor of otology at King's College, London. The meetings will, by permission, be held at the examination hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment. The subject chosen for special discussion is Indications for Opening the Mastoid in Chronic Suppurative Otitis Media. A large and influential British organization committee has been formed, the treasurer being Mr. A. E. Cumberbatch, of No. 80 Portland Place, London, W., and the honorary secretary, Mr. Cresswell Baber, of No. 46 Brunswick Square, Brighton. This congress, which assembles every four years, met last in Florence, where a very successful gathering was held under the presidency of Professor Grazzi.

Malarial Hæmoglobinuria (Black-water Fever) and Quinine.—Dr. R. U. Moffat, principal medical officer of the Uganda Protectorate, writes, in the *British Medical Journal* for September 24th, to the effect that the opinion recently expressed by Professor Koch that this term is only another name for quinine poisoning is one calculated, he fears, to do much harm. He believes that with quinine, and quinine only, can we combat the disease with any hope of success. He thinks Professor Koch should have kept his theory to himself until he had absolutely proved its truth beyond a doubt.

It is difficult enough at all times, says Dr. Moffat, to get patients to take quinine properly. Any one who has had much experience with malarial patients has heard such objections as these: "It (quinine) makes me deaf," "Gives me a head," "Upsets my stomach," "Nasty taste," etc. A new terror, he adds, now awaits the unfortunate medical man when he tries to treat his patients with quinine. Koch's theory will be thrown in his teeth, and should his patient die after taking quinine and manifesting black-water fever, the doctor will have to incur the odium of being the cause of the fatal termination. It is a subject of the greatest interest to all those exposed to malaria, he says, and he mentions that almost every man whom he met in eastern Africa during the preceding few months questioned him eagerly about it. The pernicious results of Professor Koch's theory on the lay mind, he continues, are already manifest. One man stationed in a very unwholesome region, and much troubled with fever, informed him that in future he intended to have nothing to do with quinine. His future history, Dr. Moffat remarks, will be interesting, and it is comforting to think that his folly may perhaps be of service in the cause of science, since he is practically offering his constitution as an illustrative case. Two leading London papers have had articles on the subject, so that Professor Koch's theory is being spread widely. This, to Dr. Moffat's mind, is a serious thing. Professor Koch may be right, he says, in saying that quinine poisoning causes hæmoglobinuria. He does not profess to have sufficient knowledge to criticise that statement; but this much he does say, that after seven years in eastern equatorial Africa, during which time he has treated many hundreds of cases of malarial disease, he has never seen a man die of fever when quinine had been given properly and early in the case. The fatal cases, whether complicated with hæmoglobinuria or not, he says, have all been those in which for some reason quinine had not been administered, or had been given in very small doses, or else resorted to only when the case was practically hopeless.

Of black-water fever he has seen but little, for the European population in Uganda has up to the present time been small, and, so far as his experience goes, the disease does not occur among natives. Out of nine cases of black-water fever which he has actually treated himself, two were fatal; in both the administration of quinine was neglected until too late. All the patients who recovered were treated with heroic doses (thirty grains in twenty-four hours) and the attack lasted four days, the hæmoglobinuria subsiding gradually. In the other cases, in which much larger doses were administered (from sixty to a hundred and twenty grains in twenty-four hours), the hæmoglobinuria lasted only from twenty-four to thirty-six hours, and stopped quite suddenly.

In ordinary cases of malignant tertian fever he has pushed the use of quinine until he himself had begun to think that the limit of safety had been reached, and that the patient was well-nigh poisoned with the drug, but never in such cases has he seen hæmoglobinuria supervene. Speaking in the light of much experience, he can only say that his opinion is that there is only one treatment for malarial disease—with "quinine, more quinine, and yet more quinine."

Tobacco Rendered Harmless.—Rather more than a year ago Dr. Hugo Gerold, of Halle, received a United States patent for a process of treating tobacco by which the nicotine contained in it is rendered insoluble. Tannic acid is the agent which produces insolubility of the nicotine, and that substance had been used for the purpose before, but from the commercial point of view it was not free from objection; if too little of it was used the desired object was not attained, while if too much was employed the product was spoiled, for it became very brittle and of deteriorated appearance, flavor, and smell. These objections Dr. Gerold has overcome by the associated use of oil of origanum. We learn that cigars made from tobacco treated by the Gerold process are soon to be put on the market.

A Postponement of the Third Pan-American Medical Congress.—The secretary of the International Executive Commission, Dr. Charles A. L. Reed, of Cincinnati, announces that in April he received from Dr. José Manuel de los Rios, chairman of the committee on organization, a request that, in consequence of the rebellion then existing in Venezuela, no definite arrangements be made at that time relative to the meeting of the congress previously appointed to be held in Caracas in December, 1899.

Dr. Reed has since received a letter from Dr. de los Rios in which he says that, after having sent his communication dated April last, he finds it his duty to notify Dr. Reed that, although the conditions pointed out in it have already ended, his country has been scourged by small-pox, which has taken up all the physicians' activities and time, depriving them of going into scientific works. And, as the state of mind of the people and government after such calamities as war and an epidemic would greatly interfere with the success of the next meeting, he says that the government and the commission would be grateful to have the meeting which was to take place in Caracas in December, 1899, adjourned for one year later.

Accordingly, Dr. Reed announces a postponement to December, 1900.

The Technics of the Operative Treatment of Intestinal Obstruction.—At the recent meeting of the New York State Medical Association Dr. Frederick Holme Wiggin, of New York, read a paper with this title, a contribution to the discussion of the general subject of intestinal obstruction. He said that the various conditions for which operations were usually demanded were: Strangulation of the gut by bands, extensive adhesions, or apertures; volvulus; intussusception; obstructions due to neoplasms; compression by tumors external to the gut; obstruction from foreign bodies, such as gallstones and enteroliths; and obstruction caused by fæcal masses.

Where the case is one of acute intestinal obstruction there was but little time for preparation. The loose pieces of furniture should be removed from the room selected for the operation, and sheets wet with carbolic-acid solution, 1 to 20, or bichloride solution, 1 to 100, should be placed over the carpet. In this preparation of the room it was important that no dust be raised. The instruments were boiled for ten minutes in a two-per-cent. solution of sodium carbonate and were then placed in trays containing sterilized water. The towels might be sterilized in a special sterilizer or by boiling. A large quantity of saline solution (a teaspoonful of common salt to the quart of water) should be on hand, and a wash boiler, after thorough cleansing, should be filled with water which had been sterilized by boiling for an hour. This water was then rapidly cooled in pitchers surrounded by ice. Where there was occasion for great haste, it was admissible to take the water from the hot-water faucet. If there had been much vomiting, or if there was considerable abdominal distention, it would be well to follow Kussmaul's suggestion, to wash out the stomach with a saline or boric-acid solution. If, in addition, the patient was much prostrated and did not respond well to the ordinary cardiac stimulants, from one to three pints of saline solution should be injected into the veins.

The patient having been anæsthetized, the skin over the field of operation was treated successively with green soap and hydrogen dioxide. It was then lathered and shaved. After that it was treated with water, equal parts of alcohol and ether, a 1-to-500 bichloride-of-mercury solution in alcohol, and sterile water or saline solution. The bladder should then be emptied with a catheter. When the site of obstruction could not be definitely determined, an incision four inches long should be made through the right rectus muscle, between the umbilicus and the pubes. If distended coils of intestine obscured the view, they should be aspirated or incised, and the wounds so made closed by suture and the parts disinfected with hydrogen dioxide. The first effort of the operator should be to find the cæcum. If it was greatly distended there was good reason to believe that the obstruction was in the colon, but if there was little or no distention, it was probable that the stoppage was in the small intestine. The rectum should, of course, be explored prior to the abdominal section. Where the obstruction was supposed to be in the colon, the hand should be passed over the entire length of the large bowel, or until the obstruction was found. Where the obstruction was suspected to be in the small intestine, the operator should look along the brim of the pelvis and in the region of the cæcum for the collapsed portion of bowel, and follow this down to the obstruction. The various hernial orifices should also be examined, remembering that sometimes two forms of obstruction might coexist.

If the obstruction was caused by bands, these should be ligated on both sides near their attachment and removed. If a diverticulum or an adherent appendix was the cause of the trouble, these structures should be removed in the ordinary manner, and the opening in the gut closed with Lembert sutures. According to the writer's experience, when volvulus occurred in the small intestine it was not only safe, but desirable, to draw the intestine out of the abdomen, taking care to keep it hot and moist by wrapping it in gauze or soft towels wrung out of hot saline solution.

Where an intussusception was the cause of the obstruction, the tumor should be encircled below its apex by the finger and thumb, and the sheath held a few inches lower down, while the apex of the tumor was pushed upward. Traction from above the tumor should not be employed. If the intussusception was irreducible, the following method, described by Maunsell, was recommended: A slit was made in the intussuscipiens and gentle traction exerted on the intussusceptum until its neck appeared outside the opening in the intussuscipiens. The base was then transfixed with two straight needles, armed with horsehair, and the intussusception was amputated a quarter of an inch above the needle. The sutures were now passed through the invaginated bowel, caught up in the interior of the bowel, divided, and tied. The invagination was then reduced, and the slit closed.

Thanks to modern surgery, most neoplasms causing intestinal obstruction could be removed, and naturally such a course was preferable to colotomy. Where it was inadvisable to resect the portion of bowel containing the growth, an incision four inches long should be made over this portion, in the direction of the fibres of the external oblique, and the bowel drawn upward until its mesenteric attachment was on a level with the external incision. A slit was then made in the mesentery, a glass rod was passed through, and iodoform gauze was wound around the ends of the rod. The rod was left in position until adhesions had formed, when the gut was opened.

When the intestinal obstruction resulted from the pressure of a neoplasm external to the gut, the new growth should be extirpated, but if this was not possible, a fæcal fistula must be established above the point of obstruction. Gallstones or enteroliths causing obstruction should be pushed a little upward or downward, and then removed by an incision. The object of this was to avoid making the incision through the portion of the gut which was likely to have been damaged by pressure.

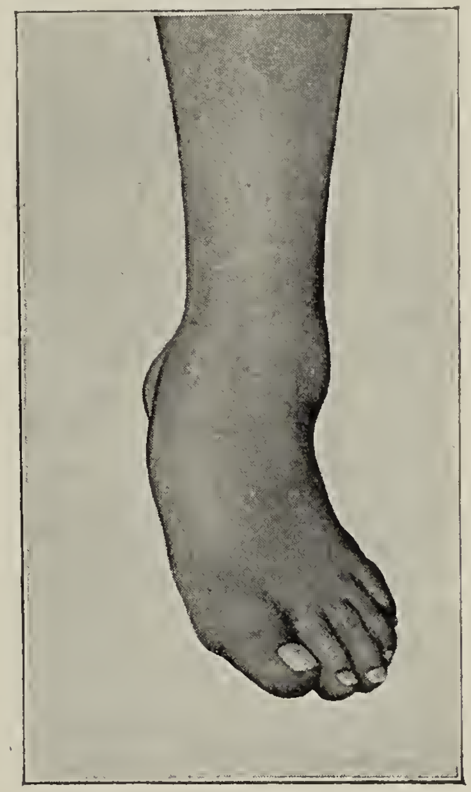
Fæcal accumulations causing obstruction were best removed by a high enema of saline solution, injected at a temperature of 100° F. by means of a fountain syringe raised three feet above the patient. The flow should be intermitted from time to time as the patient complained of distention or colic. The enema should be retained as long as possible, for the object in giving it was to secure softening of the mass rather than to stimulate peristalsis. The procedure might be repeated several times, and its action assisted by the administration of small doses of calomel and sodium bicarbonate.

When the gut was found to be gangrenous in a case of intestinal obstruction, an end-to-end anastomosis should be effected, and for this purpose Dr. Wiggin preferred his modification of Maunsell's method. The modification consisted in doing away with the invagination and the slit. The portion of intestine to be extirpated was emptied of its contents by pressure. The portion to be removed was then isolated by clamps on either side, and a V-shaped incision was made, having its apex in the mesentery. The mesenteric vessels were ligated before being cut, and the wound in the mesentery was sutured. After the divided ends of the bowel had been washed with hydrogen dioxide they were united by two sutures passing through all the intestinal coats, the first suture being at the inferior, or mesenteric, border and the second directly opposite at the highest point. The third and fourth sutures were passed on either side, halfway between the first two. The other sutures were passed in the same way, the needle going from within the gut and piercing all the coats, then back through the peritoneal, muscular, and mucous coats to the interior of the other segment of bowel. The ends were then tied in the bowel. This process was continued until all the sutures but one or two had been passed. For the latter, Lembert sutures were substituted. If the sutures had been properly inserted and tied, the peritonæum would now be turned in and the stitches hidden.

The operation having been completed, and the dressings applied, the patient was placed between the folds of a warm blanket, and only a little warm water allowed by the mouth for the first twelve or eighteen hours. Then a few drachm doses of liquid peptonoids were given at intervals of twenty minutes, and, if they were well borne, peptonized milk was added. The tendency was to give too small quantities of food at too frequent intervals. The bowels were moved on the third or fourth day by small doses of calomel and sodium bicarbonate.

Dr. Wiggin laid great emphasis on the fact, that the prognosis in this class of cases depended more upon the promptness with which surgical treatment was instituted than upon any other factor.

Tabetic Talipes Valgus.—At a meeting of the Section in Orthopædic Surgery of the New York Academy of Medicine held on October 21st the chairman, Dr. A. B. Judson, presented a photograph showing talipes valgus of the left foot in a man about thirty-five years of age affected with locomotor ataxia of several years' duration. It was an instance of Charcot's joint affection of the tarsus. The patient's right knee joint had been excised for this condition, but stability had not been restored to the knee by the operation. Pathologically, there were pulpy and fluid degeneration of the bony and other tissues and disintegration of the structures of the joints. Equino-varus also, the speaker remarked, occurred in locomotor ataxia and in Friedreich's disease, but was the result, not of bony changes, but of abnormal muscular action. The primary disease was so serious and disabling that the question of treating these secondary affections was not often a practical one. Mechanical treatment might, however, be considered with three objects in view: 1. To give firmness to the foot and ankle and direct the sole to the ground. 2. To give lateral support to a Charcot knee. 3. To stiffen the knees by the use of automatic joints, in order to prolong the period for which locomotion was possible with the aid of crutches.



Praise for the Royal Army Medical Corps.—According to the *British Medical Journal* for November 5th, upon the return to Cairo of the Nile Expeditionary

Force, Sir Francis Grenfell, the general officer commanding her Majesty's forces in Egypt, at a general parade on October 8th, thus addressed the medical force: "Colonel Barrow, officers, non-commissioned officers, and men of the Royal Army Medical Corps: I am glad of this opportunity of telling you of my high appreciation of the valuable services rendered by your corps during the late operations on the Nile. I regret that Surgeon-General Taylor and Colonel McNamara are not present that I could personally thank them for their valuable cooperation. I have lately visited the hospitals at Atbara and Abadia, and was much pleased and greatly struck with their efficiency, by the care and attention shown to the sick and wounded, and by their general appearance of comfort. I can assure you that all branches of the service have been loud in their praise of the way that the sick and wounded were looked after both in the hospitals and on the field, and I may tell you that I have not heard a single adverse criticism with regard to the working of the medical arrangements."

"Quis Custodiet?"—Our friend, the *Philadelphia Medical Journal*, in its issue for November 12th, comments on what it terms "an ill-written postal card that lies before us." The aforesaid postal card relates to some new medical "order" and says: "The order is secret, admits all schools male and female. The college and not the Stat Board shall decid who shall practice not the Stat." On this the *Journal* remarks: "Professor James, of Harvard College, should get his friends to renounce secrecy and learn to spell." It *was* an error, we admit, to allow the *e* to remain in "practice" and "college," "male" and "female"; but even the *Philadelphia Medical Journal* makes a slip occasionally. We remember once to have seen that it spelled iodide *with* an "e."

The Southern Surgical and Gynæcological Association.—We are informed that the eleventh annual meeting of the association is announced to be held in Memphis, Tennessee, on Tuesday, Wednesday, and Thursday, December 6, 7, and 8, 1898. The Gayoso House has been selected as headquarters for the association.

The following is a partial list of the papers to be read: President's Address, by Richard Douglas, M. D., of Nashville, Tennessee; Gunshot Wounds, by W. E. Parker, M. D., of New Orleans, Louisiana; Electrotherapeutics in Medicine and Surgery, by James McF. Gaston, of Atlanta, Georgia; The Normal Position of the Uterus Defined, by A. H. Buckmaster, M. D., of Charlottesville, Virginia; Abdominal Opening for Intraperitoneal Surgical Work, by Joseph Price, M. D., of Philadelphia, Pennsylvania; The Choice of Material for Ligatures and Sutures in Gynæcological Surgery, by L. S. McMurtry, M. D., of Louisville, Kentucky; Repair in Cases of Complete Tear of the Perinæum, by Howard A. Kelly, M. D., of Baltimore, Maryland; Conservative Treatment of the Diseased Ovary, by Joseph Taber Johnson, M. D., of Washington, D. C.; Thoracotomy for Tumors involving the Ribs, by F. W. Parham, M. D., of New Orleans, Louisiana; The Use and Abuse of Normal Salt Solution, by J. W. Bovee, M. D., of Washington, D. C.; A Report of Fifty Prostatectomies, with Remarks on the Treatment of Prostatic Overgrowth in the Aged, by John P. Bryson, M. D., of St. Louis, Missouri; Remarks on the Surgery of the Gall Bladder and Bile Ducts, by A. V. L. Brokaw, M. D., of St. Louis, Missouri; Past and Present Surgery of the Gall Bladder and Bile Ducts, by William H. Myers, M. D., of Fort Wayne, Indiana; The Pelvic Floor, its Functions, Injuries, and Repair, by M. C. McGannon, M. D., of Nashville, Tennessee; When should we Operate for Appendicitis? by A. M. Cartledge, M. D., of Louisville, Kentucky; Ureteral Anastomosis, by George H. Noble, M. D., of Atlanta, Georgia; Ovarian Cysts as a Complication of Pregnancy and Labor, by J. W. Long, M. D., of Salisbury, North Carolina; Incised Wounds of the Larynx, by Edwin Walker, M. D., of Evansville, Indiana; Tubal Pregnancy; Primary Rupture into the Broad Ligament and Secondary into the Peritonæum; Laparotomy, Convalescence complicated by Septic Diarrhœa and Metastatic Abscess of the Liver, by R. Matas, M. D., of New Orleans, Louisiana; Removal of Partially Descended, Infected, Strangulated Testicle, complicated by Hernia, by R. R. Kime, M. D., of Atlanta, Georgia; The Diagnosis of Tuberculous Peritonitis and Indications for Surgical Treatment, by W. L. Robinson, M. D., of Danville, Virginia; Foreign Bodies in the Œsophagus, with Report of Cases, by A. Vander Veer, M. D., of Albany, N. Y.; Penetrating Wounds of the Abdomen, by Floyd W. McRae, M. D., of Atlanta, Georgia; The Management of Pregnancy complicating Intra-abdominal Tumors, with Cases, by Rufus B. Hall, M. D., of Cincinnati, Ohio; The Rarity of Ovarian Tumors in Negresses, by I. S. Stone, M. D., of Washington, D. C.; Tumors of the Breast, by W. F. Westmoreland, M. D., of Atlanta, Georgia; Penetrating Wounds of the Chest, by J. B. Murfree, of Murfreesboro, Tennessee; Surgery of the Pelvic Organs without Speculums or Retractors, by W. H. Wathen, M. D., of Louisville, Kentucky; Report of a Case of Splenectomy for Wandering Hypertrophied Spleen, by Wyatt Heflin, M. D., of Birmingham, Alabama; Cœliotomy in the Treatment of Retroverted Pregnant Uterus when Incarcerated, by Henry D. Fry, M. D., of Washington, D. C.; Odds and Ends in Pelvic Surgery, by Walter B. Dorsett, M. D., of St. Louis, Missouri; Treatment of Pelvic Inflammation, by James A. Goggans, Alexander City, Alabama; Mechanical Aids in Intestinal Surgery, by J. D. S. Davis, M. D., of Birmingham, Alabama; The History of Myomectomy, by Charles P. Noble, M. D., of Philadelphia, Pennsylvania; Observations upon Cranial Operations, with Report of Cases, by William Perrin Nicholson, M. D., of Atlanta, Georgia; Plastic Surgery in Gynæcology, by W. D. Haggard, Jr., of Nashville, Tennessee; Ventrofixation for Retrodisplacements of the Uterus, by R. J. Trippe, M. D., of Chattanooga, Tennessee; Removal of a Five-gallon Ovarian Cyst from a Girl Seventeen Years Old, by R. R. Kime, M. D., of Atlanta, Georgia; Transpleural Hepatotomy by Resection of the Rib and Free Incision; Recovery, by R. Matas, M. D., of New Orleans, Louisiana; subject to be announced, by W. S. Elkin, M. D., of Atlanta, Georgia; Surgery of the Stomach, by W. E. B. Davis, M. D., of Birmingham, Alabama. Members of the medical profession are cordially invited to attend. Dr. R. B. Maury, of Memphis, is chairman of the committee of arrangements.

The Surgical Treatment of Cataract.—Dr. Ernest F. Neve (*Indian Medical Record*, October 1st), as the result of a careful review of seven hundred and thirty cases of extraction of cataract, arrives at the following conclusions: 1. Careful selection of cases is the most important factor of success. 2. Hardly second to it is the employment of scrupulous antiseptic technique. 3. A large percentage of eyes, the conjunctival sacs of which are in a doubtful condition, can nevertheless be operated upon with success after careful preliminary antiseptic and astringent treatment for days or weeks. 4. Under such conditions however, naturally, the percentage of failure rises sharply. 5. But the measure of success attained amply justifies the additional risk. 6. Previous iritis has a particularly prejudicial effect on the results. 7. The omission of iridectomy, while producing excellent results in the majority of cases, does undoubtedly increase the risk of prolapse of the iris and also of occlusion. On the other hand, the danger of vitreous loss is diminished. 8. The attempt to extract the lens in its capsule is so frequently attended with vitreous loss that it should be restricted to cases where the lens nucleus is small. 9. As an all-round operation, von Graefe's linear extraction with iridectomy is the most suitable and in the long run gives the best average results.

Intermittency of the Argyll Robertson Pupil in Tabes.—H. Eichorst (*Deutsche medizinische Wochenschrift*, 1898, No. 23, p. 357; *Gazette hebdomadaire de médecine et de chirurgie*, October 23d) records two instances of confirmed tabes in which the Argyll Robertson sign—namely, absence of pupillary reaction to light—existed intermittently, sometimes being present, and at others disappearing for a considerable period. The author was unable to determine the cause of this variability, but considered it worthy of record in view of the fact that this sign, when once it has shown itself, is usually considered a definite and immutable symptom of tabes.

"Record-breaking" in Maternity.—We learn from the *Gazette de gynécologie* for November 1st that a Mrs. Harris, in England, at the age of fifty-two, has given birth for the seventh time to male twins.

The Practical Significance of the Bacteria of the Vagina.—Dr. J. Whitridge Williams (*American Journal of Obstetrics*, October), as the result of exhaustive researches communicated fully in a paper on this subject, arrives at the following conclusions:

"1. We agree with Krönig that the vaginal secretion of pregnant women does not contain the usual pyogenic cocci, having found the *Staphylococcus epidermidis albus* only twice in ninety-two cases, but never the *Streptococcus pyogenes* or the *Staphylococcus aureus* or *albus*.

"2. The discrepancy in the results of the various investigators is due to the technique by which the secretion is obtained.

"3. As the vagina does not contain pyogenic cocci, self-infection with them is impossible; and when they are found in the puerperal uterus, they have been introduced from without.

"4. The gonococcus is occasionally found in the vaginal secretion, and during the puerperium may extend from the cervix into the uterus and tubes.

"5. It is possible, but not yet demonstrated, that in very rare instances the vagina may contain bacteria which may give rise to sapræmia and putrefactive endometritis by self-infection.

"6. Death from puerperal infection is always due to infection from without, and is usually due to neglect of aseptic precautions on the part of the physician and nurse.

"7. Puerperal infection is to be avoided by limiting vaginal examinations as much as possible and cultivating external palpation. When vaginal examinations are to be made, the external genitalia should be carefully cleansed and disinfected, and the hands rendered as aseptic as if for a laparotomy. Vaginal douches are not necessary and are probably harmful."

The Symptomatology of Urethritis.—S. Rona (*Archiv für Dermatologie und Syphilis*, 1898, p. 141; *Gazette hebdomadaire de médecine et de chirurgie*, October 23d) arrives, as the result of his investigations, at the following conclusions: 1. Of 160 patients attacked with acute urethritis and examined by the author, 26 had anterior urethritis, 22 posterior urethritis, and 112 total urethritis. 2. Vesical tenesmus with frequent micturition was observed in six out of the twenty-six cases of anterior urethritis. 3. Out of the twenty-two cases of posterior urethritis, vesical tenesmus with frequent micturition was observed seven times, and in ten cases there were frequent pollutions. 4. In total urethritis, even when complicated by prostatitis, gonecystitis, or epididymitis, vesical tenesmus was never observed, nor were pollutions, or pains in the posterior urethra. In thirteen out of the hundred and twelve cases of this group there was a little blood at the end of micturition. 5. The terminal hæmaturia would seem to indicate that the internal orifice of the bladder is profoundly affected by the inflammatory process which, in this case, occupies the fold of the vesico-urethral orifice.

The Diagnosis of Sciatica.—According to the *Philadelphia Polyclinic* for November 12th, the sign of Lasèque, as it is called by the French, is a valuable one in the *diagnosis of sciatica.* If the thigh is flexed upon the pelvis, with the leg fully extended at the knee joint, considerable pain is produced when sciatica is present, as the sciatic nerve is in this way stretched. Dr. Spiller was recently able to demonstrate this sign in the clinic for nervous diseases.

The Diagnosis between Tubercular Syphilis of the Tongue and Syphilitic Glossitis.—Dr. Pini (*Annales de dermatologie et de syphiligraphie*, October) gives the following microscopical distinctions:

Tubercular syphilis of the tongue—1. Begins in the submucous connective tissue, which corresponds to the rete mucosum of the skin. 2. Spreads from the centre toward the surface, deforming and atrophying the papillæ. 3. Profoundly deranges the disposition of the elastic fibres and of the muscular elements, which disappear, leaving no traces. 4. Has clearly defined limits. 5. Has an origin, a structure, and an anatomical seat which do not differ from those of cutaneous tubercle. 6. Shows no tendency to the formation of giant cells. 7. Presents vascular alterations consisting of proliferation and detachment of the endothelium and infiltration of the external tunic without evident traces of an endarteritis.

Syphilitic glossitis, on the other hand—1. Has a point of departure notably deeper and more exactly in the muscular parenchyma. 2. Has no defined limits, and easily invades the entire organ. 3. Presents an exuberance of the mucous epithelium, which sends irregular processes into the corium. 4. Consists in its inflammatory process of the same morphologic elements as tubercular syphilis, with giant cells in addition. 5. Shows evident new formation of connective tissue. 6. Comprises a newly formed connective tissue of intricate disposition, which imparts a very considerable resistance to the organ. 7. Produces deformity—*e. g.*, lobulation or fissures—of the surface, resulting either from loss of substance by ulceration or from contraction of the newly formed connective tissue.

Syphilitic Pseudo-rheumatism.—J. Steinberg (*Annales de dermatologie et de syphiligraphie,* October) records three cases of secondary syphilis presenting articular manifestations. He concludes from his observations that there exists a syphilitic pseudo-rheumatism which has only been observed in the secondary stage. This pseudo-rheumatism differs from ordinary rheumatism by very marked characteristics: its appearance in subjects free from any hereditary or personal arthritic taint; the habitual coexistence of secondary manifestations; lesser intensity of the inflammatory phenomena; greater fixity of the articular determination; and nocturnal exacerbations of painful symptoms. It yields rapidly to specific treatment, but the pains are often assuaged by local applications of salicylate of methyl.

The Untoward Effects of Drugs.—Dr. George F. Butler (*Medicine,* October), in an excellent article on this subject, says that the untoward effects of drugs are of great interest from a medico-legal standpoint. Even physicians are but too apt to refer them to defects or impurities in the drug dispensed. They are seemingly multiform in character, and yet they can readily be ranged under a few general laws. The primary and secondary effects, which are often opposite in nature, the organs chiefly affected by the ordinary action of the drug, the method of drug excretion, all play a part in what may be called general constitutional untoward effects, as contrasted with the untoward effects due to temporary and evanescent conditions, which, however, also range themselves in a regulated fashion.

Prediction may be made, he says, with considerable accuracy as to the untoward manifestations of any drug on learning its action and all the factors cited. An antipyretic will have, as untoward effects, skin eruption because it is excreted through the skin, because the skin through its pores regulates temperature, and hence is under the control of the central nervous system, regulating temperature; and finally because the skin is in close connection from an early period with the nervous system. For the same reason profuse debilitating perspiration often results. Since control of the temperature can not be effected without control of the vasomotor system regulating the blood supply, heart failure, collapse, and palpitation may result, together with certain eye and ear symptoms. If the drug is one which tends to cause slight brain vasomotor disturbance, such as results from what is known as a tonic action, then delirium, blindness, and deafness of a temporary character are produced. Temperature in the human subject is regulated by the three systems of nerves: thermotaxic or heat-regulating, thermoexcitory or heat-increasing, and thermoinhibitory or heat-decreasing. As a more or less exact balance is kept by these centres, undue action of any of them constitutes a morbid state. If the thermoinhibitory centres are too much stimulated, they may lose their control; hence in certain individuals temperature rises from an antipyretic. Hahnemann, an individual with a neurotic constitution, had an easily upset temperature regulator, whence his proving on himself of cinchona resulted in this phenomenon, which has since been observed by Denk and others from quinine and cinchona preparations. The action on the heart may, by its influence on the kidney circulation, cause kidney and bladder symptoms, even to the extent of albumin in the urine. If the antipyretic is excreted through the kidneys, albuminuria is especially likely to present itself as an untoward result. Alteratives and purgatives produce hæmorrhages from the mucous membranes, and œdema of those of the organs of special sense, besides skin eruptions. Hypnotics, through their action on the central nervous system, produce excessive perspiration, skin eruptions, vertigo, and heart collapse. Astringents cause diarrhœa and bloody intestinal discharges. Diaphoretics cause pains at certain points from overstimulation.

In classifying tonics and alteratives together, the influence of the trophic nervous system, evident in the constitutional changes produced by diseases like typhoid fever, must be taken into account. Alterative drugs have much the same constitutional effect, according to the theory of their action now coming into general acceptance.

It will be observed that the most potent tonics and alteratives are most fertile in untoward effects. This is naturally to be expected. A drug of potent physiological action must of necessity try more severely inherited and acquired deficiencies of constitution than an inert drug. Too excessive strain on inhibitions weakened by acquired or inherited taint gives an undue sway to inhibited centres.

One influence which together with hereditary or acquired defect plays a part in determining untoward results is what the German calls the ætiologic moment. This is excellently illustrated in the neurotics, which display such decidedly variable untoward effects. In many neuroses nerve strain of the eliminative and assimilative organs has produced toxines and other products; some of these naturally add to the effects of a given neurotic drug, or direct these into some special channel or inhibit certain effects, thereby giving others undue play. This may constitute, as Lewin has shown, a disposition that is but temporary, which may have its foundation either in a greater abundance in the system of biochemical substances, which cause an unusually prompt solution or action of the medicines introduced, or which may unite with them to form injurious compounds, or it may be conditional on preexisting pathological changes in the inhibitory apparatus of the system.

Untoward effects of drugs may hence be conditioned on preexisting affections of the inhibitory apparatus of the system. The practical application of these untoward effects to therapy is not only a possibility but, as has been shown by Dr. W. L. Baum (*Medical Standard,* 1894), yields excellent results. Thus the untoward effects of camphor monobromate effect excellent results in impotence where aphrodisiacs fail.

Adenoma of the Breast.—Dr. Balloch (*American Journal of Obstetrics,* October) closes a paper on this subject with the remark that the aim of this paper has been to lay stress upon the following points: 1. Adenomata are not the harmless growths that many believe them to be, as there is a great probability that they may and do become cancerous. 2. That the let-alone and do-nothing policy with regard to them should be condemned. 3. Medicinal therapeutics, external and internal, are useless. 4. Early recourse to the knife affords a safe and satisfactory method of dealing with them, and will often spare us the mortification of seeing our patients fall into the hands of charlatans.

SUPPLEMENT TO
THE NEW YORK MEDICAL JOURNAL, NOVEMBER 26, 1898.

THE OFFICIAL SUMMARY OF THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE ARMY.

War Department, Surgeon-General's Office,
Washington, D. C., *November 10, 1898.*

To the Secretary of War, Washington, D. C.:

Sir: I have the honor to submit the following as a summary of my report for the year ended June 30, 1898:

THE WORK OF THE MEDICAL DEPARTMENT DURING THE SPANISH WAR.

Medical Officers.—The number of medical officers, a hundred and ninety-two, allowed by law to the army, is inadequate in time of peace. The insufficiency in time of war was met by the assignment of over six hundred and fifty contract surgeons under the provision of the act approved May 12, 1898. All volunteer regiments had three medical officers appointed by the governors of States. Volunteer surgeons to fill the staff positions authorized by the act approved April 22, 1898, were appointed by the President: Eight corps surgeons, with the rank of lieutenant colonel, and a hundred and ten division and brigade surgeons, with the rank of major; five of the former and thirty-six of the latter positions were filled by the appointment of officers of the army medical department. The President also appointed three medical officers for each of the regiments of United States volunteer infantry, cavalry, and engineers. The very small proportion of medical officers having experience of a military character impaired the efficiency of the department at the outset, but many of the staff surgeons from civil life showed great aptitude for the service and speedily became of value as administrative and sanitary officers.

Hospital Corps.—No provision was made for hospital corps men for the volunteer troops except that which empowered the Secretary of War (act, March 1, 1897) to enlist as many privates of the hospital corps as the service may require. To provide this corps with the necessary number of men, recruiting officers were urged to secure suitable men and medical officers to effect the transfer of men from the line of the army. General Orders No. 58, Headquarters of the Army, A. G. O., May 31, 1898, authorized the transfer of men from the line of the volunteers to the hospital corps of the regular army upon the recommendation of the chief surgeon, and suspended the provisions of army regulations governing the hospital corps so far as they were inapplicable in time of war and with troops in the field. Commanders of corps and of independent divisions and brigades were charged with the full control of the transfer from the line, the enlistment and discharge of members of the hospital corps, the detail of acting hospital stewards and the appointment of stewards, the last limited by subsequent orders to ten stewards for an army corps in addition to those authorized for the volunteer regiments.

The number of men enlisted and transferred during the war was approximately six thousand.

Contract Nurses.—The want of a sufficient body of trained hospital corps men necessitated the detail of enlisted men from the regiments for hospital duty in several of the camps and the employment of trained nurses at the general hospitals. Foreseeing the necessity for a large force of the latter, I applied to Congress, April 28, 1898, for authority to employ by contract as many nurses as might be required during the war. This was promptly granted. Over seventeen hundred female nurses have been employed, at first at the general hospitals and later at the field division hospitals, when it became evident that the field service purposes for which the latter had been organized would have to give place to the imperative need of caring for the many sick men coming from the regimental camps.

Medical and Hospital Supplies.—Immediately upon the declaration of war, April 21st, steps were taken to obtain medical supplies for the new volunteer army. Orders were given and the manufacture expedited with the utmost dispatch. On May 3d, foreseeing that it would be impossible to have ready for issue to the volunteer regiments, as soon as they were mustered in, the necessary articles of field equipment, I telegraphed the governors of the several States for authority to use the medical equipment of the National Guard in the service of the State until our army medical supplies were ready for issue. Most of the governors who had field equipment responded promptly and satisfactorily, but, unfortunately, many of the State medical departments had no such equipment. Meanwhile the officers in charge of the medical supply depots were directed to make arrangements so that supplies could be immediately obtained for one hundred thousand men for six months.

A field supply table was prepared and approved by the Secretary of War, May 9, 1898. It was intended to provide for the needs of commands in active service where only a limited supply of articles could be carried owing to the necessity of restricting transportation. But as soon as it was evident that the troops were likely to be retained in camps of instruction, notification was given that articles on the regular supply table could also be obtained.

To provide, temporarily, for volunteer regiments, supplies of medicines, instruments, hospital stores, stationery, and miscellaneous articles, according to a prescribed list and packed in convenient boxes, were prepared at the supply depots. An important article to be provided was the first-aid packet, containing antiseptic dressings for immediate use in emergencies and intended to be carried by each individual soldier. These were promptly and liberally supplied. Whenever notice was received from the adjutant-general's office that commands were to be moved or camps formed, I endeavored to anticipate the wants of the troops by telegraphing to the officer in charge of the nearest supply depot to forward supplies for the stated number of men according to the field supply table.

Requests from the medical officers for supplies and orders based thereon transmitted to the supply depots were largely by telegraph; and orders were given that when the supplies were needed promptly they should be forwarded by express to their destination. When a medical officer desired to purchase medical and other supplies for use in emergencies authority to do so was always granted.

The Medical Supply Depot in New York supplied the posts in New England, the Middle States, and along the Atlantic coast, including Florida, and the troops that have been sent to and are now serving in Cuba and Porto Rico. The depot at St. Louis, Missouri, supplied the States of the Mississippi Valley and the region east of the Rocky Mountains, including Texas, the large camp at Chickamauga, and the camps formed at Knoxville, Lexington, Anniston, Huntsville, etc. To provide for the large aggregation of troops at Chickamauga, Georgia, a subdepot, drawing its supplies from St. Louis, was organized. The officers in charge of the depots at New York and St. Louis were directed, July 8th, to keep in stock one thousand iron beds or cots with a full supply of bedding ready for immediate use. The distance of San Francisco from the centre of the Government was so considerable that the officer in charge of that depot was necessarily given large discretion in the purchase of supplies and the expediture of funds.

Railroad Ambulance Train.—On June 16th a railroad ambulance train, consisting of ten tourist sleepers, a dining car, a private car, and a combination car, was equipped for service, and placed under the command of Major Charles Richard, surgeon, United States Army. One assistant surgeon, two stewards, twenty privates of the Hospital Corps, and three civilian employees were assigned to him for service. The train was amply provided with all the medicines, hospital stores, and comforts required for the patients to be transported.

Hospital Ships: *The Hospital Ship Relief.*—On April 15, 1898, I applied for a ship to be used as a hospital ship. On May 18th, by direction of the President, the *John Englis* was purchased, and the Quartermaster's Department took charge of her to prepare her for the special service required. Major George H. Torney, surgeon, United States Army, was placed in command of the ship. Specific instructions were sent to him to provide everything needful, so that there might be no delay attributable to the medical department, and these instructions were complied with to the letter. The *Relief*, however, was unable to sail from New York until July 2d. She arrived at Siboney on the 7th, where she received many of the wounded from the attack on Santiago.

The Hospital Ship Missouri.—On July 1, 1898, Mr. B. N. Baker, president of the Atlantic Transport Line, Baltimore, Maryland, tendered the steamship *Missouri*, with her captain and crew, to the Government as a hospital ship. Ten days or two weeks was the period estimated as needful to permit of making the necessary alterations and providing the vessel with a steam laundry, steam sterilizing apparatus, and ice and carbonated plants, but it was not until August 23d that the ship was reported ready to sail, and even then a good deal of work had to be done on board during a stormy passage to Santiago.

The Hospital Ship Olivette.—This vessel was a steamship which had been doing service as a water boat for the fleet of transports when Lieutenant-Colonel Pope, chief surgeon of the Fifth Army Corps, selected her for use as a hospital ship during the voyage from Tampa to Santiago. The equipment of one of the field division hospitals of the corps was used in outfitting her. The *Olivette* answered her extemporized purpose excellently.

The Health of the Troops.—In my opinion the reduction of the age limit from twenty-one to eighteen years, and the haste with which the volunteer regiments were organized and mustered into the service, were responsible for much of the sickness which was reported in the early days of their camp life. All military experience shows that young men under twenty-one years break down readily under the strain of war service; and every regiment had many of these youths in its ranks. Medical examiners were appointed to testify to the physical qualifications of each man before acceptance, but, notwithstanding this, which at the time was characterized in the press as a very rigorous procedure, so many men were afterward found on the sick lists of the camps unfit for service, from causes existing prior to enlistment, that special arrangements had to be made for their discharge.

Soon after the newly raised levies were aggregated in large camps sickness began to increase progressively from causes that were so general in their operation that scarcely a regiment escaped from their harmful influence. These causes may largely be referred to ignorance on the part of officers of the principles of camp sanitation and of their duties and responsibilities as regards the welfare of the enlisted men in their commands. Medical officers, as a rule, were also without experience in the sanitation of camps and the prevention of disease among troops. The few who knew what should be done were insufficient to control the sanitary situation in the large aggregations of men hastily gathered together. Officers and men in these camps were rife for war, and drill, parades, practice marches, and military camp duties occupied the whole of their time and energies. Considerations of domestic economy and sanitation in the companies and regiments were not given proper attention, and men who were being taught to meet the enemy in battle succumbed to the hardships and insanitary conditions of life in their camps of instruction.

The sites of certain of the camps have been instanced in the newspapers as the cause of the sickness which was developed in them; but a review of the whole situation shows that it was not the site, but the manner of its occupation, which must be held responsible for the general spread of disease among the troops. On April 25, 1898, foreseeing the likelihood of insanitary conditions in the camps of our newly raised troops, and with the view of preventing them, I issued Circular No. 1 from this office, impressing upon medical officers their responsibility in sanitary matters, and the necessity for a strict sanitary police, particularly in the care of the sinks, and in the preservation of the camp area from contamination. But the density of the military population on the area of these contracted camps prevented the possibility of good sanitary condition. Camps of this character may be occupied for a week or two at a time without serious results, as in the case of national guardsmen out for ten days' field practice during the summer, but their continued occupation will inevitably result in the breaking down of the command by diarrhœa, dysentery, and typhoid fever.

Practically nothing was done to make the men comfortable, or to remedy the insanitary conditions until these were brought to the attention of the Secretary of War by inspectors sent out by special orders from the war department. Then the camps held for so long were abandoned, but not before the manifestation of typhoid infection were rife in them. New sites were carefully selected, regimental camps were expanded, company tentage increased, and board flooring provided. Then, for the first time, the troops went into camps suitable for continued occupation.

One prominent cause of the increase of sickness in the early camps has been commented upon by only a few of our medical officers. These cite the prevalence of drunkenness and of venereal disease due to the facilities and temptations afforded by the proximity of cities to the larger camps. They hold that if the systems of the men had not been weakened by dissipation they would not have succumbed so readily to the other influence which affected them.

Malarial fevers added to the sick lists of camps in Florida, and of Southern regiments in the camps of Georgia and Virginia.

It was, however, typhoid fever which broke down the strength of the commands generally, the outbreak becoming distinctly manifest in July. Sporadic cases appeared in most of the regiments in May and June, these cases having been brought in many instances from the State camps. In fact, some regiments, as the Fifteenth Minnesota, suffered more from this disease at their State rendezvous than any of the regiments in the large Federal camps. A few of the regimental commands in the latter may be said to have escaped visitation. The sanitary conditions affecting the commands in the various camps have been studied in connection with the prevalence of typhoid fever among the men by a board of medical officers, consisting of Majors Reed, Vaughan, and Shakespeare, but the results of the investigation of this board have not as yet been reported in full. It appears to me, however, from a general review of the sanitary reports already filed, that the prevalence of the disease was proportioned to the insanitary camp conditions which I have referred to. My Circular No. 1, already cited, was intended to bring the danger from this fever to the notice of medical officers with the view of obviating it. The probability of its communication to soldiers in camp through the agency of flies was pointed out as a reason for insisting on a sanitary police of the strictest character.

It is well known to the medical profession that this fever is propagated by a contaminated water supply, and it is now recognized that the great prevalence of this disease in an aggravated form in the camps of the civil war was due to the use of surface and shallow well waters infected by typhoid excreta. To prevent transmission by the water supply I recommended the use of boiled and filtered water when a pure spring supply could not be obtained, and to enable an efficient filtration of suspected waters to be made, field filters of approved construction were issued on my recommendation by the quartermaster's department.

Care of the Sick and Wounded.—As soon as the regiments were organized into brigades and divisions preparatory to active service, it became the duty of each chief surgeon of an army corps to see that the medical department of his command was organized to meet the casualties of battle. The object of the concentration of the troops was to accustom the regiments to operations in which they constituted the units of a higher organization. The experience of the civil war demonstrated that for efficient service in an active campaign the medical department also required a higher organization. Circular No. 3, from this office, dated May 18, 1898, in specifying the duties of the various medical officers in an army corps, indicated the character of the organization to be adopted. The seriously sick were to be treated in division field hospitals (unless their transfer to a general hospital was advisable) under the care of the most experienced physicians and able surgeons on duty with each division. Medical officers left on duty with their regiments were to exercise sanitary supervision over the well men and to determine whether a soldier reporting himself sick should be sent to hospital or remain as a trivial case under treatment in quarters. This consolidation of the medical force by divisions, implying as it did the breaking up of the regimental hospitals, met with a strong opposition from regimental medical officers, particularly from those who were not detailed for special service at the division hospitals. Regimental commanders also were in many instances opposed to it, forgetful that the object of the medical department, as of the line, was to get into training for field service. Similar objections were raised in 1862 and 1863 to the establishment of the division hospitals, but the civil war lasted long enough to demonstrate the superiority of this system.

The Fifth Army Corps.—Long before this corps embarked for Cuba its field hospitals were in condition for efficient service. Subsequent events, however, rendered valueless these preparations of the medical department. When the command embarked on the transport vessels, the baggage wagons and mules were left behind. The ambulance trains of all the divisions, with a large part of the outfit of each of the hospitals, were also left behind. Three ambulance wagons were taken apart and stored on one of the vessels. These did excellent service at San Juan and El Caney. Ten of the ambulances of the third or reserve divisional hospital were subsequently shipped to Cuba, where they arrived July 2d, and were of value in moving the sick and wounded to the hospital at Siboney and to the hospital ships and transports. Of the property and supplies carried to Cuba, a portion was not available for service at the time it was most needed—to wit, on July 1st, 2d, and 3d—when the wounded from El Caney and San Juan were coming from the front for care and treatment. This was because, in general, no opportunity was afforded to land the medical property. Earnest efforts were made by medical officers to have supplies at the front with the troops. Some, having succeeded in getting their medicine chests and other articles of medical property ashore, had these carried forward on litters by hospital-corps men to the camps near Sevilla, while others turned their private mounts into pack horses for this purpose. During and after the battles at El Caney and San Juan there was an insufficiency of tents, cots, bedding, and medicines, due to the causes stated, but all the hospitals were well equipped for surgical work.

After the capitulation of Santiago the troops at the front broke down rapidly under the fatigues they had undergone and the malarial influences to which they were exposed; but by this time an ample supply of tents, furniture, bedding, clothing, and medical stores had reached Siboney, together with a corps of trained nurses and a force of surgeons, those sent to duty at the yellow-fever hospital being immune to that disease. Meanwhile, to relieve the pressure on the field hospitals such convalescents and sick as could bear the journey home were sent to the United States on transport vessels. This was an emergency measure to relieve the hospitals at Siboney and permit of the transfer to them of the men who were sick in regimental camps.

The transfer of troops from Santiago to Montauk Point, New York, was also an emergency measure, and the great responsibility of excluding yellow-fever infection from every transport rested on the medical officers who had charge of the embarkation. Had they failed in this duty, the effect would have been disastrous during the voyage to the men confined on shipboard, and the risk of importing the disease into this country would have been greatly increased.

In view of the necessity for the return of the troops of the Fifth Army Corps from Santiago, Cuba, preparations were made for encamping them at Montauk Point, Long Island. These included the establishment of temporary tent hospitals, not only for the treatment of the large number of sick, brought by each command from Cuba, but for the isolation and treatment of these from transports lying under the suspicion of yellow-fever infection.

The difficulties in the way of administering the affairs of the detention hospital were very great, owing to the rapidity with which the transports followed each other in their arrival. As many as four reached the point on some days from August 13th to 31st, most of them bringing sick requiring detention for medical observation; but the sick men were as well cared for and as comfortable in their cots here as afterward when transferred to the general hospital at Montauk Point. There was an excellent steam-disinfecting plant on the grounds, with a formaldehyde chamber attached. The laundry work was done at a steam laundry near the hospital.

The temporary hospital, which was locally known as the General Hospital, Montauk Point, consisted of tent pavilions containing 1,672 cots. Its personnel consisted of 40 medical men, 8 stewards, 10 acting stewards, 130 privates of the hospital corps, 15 cooks, and 50 male nurses, and an average of 200 female nurses, one half of whom were Sisters of Charity. Supplies of all kinds were amply provided.

It is needless to refer at this time to the complaints of starvation which appeared almost daily in the newspapers during the occupation of Camp Wikoff, for it is now generally understood that the weakness, prostration, anæmia, and emaciation of so many of the troops were the results of malarial, typhoid, and yellow fever, from which the army suffered as a consequence of its exposure to the climatic influences and local infections of Santiago and its neighborhood, pending and subsequent to the surrender of the city.

Troops in the Home Camps.—The method of hospital organization in these camps was practically the same; and there was much similarity in the conditions affecting them and correspondingly in their history. Regiments reported in but few instances with the material and supplies for their medical care, but they brought sick men with them, and these required immediate care. Provision had to be made for division hospitals in view of future field service, and for regimental hospitals in view of the immediate necessity. The difficulties in the way of the contemporaneous accomplishment of these two objects were great, and they were greatly augmented by the inexperience of a majority of the regimental medical officers, and of many of the chief surgeons which prevented them from seeing beyond the immediate necessity. The sick had to be cared for, and to this end medicines and other things had to be procured. Relief societies offered assistance, and this was eagerly accepted by many of these medical officers, not alone for delicacies or luxuries not otherwise provided for, but for "Supply Table" articles which could have been had from the medical purveyors in their camps, or by telegraphic requisition on the surgeon general. It was easier to accept what was so freely offered than to learn how to obtain the articles from the proper source. To explain their prompt acceptance of this assistance these officers referred to the red tape of the War Department methods, and the insinuation that the said methods were beyond the comprehension of the ordinary intellect was accepted by the sensational press as an explanation in full.

Meanwhile chief surgeons of corps and divisions began the organization and equipment of their field-division hospitals and ambulance companies, but they were met at the outset by the apparent impossibility of securing men for services as cooks, nurses, litter bearers, ambulance drivers, teamsters, etc. The hospital corps of the regular army could not supply these men because recruiting for this corps progressed slowly. The popular tendency to volunteer led men away from the regular recruiting offices. When transfers from the volunteer regiments to the regular hospital corps were authorized, the men did not care to leave their local connections for service in the army at large as regular soldiers. The transfers so much desired by the medical department to enable it to complete its organization were not received favorably by line officers, for although every line officer will probably acknowledge as a general principle that only the most intelligent and capable men should be employed to care for the sick and wounded, he is not likely to act on this general principle when it is a question of withdrawing for such service the most intelligent and capable men of his own company or regiment.

The division hospitals of the army corps were usually established in the immediate neighborhood of the regimental camps of the divisions. The pavilions were arranged in various ways according to the configuration of the area available as a site; but in general there was a tendency to crowd the area. Surgeons in charge recognized that a tent should not be occupied by more than six patients, but sometimes this number was exceeded temporarily while waiting an increase of tentage. As a rule the hospitals were kept in campaigning condition—that is, the tents were neither framed nor floored, until the increased prevalence of typhoid fever attracted attention to their crowded condition, when the object of their existence became suddenly changed from a school for field service to a hospital for the treatment of a local outbreak of disease.

Special diet kitchens, under the management of capable individuals, were opened at most of the hospitals. Money for this purpose was sent to them by me from funds contributed and placed at my disposal. Money was also sent directly by individuals and representatives of aid societies, and the Red Cross Committees supplied quantities of ice and milk, chicken, eggs, lemons, etc. Pajamas, night-shirts, and other articles of hospital clothing were also provided by the Red Cross and other aid societies. Subsequently the order authorizing the commutation of the sick soldier's ration at sixty cents rendered these hospitals wholly independent of outside assistance.

About July 20th the troops for the invasion of Porto Rico embarked and sailed. The field hospital accommodation with this expeditionary force was ample and the supplies abundant.

Troops on the Pacific Coast.—The troops on the Pacific Coast were concentrated mostly at San Francisco, California. Eighteen thousand troops were dispatched to the Philippine Islands. They were carried on twenty transport steamers, the first expedition sailing on May 25th. Each steamship, before being accepted by the government, was inspected by a board of medical officers, and in each instance the vessel was thoroughly disinfected before the troops went on board. The precautions taken to secure a good sanitary condition of the vessels prior to embarkation, and the sanitary supervision exercised over the men during their long voyage, must be credited with the excellent condition in which the troops arrived at Manila.

The want of hospital-corps men was the main cause of the failure of chief surgeons to establish their division hospitals promptly. Instead of organizing for field service, their time was occupied and their energies spent in endeavoring to procure the necessary men by enlistment or transfer. After a time, when sickness invaded the camps and the division hospitals became filled, operations for field service had to give place to the immediate necessity of caring for the sick. The division hospitals became expanded, as at Siboney and Tampa, into base hospitals, with increased needs and increased responsibilities. To these I sent with the utmost dispatch physicians and surgeons under contract, to relieve the strain on the medical officers attached to the troops, and trained nurses to relieve the details from the regiments who were temporarily acting as hospital-corps men. At Camp George H. Thomas, Georgia, the expansions of the division hospitals under the conditions brought about by the typhoid invasion of the camps, became officially recognized as general hospitals, and were promptly provided by me with the best available medical service, with trained nurses, with all permissible medical and hospital supplies, and with funds for special purchases. The altered conditions under which the division hospitals were operating were immediately recognized by the chief surgeon of the Fifth Army Corps at Santiago, on the breakdown of that corps after the surrender of the city, and every effort on the part of his medical officers to care for their sick in regimental hospitals was encouraged by giving them every available facility. Similarly, in other camps, regimental hospitals were in many instances equipped to meet the necessities of the occasion.

General Hospitals.—Up to September 30th eleven general hospitals were established and fully manned and equipped. These had a capacity of nearly seven thousand beds. At the same time certain post hospitals having good accommodations were used for the treatment of army cases generally, without alteration of their official status as post hospitals. Those, for instance, at Forts Columbus, Hamilton, and Wadsworth, New York, in the East, and at the Presidio of San Francisco, California, and Vancouver Barracks, Washington, on the Pacific coast, were expanded in this manner. The vacant beds in the hospitals of the Marine-Hospital Service of the treasury department were placed at my disposal, and the civil hospitals of the country were ready on call to receive and care for sick and wounded soldiers. These offers of hospital accommodations and medical care were accepted by me in many instances, particularly in New York, Boston, Philadelphia, and Providence, to relieve the tent hospitals at Montauk Point when crowded by the rapid transfer of sick from Santiago.

The Medical Statistics of the War.—The work of gathering up the records of sickness of the various commands in service during the war has been one of great difficulty. Volunteer medical officers were ignorant of the methods of keeping their records, and many failed to appreciate the importance of what was frequently regarded as "mere paper work," which had no practical bearing on the welfare of their men. Nevertheless, their work in this regard must be considered as satisfactory, when compared with that of the volunteer medical officers of the War of the Rebellion.

My report presents tabulations compiled from monthly reports of sick and wounded received from May to September, inclusive, and representing a strength present of 167,168 men. These give full particulars of 1,715 deaths, of which number 640 were occasioned by typhoid fever, 97 by malarial fevers, and 393 by diarrhœa and dysentery. The death-rates for May and June, 0.46 and 0.70, were not in excess of those of the army in time of peace. In July the rate became somewhat higher than that of most well-cared-for cities, 2.15 for the month, or the equivalent of an annual rate of 25.80 per thousand living. In August it became excessive, 4.08 for the month, equal to an annual rate of 48.96 per thousand. In September the influence of the energetic measures taken, in July and August, to improve the health of the army becomes manifest in the falling of the death-rate to 2.45, or the equivalent of an annual rate of 29.40. The same progression to an acme in August with a sudden fall in September is seen in the various ratios given under the specific titles, typhoid fever, malarial fever, and diarrhœal diseases. This is exceedingly gratifying, and must be credited, as stated, to the sanitary measures adopted, for our experience in the Civil War demonstrates that in the absence of these measures the high ratio of August would have been continued for many months to come.

I submit also tables of absolute numbers and of ratios by which the incidence of sickness and mortality of the regular and volunteer troops may be contrasted. From these it will be seen that the exposures of the regular troops during the Santiago campaign gave them from June to September a higher death-rate than the volunteers, and that the rate of the latter during August, the month of maximum mortality, was 3.62 as compared with 5.83 among the regular troops.

Volunteer Relief Work.—My guiding principle throughout the war has been that relief, when needed, should be promptly accepted without reference to the source from which it came. The relief afforded by the National Red Cross at Siboney was promptly accepted by the surgeons on the spot, but it is evident that it was entirely inadequate to meet the emergency. This association has had full authority to send agents and supplies to all of our camps since June 9, 1898, and it has contributed supplies of various kinds in a most liberal manner for the use of our field hospitals. Other organizations which have rendered very valuable services are the National Relief Commission, having its headquarters in Philadelphia, and the Massachusetts Volunteer Aid Association, with headquarters in Boston.

Both of these organizations fitted out hospital ships, which were placed at my service for the transportation of our sick from Porto Rico, and I take pleasure in testifying to the valuable services rendered by the yacht *May*, of the National Relief Commission, and the hospital ship *Bay State*, of the Massachusetts Volunteer Aid Association.

Special Fund.—Sums of money varying from 33 cents, sent by Master Oliver S. Whitaker, of Detroit, Michigan, to $5,000, by Mr. Cleveland H. Dodge, chairman of the Supply Committee, National Red Cross Society, have been sent to me to be used according to my discretion for the benefit of our sick and wounded soldiers. In all I have received $24,244.94. Among the contributors have been: The Colonial Dames of America, through the treasurer, Miss E. B. Nicholas, of Washington, D. C., $3,500; the Red Cross Auxiliary No. 3, through Mrs. Winthrop Cowdin, of New York, $2,000; and the Women's War Relief Association, through Mrs. Victoria Raymond, treasurer (contributed for hospital ship *Relief*) $2,275.

This money has been sent by me principally to general hospitals, to chief surgeons of army corps in the field, and to commanding officers of hospital ships, to be used in the purchase of delicacies for the sick.

The Medical Corps.—Before concluding my report of the operations of the medical department during our short and glorious war with Spain, I feel it my duty to call special attention to the efficient services rendered by the medical officers of the army in the various responsible positions which the exigencies of the service have made it necessary for them to fill. The inadequacy in the number of trained and experienced medical officers has been a source of great embarrassment to me in my efforts to meet the demands of the service; but as a rule our medical officers have performed the duties imposed upon them in a most loyal, intelligent, and zealous manner. They have shared with line officers the dangers of battle, and they have encountered with unflinching courage the more difficult and protracted combat with the infectious diseases which have invaded our camps and filled our hospitals. Many of them have suffered attacks of typhoid and malarial fevers, and at one time no less than fifteen per cent. of the corps was disabled by sickness. Of those who accompanied General Shafter's army to Santiago, few escaped serious sickness, and two of those who distinguished themselves for their devotion to duty lost their lives as a result of exposure to the malign influences which in so short a time sapped the vitality of the flower of the American army. But credit is due not alone to those in the field. The labors of those on duty as chief surgeons of military departments, in charge of medical supply depots, and in other important positions have been enormously increased, and it has required unremitting effort to meet the exigencies of the war.

Recommendations.—The increase of the enlisted strength of the army to a total of sixty thousand, and the large number of new stations to be garrisoned in the islands acquired and occupied by the United States, makes an increase in the medical corps absolutely essential. I therefore recommend an addition to the number of medical officers now allowed by law of two assistant surgeons-general, with the rank of colonel, six deputy surgeons-general, with the rank of lieutenant colonel, thirty surgeons with the rank of major, and fifty assistant surgeons with the rank of first lieutenant.

This recommendation is based upon the present organization of the army. Any increase made by Congress during the coming session will necessitate a further increase of the medical corps.

Very respectfully,
[Signed.] George M. Sternberg,
Surgeon-General, United States Army.

Original Communications.

THE ELECTROTHERAPEUTIC CONTROL OF CURRENTS FROM CENTRAL STATIONS.*

By GEORGE W. JACOBY, M. D.

THE history of electrotherapeutics is worthy of study, and is of unusual interest in showing to what vicissitudes a single branch of medicine may be subject, and how, with all advantages in its favor, it has from time to time fallen into disrepute and furnished the ground for gross abuse and the most rampant quackery.

The history of electrotherapy may be said to start with the invention of the friction machine by von Guericke in 1663; for more than a century thereafter static electricity alone was employed. The end of the eighteenth century, bringing with it, as it did, the discoveries of Galvani and Volta, relegated to obscurity the applications of static electricity with their inordinately vaunted cures.

The galvanic current in its turn, on account of the impractical apparatus which at that time was necessary for its production, was not long able to maintain its position. It was really not until Oersted discovered the force of magneto-electricity, and a few years later Faraday made his fundamental discovery of induced electricity, that, in consequence of the construction of the first induction coil, electrotherapy escaped from the contumely with which it had to a greater or less extent been regarded.

In 1881, at the International Congress in Paris, another impetus, one which may be looked upon as the turning point in its scientific career, was given to electrotherapy. This was the adoption of standards of measurement, and with them the introduction of the absolute galvanometer.

In consequence of this and of much other scientific work, electrotherapy then constituted a science *per se*, which by many was considered unassailable. Soon thereafter, as a result of perfected apparatus, came the rejuvenation of static electricity in Paris. Its employment there, chiefly upon hysterical patients, coincided in point of time with the renewed attention bestowed upon hypnotism. The instantaneous results obtained upon this class of patients with both of these measures could not fail to attract attention, and from this to the assumption that both agents acted through the same means—namely, suggestion—was but one step. Added to the intense enthusiasm displayed by electrotherapists the world over, was a dense ignorance on their part of the physical laws governing the flow of electricity and of its physiological effects. It may therefore be easily understood why observers scientifically schooled were thus ready recipients for the sweeping assertions which soon followed.

These assertions were those of Möbius, that our knowledge of the curative *action* of electricity is *nil*, and that at least four fifths of the curative *effects* of electricity are of psychic character, due to suggestion.

It is by no means the object of this paper to enter upon the question of the physiological effects of electricity or of its therapeutic value, but we wish to emphasize at this place that only he will attain any positive knowledge in either of these directions who is the possessor of a complete understanding of the physics of electricity, and of proper apparatus to accurately measure and control the current of which he makes use. During the past decade the study of electricity has received fresh impetus through the various uses to which it has been put by commercial enterprise, and its medical application, together with the construction of new apparatus for this purpose, has accordingly benefited.

At no time in the previous history of electrotherapy has the physician been in so enviable a position as he is to-day. Upon the one hand he possesses accurate measuring instruments—the milliampèremeter, the voltmeter, the coulombmeter—so that his studies may be correspondingly scientific in character; upon the other hand, he has at his command sources of electrical supply which leave nothing to be desired. From the lamp which serves to light his office he receives an unfailing supply of electrical energy. Here he has primarily all that the uniform flow from the galvanic cell can give him.

By means of an intercalated coil he obtains that form of dissymmetrical alternating current which is familiar to all of us as the medical induction apparatus. He is able to charge his storage cells, to light an exploring lamp, by means of a motor to drive his static machine, or to work his therapeutic alternator; from this apparatus he can in turn obtain the current known as sinusoidal, and can by means of proper arrangement absolutely control the rapidity, the electromotor force, and even the shape of its E. M. F. curve. He can obtain the current necessary to satisfactorily feed his X-ray apparatus; and, finally, he can by the use of the required condenser and solenoid obtain those currents of great frequency and high potential whose phenomena, to make use of Hedley's language, "are a revelation to the scientific mind, and whose physiological effects open out new fields of physiological research, and point to endless therapeutic possibilities."

Compare for one moment this picture with that of a few years ago, when our batteries gave us infinite trouble and an infinitesimal current; when a special source of current was necessary for galvanism, faradaism, light, power, and cautery; when the amount of current applied was guessed at by the number of cells used, and when the application of electricity was accomplished only through the medium of wet and dirty sponges or, *horribile dictu*, by means of two metal cylinders, one of which the patient grasped in each hand.

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* Read before the Metropolitan Medical Society, September 27, 1898.

While the actual purpose of this paper is to acquaint you with the means which I make use of to regulate and control the current as delivered by commercial enterprise into our houses, and which to me presents the only absolute solution of the difficulties encountered, I so thoroughly feel that the application for medical purposes of currents supplied by central stations is understood by but very few, that I hope you will pardon me if, in the endeavor to make matters clear, I may say certain things which are familiar to some of you, and possibly also others which are known to you all. Allow me, therefore, to assume that you have forgotten what you know, and to begin with first principles.

As Singer and Berens understandingly put it, electricity is neither an agency nor a cause, but a *result* of certain conditions; the conditions being unequal states of excitation, and the "electricity" being merely inferred as present whenever the equalization of two such bodies in unequal states is intercepted by a third body, which thereby undergoes some modification. This modification is always the indicator of the supposed "electric current," and may consist in increase of temperature, chemical changes, magnetism, or mechanical motion. The phenomena of electricity then being due to the equalization of bodies in different states of excitation, the body in a high state of excitation will be positive to a body of lower excitation, negative to a body in a still higher state of excitation, and indifferent to a body in an equal state of excitation.

It is this difference in the degree of excitability of two metals which is known as "difference of potential." And the higher potential in a constant or galvanic current is known as the positive pole, the lower potential as the negative pole.

While all forms of electricity are identical, inasmuch as they are all due to the equalization of bodies in different states of excitation, yet the manner of excitation of the bodies will produce differences in the "currents" obtained, so that these again may differ in their physiological and therapeutic effect.

Until now electro-medicine has made use of three forms of current: the galvanic, faradaic, and static. These are now supplemented by (1) the pulsatory currents produced by the electromotor force of the ordinary constant-current dynamo; (2) alternating currents of a more or less perfectly sinusoidal character, the frequency of which may vary from a few to thousands of alternations in a second.

The ordinary alternating electric-light currents are of this nature, with a frequency of about seven thousand to ten thousand alternations a minute.

The "wave symbol" is used as a convenient means of expressing graphically one of the differences between currents, and the instrument known as the electrograph is used to register these waves. The differences in the "wave type" of E. M. F. thus give rise to the following forms of currents (Houston and Kennelly):

1. Continuous currents.
   - (*a*) Steady. { Produced by a uniform electromotive force, such as that of a Leclanché cell.
   - (*b*) Pulsatory. { Continuous and unidirectional, but not of uniform strength. Such a current is produced by the constant-current dynamo.

These pulsatory currents again are subdivided into intermittent and non-intermittent.

2. Alternating currents—*i. e.*, currents which periodically reverse their direction.
   - (*a*) Symmetrical. { Sinusoidal. Non-sinusoidal.
   - (*b*) Dissymmetrical.

A third form, which has been mentioned and which is now used in electrotherapy, is constituted by the currents of high frequency and high potential, whose alternations may vary from hundreds of thousands to a billion to the second.

The currents from the constant-current dynamo are continuous currents, which constantly flow in the same direction, but, inasmuch as they are pulsatory, are not absolutely uniform in strength. In so far they differ in their physical nature from the current produced by a uniformly acting battery, as the Leclanché.

In these constant-current dynamos, the currents which arise in the wires of the armature of the dynamo, as it passes the magnetic poles, and which necessarily, since they alternately pass in front of the positive and negative poles, are of alternating nature, are changed by means of commutators into currents of one direction; in alternating dynamos this commutator is absent, and they produce currents of constantly changing direction, like the faradaic currents.

The positive and negative maxima are equal, but are not smoothly attained, so that their graphic representation is not wavy in nature, but more or less angular.

The alternating current of a sinusoidal type, on the other hand, is a current, taking its name from the law of sines, which gradually attains its positive and negative maximum, is of gradually varying strength, and shows no actual interruptions.

Graphically it is represented by a curve of sines, which is in marked contrast to the angular representation of a coil's alternations.

Currents of high frequency and potential are most easily obtained for medical purposes by means of the oscillating Leyden-jar discharges traversing a solenoid.

For an understanding of the physics of electricity it is necessary to resolve the "current" into its components.

In every electric current, no matter what its source, two main factors must be thoroughly understood—

namely, pressure and volume. A battery or other source of energy establishes a difference in the state of excitation between two bodies, or, what is equivalent, a difference of electric pressure between two points. This difference in pressure is called electromotor force, and its unit of measure is the volt.

The volt represents the E. M. F. necessary to make a quantity of electricity equivalent to one coulomb pass in one second when the resistance of the circuit is one ohm (a Daniell cell is equal to 1.124 volts); therefore the volt is the measure of pressure or tension of the current. We can understand this clearly by a few comparisons.

Thus, in a reservoir of water, the pressure with which the water is forced into the supply pipes leading therefrom would be the analogue of the electromotor force (pressure) produced by a battery; or, in a gas-lighting plant, with a low pressure in the reservoir, the flames at the ends of the channels supplied by gas would hardly be kept alive, but as the pressure is increased more gas would be forced through the opening and the flames become larger; or, in the case of a boiler in which a difference in tension (pressure) exists on both sides of the shell, it is evident that the greater this difference of pressure outside and inside the shell, the greater the amount of steam that will flow through a pipe of a given size and length.

In the same manner, the greater the difference in pressure between the two terminals of a battery, the greater the current which will flow through a wire of a given size and length.

Therefore it is a law that the current which will flow through a conductor will be proportional to the difference in pressure or electromotor force between its terminals.

The volume of current is the amount of electricity pushed through a conductor by the pressure behind it; or, in the cases of the water reservoir, gas plant, and steam boiler, the amount will in each case depend not only upon the pressure, but also upon the size of the openings of the pipes and upon the amount of friction thus encountered—*i. e.*, the length of the pipes. In the same manner, when a current of electricity flows from a point of high pressure to one of low pressure, through a path provided therefor, and this path is a wire, this wire will furnish an opposition to the flow of current in proportion to its calibre and length. It is this opposition which in electrical science is known as resistance. In the case of the water, gas, or steam, the resistance which the pipe furnishes to the escape of either of them from their container will vary with the length of the pipe and inversely with its size. This is true of the wire which connects the two points of unequal pressure of the battery; the longer it is and the thinner it is the greater will be the resistance and the less current will flow.

Hence it is a law that the resistance of a conductor (aside from its specific resistance—*i. e.*, the substance of which it is made) is dependent upon the length and diameter of the conductor, and is directly proportionate to its length and inversely proportionate to its diameter $\left(R=\frac{L}{D}\right)$, and that the current which will flow through a conductor will be inversely proportionate to its resistance.

The unit of measurement for resistance (R) is the ohm. Its value is equal to the resistance which is offered to the passage of a current by a column of mercury one millimetre square and a hundred and six centimetres in length at a temperature of melting ice.

We are now in a position to return to the second main component of a current—namely, its volume or quantity or strength. The ampère is the measure for the strength of the current, and indirectly thus also for its quantity or volume. In physics the actual measure for quantity is the coulomb. A coulomb is the quantity of electricity present when one ampère strength flows one second; or the coulomb represents the quantity of electricity necessary to electrolytically set free 0.010384 milligramme of hydrogen from water.

The coulomb may be entirely neglected and the ampère alone used, if we consider the time in which a certain number of ampères flow. We then speak of ampère hours, an ampère hour being one ampère flowing for thirty-six hundred seconds. Therefore one ampère is equal to thirty-six hundred coulombs, or a current has one ampère strength when it gives out one coulomb per second.

With these facts in mind we may also use the ampère, which really is only a measure of strength, as a measure of quantity, and then an ampère is the volume of current which a pressure of one volt will push through a resistance of one ohm, one ampère $= \frac{1 \text{ volt}}{1 \text{ ohm}}$.

In medicine we make use of $\frac{1}{1000}$ ampère, milliampère, equal to $\frac{1 \text{ volt}}{1000 \text{ ohms}}$.

The volume of current, we have seen, is dependent upon the pressure (E. M. F.) and the resistance (R). And it is so dependent in the manner expressed by Ohm's law: The current in a closed galvanic circuit is directly proportionate to the electromotor force and inversely proportionate to the resistance in the circuit, or $C = \frac{E}{R}$.

Or this may be written in its equivalents, $E = C \times R$, or $R = \frac{E}{C}$.

If, therefore, we have a wire the resistance of which is one ohm and at the terminals of which there is a difference in pressure (E. M. F.) of one volt, then, according to the above law, one ampère of current will flow through the wire, and it will be clear that we can increase or decrease this current either by increasing or decreasing the E, or by decreasing or increasing the R.

This increase or decrease of the current practically means its control.

The use of cells as a source of supply of electrical energy is so familiar to all physicians that I may fittingly begin my remarks concerning the practical control of electricity by reference to this source.

Much is to be said against the employment of batteries for the production of electricity; such batteries have all in all been exceedingly annoying and unsatisfactory, especially when used with a low resistance in the circuit, as for electrolysis, light, and galvano-cautery, in which cases the cells become quickly exhausted, and the expense of replenishment is not an inconsiderable one; apart from the expense, however, the time and trouble necessary to their proper care and refilling, as occasion demands, are very great, and sorely try the patience of the busy physician. At the same time, while these remarks apply fully to batteries of older make, they must be used only with a certain amount of reserve as regards cells of modern construction. Such modern cells are closed on top, almost hermetically, and the amount of evaporation which takes place has been reduced to a minimum. They, when properly cared for, kept in a dry place, may remain useful for from one to three years, according to the amount of service required from them; if, however, the cells are placed in a damp location (as in a cellar), trouble soon occurs, electrolytic action being set up by the escape of current through the damp air, and the connections thus becoming attacked are quickly corroded. All the objections to the use of cells have been recognized for many years, and attempts have been repeatedly made to overcome them; inasmuch as the current derived from dynamo machines seemed to fulfill all the requirements demanded of the battery current, the idea of substituting the former for the latter lay very near; when, furthermore, physicians began to recognize that for all technical purposes the dynamo machines had, on account of the superior satisfaction which they gave, almost entirely supplanted batteries as a source of current supply, the question of the same applicability in medicine urgently obtruded itself. At present the majority of physicians who employ electricity still rely upon batteries as a source of supply, either because they have no access to a dynamo current, or because, on account of the unsatisfactory controlling apparatus obtainable, they have found its use impracticable.

Those physicians belonging to the latter category will be relieved from their embarrassment by the subsequent descriptions; the others will still have to rely upon the use of cells, and for them we make the following remarks concerning the methods of use of current from primary batteries.

Without again going over all the arguments which have been advanced for many years by ourselves and others, it may be fairly stated that the Leclanché battery is of all the most durable and the most economical.

The pressure (E. M. F.) of such a single cell is one volt and a half; at the terminals of this cell about two ampères of current are obtainable, and according to Ohm's law its inner resistance will be $R = \frac{E}{C}$, or $R = \frac{1.5}{2} = 0.75$ ohm.

In the application of galvanism to the human body we must take into consideration the poor conductivity, *i. e.*, the high resistance, of the tissues treated, and for that reason, in order to obtain sufficient pressure to drive the desired current through this large interposed resistance, we must increase the number of cells to be used. A battery of, say, fifty cells would give us a pressure of $1\frac{1}{2} \times 50 = 75$ volts, with an internal resistance of $0.75 \times 50 = 37.5$ ohms.

In order to apply the current from such a source, a current regulator is absolutely essential. It is hardly necessary to speak at this late day of the need of a galvanometer, nor of the disadvantages of cell selectors, for the use of the former has become quite generally replaced by the employment of a variable resistance (rheostat). Yet the method of making use of the entire available current, and regulating it by means of a rheostat, has one very grave objection, and that is that the intensity of the entire battery accompanies even the smallest amount of current applied, and thus materially increases the pain accompanying the application. This objection can, however, be readily obviated, for there can no longer be any doubt that the increase of pain with an increase of the current is dependent upon *how* the resistance is placed in circuit. There certainly is a difference between applying, say, ten milliampères of current at a pressure of seventy-five volts through a resistance placed in series with the patient and applying the same number of milliampères with the resistance so placed that the pressure is reduced to the amount just sufficient to overcome the resistance of that part of the patient's body which is being treated.

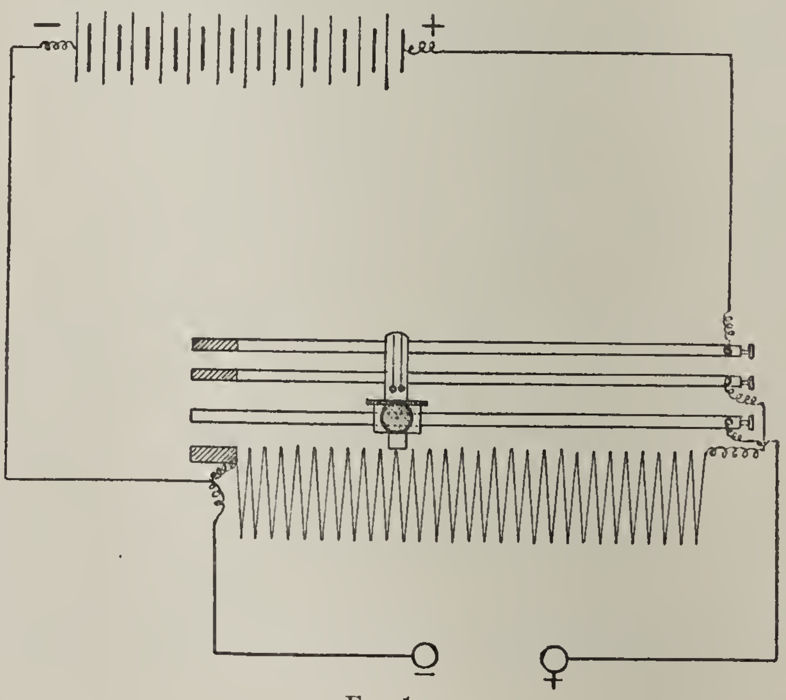

FIG. 1.

The accompanying sketch illustrates the manner in which this regulating resistance should be employed.

The regulation is here effected by means of the well-known shunt principle. This principle, the law governing the division of current in a compound closed circuit, should be thoroughly understood. If a current can flow through several paths, as when, for instance, the poles of a battery are connected to several wires, the current will divide itself, according to a law of Kirchhof (mathematically demonstrable, but upon whose demonstration we can not enter here), so that the strength of each branch current is directly proportional to the resistance of this branch circuit. Or, to express this in another manner, the conductor, which is joined to a main conductor, carries current in proportion to the correlation which its own conductivity bears to the conductivity of the main one. Thus, if the conductivity of the main conductor is two, that of the second conductor eight, the joint conductivity will be ten. Ten parts of current will flow through both conductors, two through the main, and eight through the secondary (shunt) conductor. It will also be clear that if the conductivity of one of these conductors is varied, the current flowing through each of them will be varied in proportion to the resistance thus interposed—*i. e.*, decreased in the one and increased in the other.

This will become clear if we again have recourse to the analogy of the cistern of water.

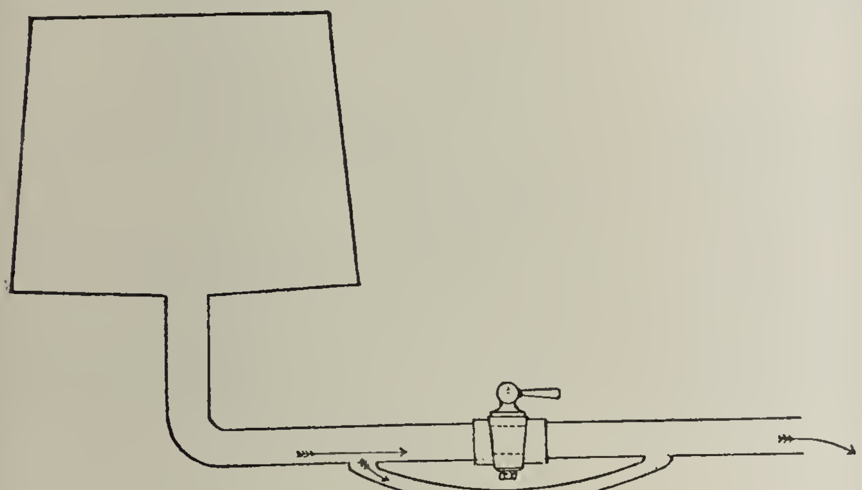

Fig. 2.

From the diagram it will be readily seen that the water from the tank will flow through the main and the joined pipes in the proportion of their conductivity to each other, if the stopcock is open; and in proportion as the stopcock is closed in the main (its conductivity lessened or its resistance increased) less water will flow through it and more through the joint or shunt.

Experimentally, this law may be easily demonstrated to apply to a current of electricity in the following manner: Let B (Fig. 3) represent the battery, whose flow of current is limited to about a hundred milliampères, and from which a divided conductor carries the current over D to the rheostat R and to the human body R_1. A galvanometer is included in each of the divided currents B D R E and B D R_1 E. If the resistance in R is made to equal that of R_1 the galvanometers will indicate that the currents in both circuits are equal. Assuming the equal resistance to be 3,000 ohms, then, if we increase the resistance in R to 4,000, 5,000, etc., the galvanometers will indicate that the currents in R and R_1 have become as 3 : 4, 3 : 5, etc.; or if we diminish the resistance in R to 1,000, 500, etc., the currents will have become as 3 : 1, 3 : 0.5, etc.

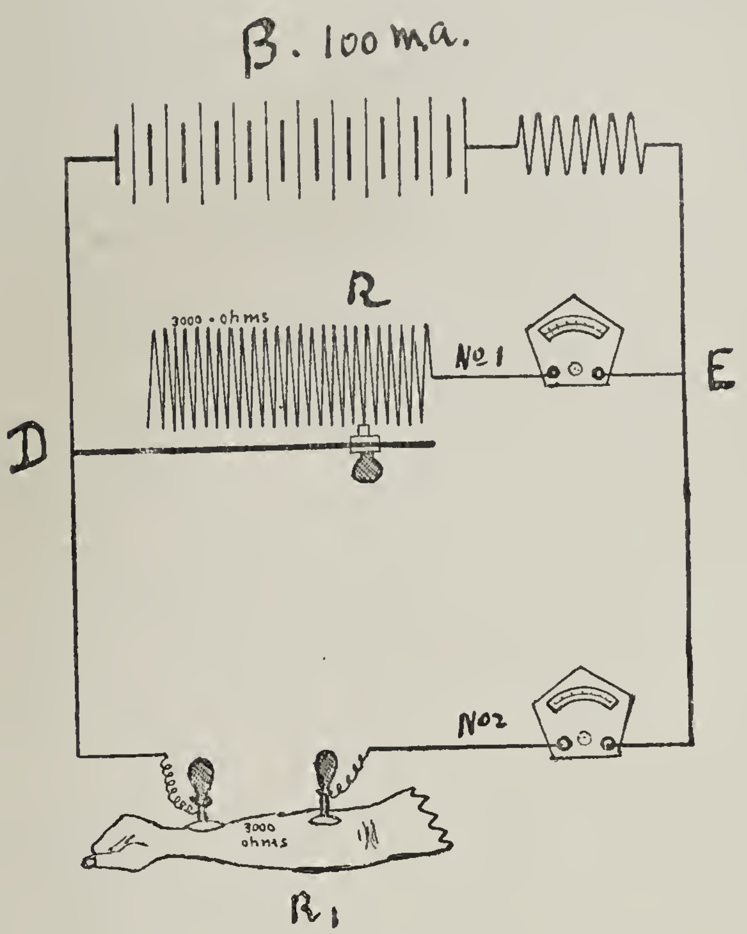

Fig. 3.

If, finally, we introduce another galvanometer into the unbranched circuit B D E, it will be found that the current here is equal to the sum of the current strengths in the branches.

These principles, practically applied, are shown in Fig. 4.

B is a battery from which the current flows from + to R (resistance); a certain amount of this current is forced through this resistance and passes to −, and thus completes the circuit.

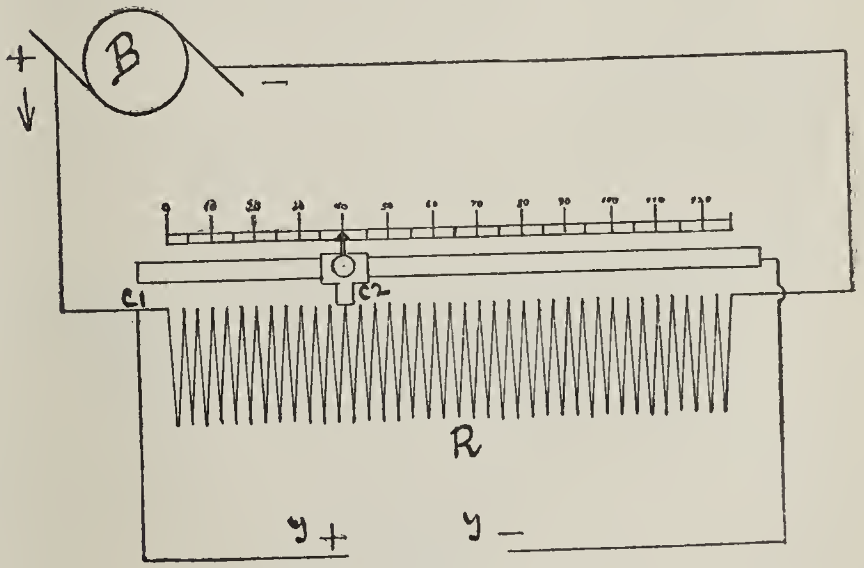

Fig. 4.

This amount of current is wasted, and therefore it is well to make the resistance as large as practicable in proportion to the pressure obtained, thereby minimizing the loss of current.

If, for instance, our battery represents an E. M. F. of forty volts and we introduce into the main circuit a resistance of ten thousand ohms, the current forced through this resistance will be $C = \frac{E.\ M.\ F.}{R.}$, $\frac{40}{10000} =$ 0.004 ampères, which amount represents the actual loss of current. By a shunt we now derive our therapeutic current: One conductor is attached at a point C_1 and the other to a bar, which carries a slide contact C_2, and which is electrically connected to this bar.

As the flow of current through a shunt is directly proportionate to the resistance in the main, no current will be obtained at T + and T − when the slide contact C_2 is nearest to C_1—that is, if there is no resistance to speak of between C_2 and C_1; as soon, however, as we move the slide C_2 away from C_1, and thus introduce resistance, a current will be obtained at T +, T −, whose intensity will increase until all the resistance has been intercalated between C_1 and C_2.

We have as yet said nothing concerning the reduction of pressure (E. M. F.), which was the real consideration from which we started in speaking of shunt currents. If in a circuit the R remains constant, we know that the current will vary directly with the E. M. F. For instance, if the resistance of a wire be two ohms and the E. M. F. at its terminal two volts, one ampère of current will flow. If the voltage be doubled (four volts) the current also will be doubled. Now, if the current passing through a conductor remains constant, we see from the formula E. M. F. = C × R that the E. M. F. between any two points in the conductor will be directly proportionate to the R of the conductor between these two points.

To return to our assumed battery of forty volts pressure with a resistance of ten thousand ohms in the main circuit, and assuming, furthermore, that the resistance is made up of a cylindrical body, the total or highest resistance of which lies between its terminals E and O (Fig. 5), and that this resistance is evenly distributed along the surface of the cylinder.

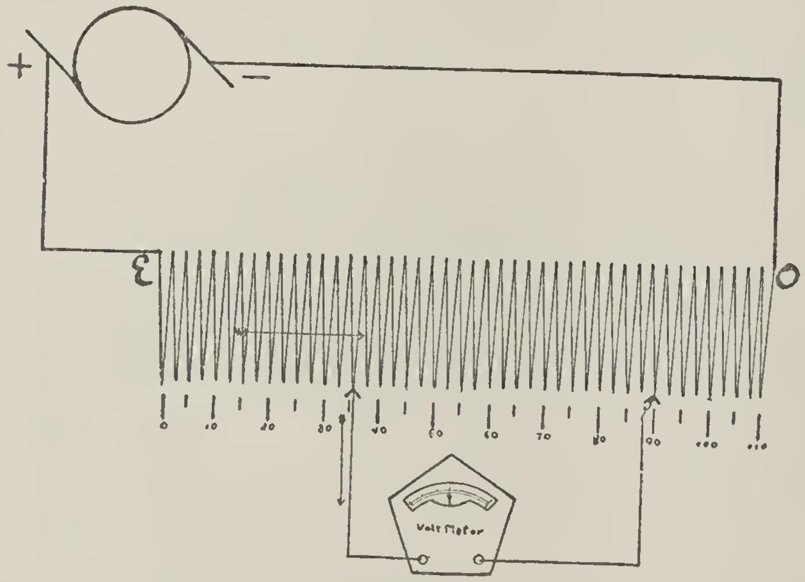

FIG. 5.

Then a voltmeter whose terminals are brought into contact with the surface of said cylinder will indicate an intensity of current which is in direct proportion to the length of the part of the cylinder which lies between these terminals. Thus, if one fourth of the entire cylinder is connected between the terminals of the voltmeter, the meter will indicate one fourth of the initial voltage. If, now, a scale be affixed to the resistance coil, a scale which has been properly graded so that each division corresponds to one volt, then the voltage may be read directly from this scale without the use of the voltmeter. But, inasmuch as we are also introducing resistance directly into the circuit, not only the voltage but also the current itself will be thus reduced. The resistance outside of the shunt contact must be considered as an analogue of the internal resistance of a battery; if, therefore, we attach one end of the conductor of a shunt circuit to thirty and the other to ten, we will have a current in the shunt of twenty volts E. M. F., one half of forty, the proportion which the resistance between the terminals bears to the entire rheostat of the cylinder, with an ampèrage of $7\frac{9}{10}$ milliampères.

The ampèrage is calculated as follows: Resistance on cylinder outside of the shunt terminals, $2 \times \frac{1}{4}$ of 10,000 = 5,000 ohms, which must be looked upon as the inner resistance of the battery and added to the actual inner resistance, 37.5 ohms.

Then $C = \frac{40}{37.5 + 5{,}000} = 7\frac{9}{10}$ milliampères.

The resistance between ten and thirty is, of course, also 5,000 ohms, but, as it has been short-circuited, it has been practically eliminated.

The mechanical arrangement of controlling apparatus for the battery current can easily be deduced from the above remarks; and in describing the controllers for the electric-light current it will again become necessary to refer to them.

(To be concluded.)

BRONCHITIS,

WITH SPECIAL REFERENCE TO ABNORMAL NASAL RESPIRATION AS AN ÆTIOLOGICAL FACTOR.*

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IN the light of recent investigations on the nasal function in respiration, the subject of the ætiology and treatment of bronchitis requires a decided revision. In the study of any organ, especially of one which is so important for the maintenance of life as the lungs, a careful study of the normal function is of the utmost importance. It is only in the last few years, however, that any light has been thrown on the real function of respiration.

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* Read before the Orleans Parish Medical Society, October 8, 1898.

As in every other important organ of the body, we find that Nature has thrown every safeguard around the delicate and complicated mechanism of respiration, so as to protect it so far as possible from the irritating influence of extraneous causes. The real object of pulmonary respiration is the gaseous interchange of molecules that relieves the system of the excess of carbon dioxide which arises from the molecular activity within the tissues, and supplies the requisite amount of oxygen without which the normal metabolism in the system can not be carried out. A disturbance of this function is soon shown by symptoms referring to the whole circulation, and its arrest is followed by almost immediate death.

This being the case, we should naturally suppose that, in accordance with the universal rule of design in Nature, we should find every precaution taken to protect this function which is carried on in the delicate air vesicle of the pulmonary tissues. Such a preparation would require that the inspired air be brought as near as practicable to the normal temperature of the tissues of the body, not only by increasing the temperature of the air when needed, but also by reducing this when it is above the normal temperature of the body. The air should also be saturated with moisture so as to avoid the drying of the delicate membranes through which the gaseous interchange takes place, and it should, moreover, be cleansed of foreign impurities, such as dust, micro-organisms, etc.

To leave this important function to be carried on by the bronchi and the bronchioles would endanger the integrity of this delicate mechanism, as the least disturbance would at once be followed by a detrimental result in the respiratory process. That the bronchi are not adapted for this purpose is demonstrated by the fact that where a tracheotomy is performed so that the air reaches the bronchial tubes without passing through the nasal chambers, it is only by the greatest care in raising the temperature of the surrounding atmosphere and moistening it to saturation that we can avoid inflammation of the lining membrane of the lower respiratory tract. Bronchitis is, therefore, not an infrequent complication of this operation, and sometimes with fatal results.

Modern investigations and the development of rhinology have demonstrated the fact that almost all of the preparatory process for respiration takes place in the nasal chambers. The peculiar formation of these cavities, their rich blood and nerve supply, the extent of their area, and their capacity for furnishing an immense amount of watery secretion, especially adapts them for this important function.

Experiments have demonstrated that after the air passes through the normal nasal chambers it is almost saturated with moisture, cleansed of all foreign impurities, and the temperature is brought within certain limits of the normal temperature of the body. All these effects, which have been ascribed by text-books of physiology, including many of recent date, to a process within the lungs, have now been shown to be almost entirely accomplished in the nasal chambers.

The changes in the inspired air take place within certain limitations regardless of external conditions. Whether the temperature of the surrounding atmosphere be 110° F., or ten degrees below the freezing point, the results show that the normal nostril can still perform its function in preparing the air for respiration, although in excessive cases the temperature is not adjusted absolutely to that of the tissues, but usually to within a sufficient limit to prevent deleterious effects. In excessively high or low temperatures this can not be carried on for an indefinite time, but within the usual limits the normal function of the nose protects the delicate membrane of the larynx, trachea, bronchi, and air vesicles from any injurious effects from the surrounding atmosphere.

The effect of nasal respiration in protecting the respiratory tract from injurious effects of pathogenic micro-organisms is a most important one. Investigators are not unanimous as to the true character of the mucus secreted in the nostrils as regards micro-organisms, some claiming that it has a germicidal effect, while others claim that it is simply sterile, thus offering a barrier to the further development of inhaled bacteria, which are arrested mechanically, like other foreign impurities.

The limits of this article will not permit me to discuss the various opinions on this subject and the results of experiments made by investigators with a view of deciding this point. It is beyond doubt, however, that we owe much of our ordinary immunity against micro-organisms in the atmosphere to the nasal function of respiration.

Where there is a disturbance or interference with nasal respiration, it is not long before the irritating effects on the parts beyond begin to be manifested. The extent of this, and the time before the result becomes apparent, will naturally depend upon the character of the air that is breathed. In a warm and moist atmosphere the evil results may be deferred for a considerable time, but in cold weather they are frequently quickly manifested, and it is on this account that bronchial affections are so much more common in cold weather and in cold climates.

As already stated, the Schneiderian membrane of the nasal chambers is peculiarly adapted for supplying heat and moisture for the inspired air. The quantity of aqueous matter which is supplied for this process has been shown to average about a pint daily, and its extraordinary capacity is frequently seen in the abundant nasal secretion in the early stages of an acute coryza, when many handkerchiefs may quickly be saturated in succession. Where for any reason there is a disturbance in or interference with this function, the necessary heat and moisture must be supplied by the mucous membrane of the respiratory tract beyond. This, however, is ill adapted for this special function, and the result is soon seen by the dried appearance of the mucous membrane of these parts. This drying process, by interfering with the circulation of the parts, by disturbing its physical relationship with the surrounding tissues, and by making it more prone to irritation from microorganisms which are inhaled, gives rise to an inflammatory process which varies in degree and extent according to the interference with the normal function of nasal respiration and the character of the air that is inhaled.

The true conception of this respiratory process which I have just outlined will explain the important bearing which normal nasal respiration has on the whole respiratory tract. These facts have been demonstrated not only in laboratory experiments, but by abundant proof in the everyday experience of the clinician who gives due attention to the importance of the nasal function in respiration. In spite of this, however, the medical text-books in general, and even those of modern dates, have almost entirely omitted this most important consideration in the causation of diseases of the bronchi. A careful examination of medical works, even including some of those of the last three years, shows the extraordinary fact that not only is due prominence not given to this important ætiological factor, but in the majority the subject is not even referred to.

The most prominent conditions which interfere with or prevent normal nasal respiration, and thus have an injurious effect on the bronchial tubes, are the following:

1. Total absence of nasal respiration.
2. Partial interference with this function.
3. Lowering or loss of the normal nasal function in respiration.
4. Pathologic processes in the nasal chambers by which the inspired air may be vitiated.

Entire absence of nasal respiration is present in cases in which tracheotomy has been performed, as in severe cases of diphtheritic laryngitis, œdema of the glottis, malignant or benign tumors, and also in cases in which the larynx has been removed, etc. As already explained, the evil effects of this can be prevented only by artificially placing the surrounding atmosphere in such a condition as will obviate for the time the necessity of nasal respiration. This can be done only by raising the temperature of the surrounding air to about 98° F., moistening it to saturation, and using every means to avoid dust and other foreign impurities.

In cases in which the tracheotomy tube is worn permanently, the mucous membrane of the lower respiratory tract occasionally takes on vicariously the function of nasal respiration, or exhibits a tolerance to the unprepared air, and the patient is able to breathe the usual atmosphere within certain limits. The majority of these cases, however, usually succumb in a few months, or, at most, within two or three years, as a result of the absence of nasal respiration.

The second condition, the partial obstruction, is a common source of bronchial irritation, and is frequently found in children. In many of the latter cases it is due to the obstruction of the nasopharyngeal cavity with an enlarged pharyngeal tonsil or adenoid growth; or there may be tumefaction or hypertrophy of the nasal chambers, the latter being more frequent in adults; or a deviated or thickened sæptum or polypi or other tumors may be the obstructing medium.

These have the effect not only of inhibiting the entrance of air in the normal manner, but are frequently followed by secondary effects, as is seen, for instance, in the contracted nostrils of the adenoidian countenance. In these cases inflammation of the larynx, pharynx, and trachea is of frequent occurrence, and its direct relationship with the morbid condition of the lower respiratory tract is shown by the fact that the operative removal of the obstruction usually gives prompt relief.

In rare cases enlarged tonsils give rise to defective nasal respiration, but in the majority of these there is at the same time an hypertrophy of the pharyngeal tonsil which is the real cause of the defective nasal respiration. In these cases the respiration is partly carried on through the mouth, which is not adapted by Nature for the important function which is found in the nasal chambers, and the irritation of the larynx and bronchial tubes is the direct consequence.

One might suppose that, since defective nasal respiration gives rise to such extensive irritation, the other extreme, free nasal respiration, must necessarily prevent such a consequence. It must be remembered, however, that the advantage of nasal respiration does not follow from the passage of the air through the nasal chambers *per se*, but from the exercise of a special function in these cavities while the air is passing.

In atrophic rhinitis, in which the normal tissues are atrophied and destroyed so that the normal amount of heat and moisture can not be transmitted, the air passes through more or less unprepared, according to the extent of the pathologic conditions present in the nose, and the result is likewise an irritation of the lower respiratory tract.

In cases in which the nose is filled with the products of suppuration or decomposing matter, as we find in purulent rhinitis, ozæna, specific lesions in the nostrils, diseases of the accessory sinuses, etc., the effect is not only a mechanical interference with the exercise of the normal nasal function, but also a vitiation of the inspired air by means of deleterious gases, or by carrying dried portions of the pathogenic material into the lower passages, and thus giving rise to irritation.

While I have separated these four conditions, it is not unusual that more than one is present in any particular case. Thus we find in ozæna not only a defective function on account of the atrophy of the mucous membrane, but also the presence of purulent and decomposing matter, which aggravates the effects due simply to defective nasal respiration.

When we have once admitted the importance of abnormal nasal respiration as an ætiologic factor in bronchitis and other inflammatory processes of the lower respiratory tract, it will be apparent that it is an equally important factor in the treatment of these affections. Why should we dose the patient with expectorants when the real cause is an enlarged pharyngeal tonsil, which prevents normal respiration and thus produces the irritation arising from breathing unprepared air; or if there is a diseased condition in the nasal chambers which has a continued effect in keeping up the irritation below? Scientific treatment demands that we *remove the cause* wherever this is possible. Opiates, for instance, simply mask the symptoms, but do not remove the cause.

Every one who treats diseases of the lower respiratory passages should remember the important bearing of nasal respiration in such cases. Otherwise his treatment will be incomplete and unsatisfactory. Obstruction in the nasopharynx, so often present in children, can be removed easily and with but little danger by one familiar with this procedure, and inflammatory and purulent processes in the nostrils, unless too long neglected, yield to proper treatment. In this manner we not only benefit the patient directly, but prevent the recurrence which must necessarily follow as long as the conditions favoring these attacks exist.

It must not be surmised, because so much time has been given in this article to the effects of abnormal nasal respiration, that I do not consider the importance of other factors in bronchial affections. I certainly maintain that the one mentioned is the most important and frequent cause. On the other hand, the effects of the inhalation of irritating vapors, morbid conditions of the blood, specific febrile affections, etc., have been so fully discussed in the text-books of this subject that they need no further consideration at my hands. I simply desire to call attention to the most common factor in bronchial affections, and one so frequently overlooked—the influence of abnormal nasal respiration.

A Centipede in the Nose.—Dr. W. P. Meyjes, of Amsterdam (*Journal of Laryngology, Rhinology, and Otology*, November), records the case of a girl who suffered from right supraorbital headache accompanied with slight mucopurulent secretion from the right side of the nose, and who dated her troubles to a "cold" contracted in the spring of this year. The mucous membrane was hyperæmic and the inferior turbinated hypertrophic on the right side. Menthol and boric acid were ordered to snuff up. A heavy fit of sneezing brought out a living insect, seven millimetres long, which proved to be a centipede. The secretion and headache soon stopped.

SOME OBSERVATIONS ON
THE OCCURRENCE OF MALARIAL FEVERS ON THE PACIFIC COAST,
WITH REMARKS ON THE GENERAL DIAGNOSIS OF THE DISEASE.*

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My object in presenting a paper on the subject of malarial fever is twofold. In the first place, I wish to give the result of some investigations I have been carrying on concerning the prevalence of these fevers on the Pacific coast; and, secondly, to emphasize the importance of a microscopical examination of the blood in all cases of fever, and especially in those in which the symptoms leave doubt as to the exact condition present.

The discovery that malaria in all its manifold manifestations is invariably accompanied by the presence of the specific protozoa in the blood is one of the most important advances in clinical diagnosis in recent years. While in many cases of malarial fever the true nature of the affection is revealed by the symptoms alone, still others will come under observation in which the course of the disease is so puzzling that much difficulty is experienced in arriving at a correct diagnosis without the aid of the microscope. Again, many other diseases, such as incipient tuberculosis, septic infections, auto-intoxication, and any derangement of the system which produces a feeling of malaise and a slight febrile disturbance, are improperly diagnosticated as malarial. In fact, no other term in medical nomenclature has had such a universal application to the ills to which flesh is heir. With our present knowledge, such mistakes should no longer be made; we know that the parasite is present in the blood in every case of malarial fever, and that a careful and patient search will reveal it, thereby proving whether the disease is malarial or not; and, by removing the element of doubt, this examination establishes a correct diagnosis and forms the basis for a rational and scientific therapeusis.

I will first briefly describe the general conditions under which malarial fevers prevail, and, by considering the physical features and the climate of the various sections of the Pacific coast country, will endeavor to show to what extent these known factors are present.

If we should draw a map showing the geographical distribution of malarial fever we should see that it was most prevalent and severe in the hot countries. From this it will be seen that heat plays an important part in its development, this fact being further shown by the occurrence of these fevers during the whole year in the tropics, while as we approach the temperate climate there is a diminution in the number of cases until the fever prevails only during the late spring, summer, and autumn. Thus we have added another factor, that of season, which also has an important bearing on the type of the disease, as during the spring only the milder varieties are seen, the more severe forms, the æstivo-autumnal and pernicious, occurring later.

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* Read before the Portland, Oregon, Medical Society, January 19, 1898.

The next most important factor necessary for the production of malaria is moisture. Most of the regions in which this disease prevails are low or marshy, as the lowlands along the banks of rivers subject to overflow. Mixed salt and fresh marshes seem to be especially rich in this respect. Rainy seasons are more dangerous than others, and regions where the humidity is high are more malarious than those in which it is low. Those districts in which the soil is covered with water only a part of the season are generally rich in malaria, and the disease is more prevalent in damp places with an impervious subsoil.

The presence of large quantities of organic matter plays an important part in the production of this disease, as when once cultivated lands are allowed to go to ruin and become covered with luxuriant vegetation.

Altitude should be mentioned as a factor, since malarial fever is essentially a disease of the lowlands, and in many localities where it prevails along the rivers in the valleys, the neighboring hills and mountains are free from the disease.

I will not describe such other factors as age, race, sex, occupation, etc., that are usually considered in this connection, as they have no practical bearing on the premises I wish to establish.

After this brief description of the salient features underlying the production of malaria, I will consider the topography and climatic conditions of the Pacific coast, briefly describing the different regions and valleys in Washington, Oregon, and California, with such data (rainfall, temperature, and elevation) as may be pertinent to the subject under consideration. This information has been obtained from the records of the weather bureau, and data compiled from such a source are authentic.

The Sierra Nevada mountains in California, and their extension in Oregon and Washington as the Cascade Range, form an axis dividing the Pacific coast proper from the Great Basin and arid district. The Coast Range in these States forms a secondary chain which walls in the fertile valleys of California, Oregon, and Washington, and to these physical features are due the rainfall and other conditions which make the climate of these valleys distinctive from other parts of the Pacific coast territory.

The sections of country east of the Cascade range of mountains present many features in common: they are drier, colder, and have considerable elevation, while the portion west of this chain is characterized by a mild climate, abundant rainfall, and low altitude. I have, in order to prevent this paper from becoming too long, compiled some tables which show the salient features of the physical geography of the different sections of the Pacific coast. These tables give the altitude, mean annual temperature, mean annual summer temperature, annual rainfall, summer rainfall, the presence or absence of malarial fever and the variety observed, in all the regions and valleys of importance in Washington, Oregon, and California.

Eastern Washington is naturally divided into a number of districts which, although possessing practically the same climate, still present characteristic conditions that render them distinctive. Table I will show the important data relating to this part of the State.

Western Washington may be divided near the head of Puget Sound. The section north is a vast basin between the Cascade Mountains on the east and the Olympic Mountains on the west, which separate this region from the coast. The mainland bordering this inland sea is made up of table-lands, river valleys, fresh and tide-water marshes, and deltas. Farther south the river flows through the Coast Range to the sea.

In western Washington there are two sections varying widely in the annual amount of rainfall, etc. Table II will give the necessary data, and show the localities in which malarial fevers occur.

The topography and climate of eastern Oregon are

TABLE I—*Eastern Washington.*

DISTRICT.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Columbia River Valley (northeast part of State)..	1,900 feet.	40°	56°	18.12″	5.77″	Yes.	Tertian.	The valley in the past was subject to overflow; rich deposit of vegetable matter. Diagnosis confirmed by examination of the blood. Only an occasional case.
Spokane country..........	1,900 "	47.5°	65°	17.94″	6.77″	No.		
Palouse Valley............	....	46°	60°	18.21″	6.73″	No.		
Big Bend country.........	2,000 feet.	47°	65°	12″	....	No.		
Kittitas Valley............	1,500 "	45.8°	62°	8.60″	3.20″	No.		
Yakima Valley...........	1,300 "	51.6°	67°	9.45″	....	Yes.	Tertian.	Irrigation extensively practised. The disease occurs in the lowlands along the river.
Snake River Valley........	930-1,600 "	53°	69°	16.80″	5.96″	No.		

TABLE II—*Western Washington.*

DISTRICT.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Puget Sound Basin........	Below 500 feet.	51°	60°	17″–40″	13″	Yes.	Tertian.	A few cases of fever occur along the rivers in this section, but the cities on the sound are free from the disease.
Chehalis River Valley......	Below 500 "	49°	60°	43″	....	Yes.	Tertian and quartan.	In the river bottoms.
Columbia River Valley.....	....	52°	60°	39″	....	Yes.	Tertian.	
Coast....................	....	49°	56°	60″	....	No.		

TABLE III—*Eastern Oregon.*

DISTRICT.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Grand Ronde Valley	2,200 feet.	48.4°	65°	19.04″	2.47″	No.		
Umatilla Valley	1,020 "	51°	67°	13.80″	2.80″	Yes.	Tertian.	Mild in character. Diagnosis confirmed by blood examinations. Occurs in marshes along river banks subject to overflow.
Columbia River Valley.....	116–350 "	52.5°	67°	15.3″	1.06″	Yes.	Tertian.	Few cases in lowlands bordering river in Gilliam County.
Plateau	3,000 "	47°	61°	13.6″	0.54″	No.		
Harney Valley	4,000 "	47°	67°	10.85″	0.30″	No.		
Marsh district............	3,000 "	50°	65°	15″	1″	No.		
Malheur Plateau....	4,400 "	45°	63°	10.75″	0.92″	No.		

TABLE IV—*Western Oregon.*

DISTRICT.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Columbia River Valley.....	....	50°	60°	56″	....	Yes.	Tertian. Occasionally æstivo-autumnal.	
Willamette Valley.........	157–435 feet.	52°	65°	N. 45″– S. 32″	0.76″	Yes.	Tertian. Occasionally quartan and æstivo-autumnal.	The disease much less prevalent than in former years, owing to more extensive cultivation of soil and better drainage. Mild in character; forms three per cent. of sickness during summer months. Diagnosis verified on numerous occasions by finding the characteristic parasite in the blood of the suspected case.
Umpqua River Valley.....	72–523 "	52°	65°	35″	0.65″	No.		
Rogue River Valley.......	900 "	52.6°	66°	22″	0.51″	Yes.	Tertian.	Along river bottoms where the subsoil is clay.
Coast....................	50 "	50°	60°	58–75″	1.28″	No.		

similar to the conditions prevailing in eastern Washington, and Table III relates to this locality.

Western Oregon has a mild climate and an abundant rainfall. The valleys are broad and fertile. The above table presents the necessary information concerning the different sections.

The above tables show that malarial fevers occur in only two localities in eastern Oregon—in the Umatilla Valley, where the river overflows in the spring, and occasionally in the lowlands of the Columbia Valley in Gilliam County. The disease is more prevalent in the western portion of the State, occurring along the Columbia River from forty miles above its mouth to the Cascade Range, in the Willamette Valley, and the Rogue River Valley.

California is divided into two regions by the Sierra Nevada Mountains, the eastern slope of which is precipitous, falling midway to the sea level in Mono and Owens valleys. The west side slopes more gradually into the great central valley of California, which is formed in the northern part by the Sacramento Valley, by the San Joaquin Valley and Tulare Basin in the centre, and Kern Valley in the south. The Coast Range extends in a series of ridges, from three thousand to four thousand feet high, to San Francisco, where the chain is broken by the Golden Gate, but commences again and runs to the southern portion of the State, where it sinks to a mere geological rudiment. This breaking down of these mountains throws open to the sea the whole valley of this region, which has a marked effect upon its rainfall and temperature.

Tables V, VI, and VII will continue the general plan of this paper by furnishing the necessary data concerning the prevalence of malarial fevers in California.

The accompanying map shows at a glance the different localities considered in the tables, also the data relating to the climatology of the States, and the regions in which malarial fever prevails.

My classification of the districts in which malarial fever prevails has been based upon a personal experience of three years in the treatment of diseases occurring in the Columbia River and Willamette valleys and in those prevailing in other sections of Washington and Oregon, during which time numerous examinations of the blood have been made and the specific parasite found in those diagnosticated as malarial. To secure additional information, and to make this article more authentic, letters requesting information relative to this subject were sent to the physicians on this coast, the majority of whom gave me information concerning their localities. In this manner I obtained data from nearly every county in Washington, Oregon, and California. In many districts examinations of the blood had been made and the diagnosis confirmed thereby; and in other sections the prevalence of malarial fever has not been admitted unless the report showed that the disease diagnosticated as such was promptly cured by the administration of quinine.

In this connection I wish to express my thanks to the physicians on the Pacific coast for furnishing information that has made it possible for me to tabulate data that may be of interest.

This now brings us to the second purpose of this paper, a brief consideration of the diagnosis of malarial fever. The scientific diagnosis of this disease, like its pathogenesis, is due to the discovery of the specific parasite by Laveran, and the subsequent labors and investigations of Golgi, Bignami, Marchiafava, and other observers in Europe; and to the labors of Sternberg, Osler, Dock, and Thayer in this country. This has established

Table V—*Great Central Valley of California.*

District.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Sacramento Valley........	S. 35–N. 100 feet.	61.3°	75°	18″	0.43″	Yes.	Tertian and quartan.	While malarial fevers are rather frequent in the Sacramento and San Joaquin valleys during the summer months, the milder forms are seen, which are promptly cured by quinine. Blood examinations by competent observers have many times confirmed the diagnosis.
San Joaquin Valley........	N. 20–S. 295 "	62°	75°	N. 16″–S. 6.6″	0.27″	Yes.	Tertian and quartan. Occasionally æstivo-autumnal.	
Tulare Basin.............	227–440 "	60°	80°	6.6″	0.14″	Yes.	Tertian.	
Kern Valley.............	319–550 "	62°	80°	6.4″	0.02″	Yes.	Tertian.	

Table VI—*Southern California.*

District.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Los Angeles country......	50–334 feet.	64.5°	70°	16.69″	0.21″	No.		
Santa Ana Valley.........	40–160 "	62°	68°	6.5″	0.18″	No.		
Lake region, San Diego....	12–265 "	59°	68° coast.	10″	0.30″	No.		

Table VII—*California Coast.*

District.	Altitude.	Mean annual temperature.	Mean summer temperature.	Annual rainfall.	Summer rainfall.	Malarial fever.	Variety.	Remarks.
Napa Valley.............	20 feet.	60°	72°	25″	0.39″	No.		
Sonoma Valley...........	10–155 "	56°	65°	22″	0.43″	No.		
Indentation around San Francisco.............	15–360 "	55°	58°	20″	0.29″	No.		
Santa Clara Valley........	94–335 "	58°	68°	20″	0.23″	Yes (?)	Tertian.	The disease is quite rare in this valley, but an occasional case occurs in flat districts with a subsoil of clay. Irrigation.
Salinas River Valley.......	75 "	56°	63°	15″	0.30″	No.		
Santa Maria River Valley..	....	57°	64°	....	....	No.		

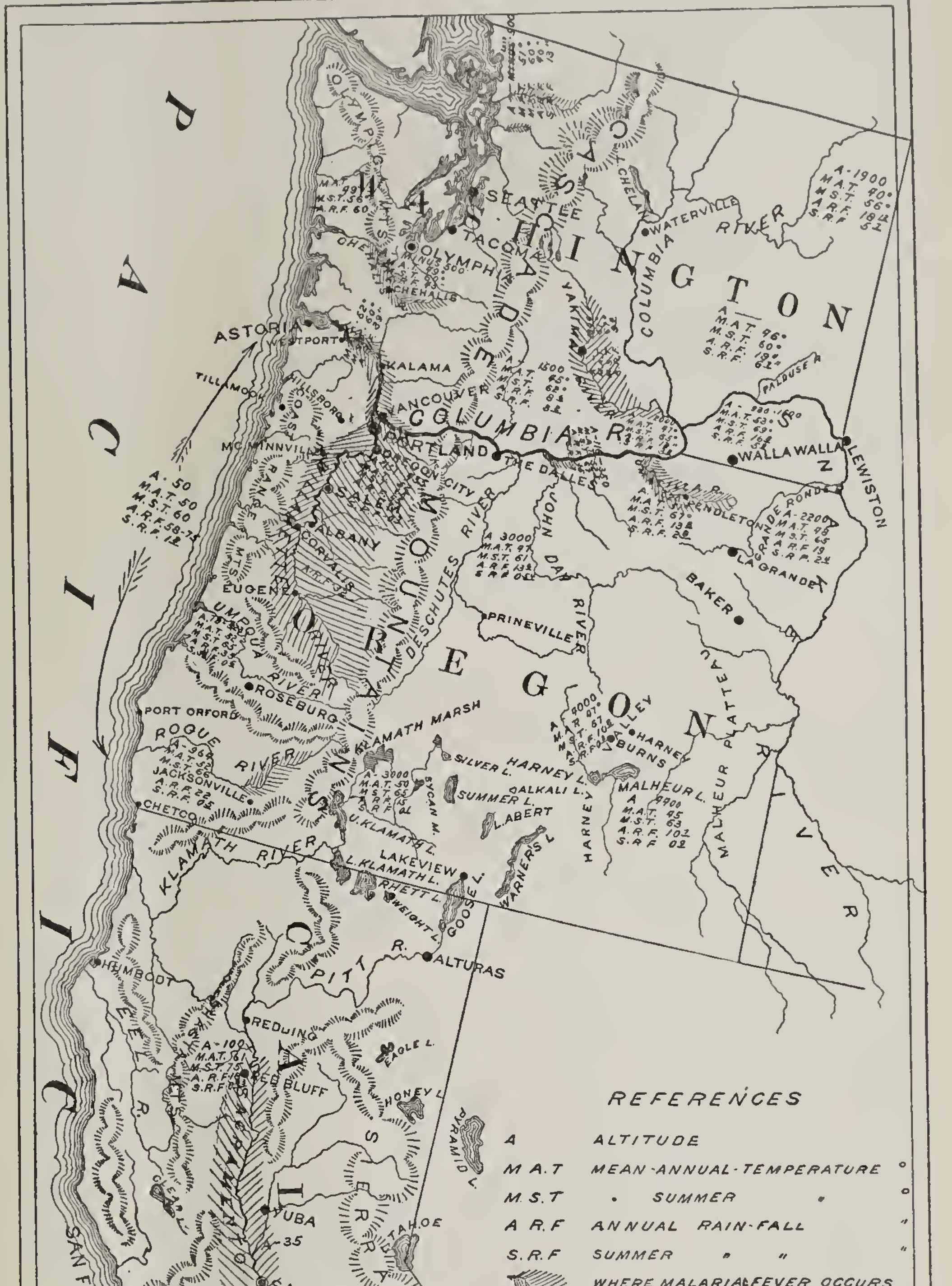
a positive diagnostic criterion, since the finding of the hæmacytozoa in the blood shows absolutely that the disease under consideration is of malarial origin, and if the presence of the parasite can not be detected by examinations of the blood, by one competent to make them, the disease is due to some other cause.

This subject can be advantageously considered under the following heads: 1. The diagnosis of malarial fever from other diseases that simulate it. 2. The diagnosis of the variety of the regularly intermittent fever. 3. The diagnosis of the æstivo-autumnal and irregular forms.

The purpose of this article forbids a full description of the different varieties of the malarial parasite, but I think it advisable in this connection to briefly present their most important characteristics as showing the salient points for diagnosis between the different forms of fever. There are three distinct and well-recognized varieties: (1) The tertian organism, (2) the quartan parasite, and (3) the hæmacytozoa of the irregular or æstivo-autumnal forms of fever.

The tertian parasite is by far the most frequent in this country. It has a well-marked cycle of development, reaching maturity and segmentation in forty-eight hours. There may be only one group of the organism present in the blood, when a tertian fever results; or two groups may exist, reaching maturity on alternate days, in which case we would have a quotidian fever.

In the earliest stage of development of this parasite in the blood-corpuscles they are represented by small, round, colorless, disc-shaped bodies. They are actively amœboid, and at times present the appearance of a refractive ring with a shaded and apparently thinner central portion. As the parasite grows, some grains of pigment are produced from the hæmoglobin, which at this time are generally placed in the periphery of the parasite, or in one of the pseudopodia. These pigment granules are small, yellowish-brown in color, and actively motile. The parasite at this stage is very amœboid and differs so little in refraction from the blood-corpuscle that it is difficult to detect its outline. In twenty-four hours the parasite contains more pigment and fills about one half of the red corpuscle, and at the end of forty hours, or just before its segmentation, completely fills the blood cell. This has also undergone a marked change,



being swollen to about one and a third its normal size, and to a great extent decolorized.

The quartan parasite is relatively infrequent in this country, according to Osler, having been observed only fifteen times in one thousand cases of malarial fever examined in his clinic. In the first stage of its development it is very much like the tertian, and, in fact, can not be distinguished from it, but in the later stages is quite distinctive. The pigment granules are less numerous, larger, darker in color, and do not present the dancing movements of those of the tertian type. The parasite does not present the active amœboid movements, scarcely moving, and if so, in a lazy, sluggish manner. It does not fill the corpuscle, and its outline is clearly defined. The blood cell is not enlarged—in fact, is often contracted and smaller than normal, and, instead of being decolorized, as in the tertian form, it is of a darker color, and often presents a greenish or brassy tint. The cycle of this parasite is seventy-two hours, and, as a rule, only one group is present, but there may be two or even three, when we would have the paroxysm of fever corresponding to the maturation of each. In the two varieties just described it is easy to watch the complete development of the parasites, since it takes place in the peripheral circulation.

Our knowledge concerning the æstivo-autumnal parasite, the variety causing the remittent, irregular, and pernicious forms of malarial fever, is not so complete, since, although all stages of the parasites have been studied, still many questions concerning its biology remain unsettled. There is not the same constant aggregation in groups that characterizes the tertian and quartan, and the length of their cycle of development has not been closely determined and is probably open to wide variations. Only the earliest stage of development is found in the peripheral circulation, the further growth to maturity and segmentation taking place in the internal organs, especially in the spleen and red marrow of the bones.

The youngest forms of this parasite, while somewhat similar to those of the tertian and quartan, still present characteristic points of difference. They are small, round, refractive bodies, with a central darker point, giving one the impression that he is looking upon a complete ring; on focusing, however, it would appear rather to be indicative of a biconcavity of the parasite. As it continues to grow, some pigment granules are formed, but they present marked differences from those observed in the other varieties. The infected corpuscles early show marked degenerative changes, becoming wrinkled, crenated, and of a distinct brassy color. The full-grown bodies, which may be observed in the blood taken from the spleen, contain central blocks of pigment. The ovoids and crescents which appear in the peripheral circulation about the seventh day of the disease are characteristic of infection with the æstivo-autumnal parasite, since they are not seen in any other type of malarial fever.*

In this connection it is advisable to concisely describe the technics of making blood examinations.

The best method of studying the malarial parasites is in the fresh blood at the bedside of the patient. While the microscopical examination of the blood is not difficult, and the full-grown parasites of intermittent fever can be easily detected, still it is essential that the observer who expects to use this diagnostic aid should familiarize himself with the microscopical appearances of normal blood and the more common pathological changes that take place in this fluid. This will necessitate some months of study and experience gained by numerous examinations. The busy practitioner will probably complain that he has not the time to devote to this class of work, but he can at least prepare some dried specimens of blood which can be sent to some one who is conversant with microscopical technics.

It makes little difference from what part of the body the blood is obtained, so far as showing the presence of the parasite is concerned, but there are certain regions which are usually selected, and the blood is generally taken either from the lobe of the ear or the finger. The former is more desirable because it is out of the sight of the patient, which is a matter of some importance in nervous subjects, is less sensitive, and the blood flows more freely from a small puncture.

The principal things necessary for securing good specimens of blood are cleanliness, quickness, and skill of hand and eye. The cover glass and slide must be absolutely clean, and the ear from which the blood is to be taken should be thoroughly washed before the puncture is made. Allow the first drop to flow away, and then, by holding a cover glass with forceps, touch the lower part of the drop of blood, being careful not to touch the ear. Place the cover glass downward on a slide, when the blood should immediately spread to a thin film. No pressure should be employed, and care should be exercised that the fingers do not come in contact with the flat surface of the glass, as a greasy film would be left which would interfere with the proper spreading of the blood.

The specimen should be examined with an oil immersion lens, when, if the parasites are present, they will be readily detected; but blood plaques, vacuoles, discs of red corpuscles, and crenated corpuscles must not be mistaken for the hæmacytozoa. The principal difficulty experienced will be in distinguishing blood plaques from the hyaline forms of the parasite, and the following points are of value in avoiding this mistake. The plaques are more translucent, irregular, and clearly outlined than the hæmacytozoa, and do not possess the amœboid movements.

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* In the preparation of the section devoted to a description of the different varieties of the malarial parasite I have drawn largely from the excellent monograph on malarial fevers by Dr. Thayer.

It is generally desirable to prepare some specimens for staining, and after the smear has been made the blood can be readily fixed by formalin vapor or by placing in a solution of equal parts of absolute alcohol and ether. The parasite is quickly stained by an aqueous solution of methylene blue or Loeffler's methylene blue, which stains the hæmacytozoa and the nuclei of the white corpuscles blue, leaving the red corpuscles unaffected. It is preferable, however, to employ a contrast stain, and the following method gives good results: Place the fixed specimen in a one-half-per-cent. solution of eosine and sixty per cent. alcohol for thirty seconds or a minute, wash in water, and then stain from half a minute to two minutes in a concentrated aqueous solution of methylene blue.

The diagnosis of simple intermittent fever is usually easily made, but there are a number of conditions that are at times mistaken for it. Now, when we consider the character of the three stages of the disease, and that the length of the paroxysm of a simple tertian or quartan fever is, as a rule, of a definite duration, usually lasting from ten to twelve hours, seldom shorter and rarely longer; that the blood in persons suffering from the disease, who have not taken quinine, practically always contains the hæmacytozoa in various stages of development, there is no longer any cause for not making a rational and scientific diagnosis of this disease. In every case an examination of the blood should be made; but if the necessary apparatus is not at hand, or if the observer does not possess the technical skill for such work, then the therapeutic test furnished by the administration of quinine will show the true nature of the affection under observation; for it is a well-established fact that if the disease does not yield to this drug in four or five days, when it has been given in full doses and in such a form as to be readily absorbed, it is not of malarial origin. As of minor diagnostic importance may be mentioned an enlargement of the spleen, herpes upon the nose and lips, the acute anæmia, and the sallow tint of the skin.

The diseases that are most often mistaken for malarial intermittent fever, at times presenting symptoms that closely simulate this malady, are septic infections, pulmonary tuberculosis, influenza, endocarditis, chills occurring during gonorrhœa and after passing sounds, abscess of the liver, and occasionally typhoid fever. Osler mentions gallstone fever as a common source of error, not the chill due to the passage of the gallstone or that of the septic process in suppurative cholangeitis, but the recurring paroxysms of intermittent fever, which may occur for months when there is a lodgment of a calculus in the common duct.

A blood examination will reveal in all these cases whether the disease is malarial, the parasite being present if such is the case. This is of still further diagnostic value in showing the presence of leucocytosis in those affections which simulate malarial fever, while there is no increase in the number of white blood-corpuscles in the latter disease.

In septic conditions the duration of the paroxysm is shorter, six to eight hours, more irregular, and not so fixed in recurring attacks. The blood shows leucocytosis and absence of the hæmacytozoa, and the fever is resistant to quinine.

Tuberculosis often commences with chills and fever, and when the district is malarious, it is in its incipiency frequently diagnosticated and treated as malarial. There should be no difficulty in making a differential diagnosis between these diseases, since there is an absence in the early stages of tuberculosis of the sallow complexion and the pronounced anæmia that characterize malarial fever; the spleen is not appreciably enlarged, while it is palpable in malarial disease; and the mucous surfaces are of good color. Careful examination of the patient will generally reveal the tuberculous process in the lungs, and an examination of the sputum and the blood will show the true nature of the process.

A differential diagnosis from the other diseases mentioned as sometimes mistaken for malarial disease can be easily made by an examination of the blood and a careful inquiry into the history of the attack.

The diagnosis as to whether the malarial fever is due to the tertian or quartan parasite can be made by an examination of the blood in the fresh state, and noting the characteristic appearances of the hæmacytozoa as described in another part of this paper.

The real difficulty, however, in diagnosticating malarial fever is in recognizing the æstivo-autumnal or irregular forms, especially the remittent fevers, which often closely simulate typhoid fever. The differential diagnosis between these diseases is often difficult, but when carefully studied there are certain differences in the symptoms that will materially aid in elucidating the problem.

The onset is different in the two affections, since in fever of malarial origin there is generally an absence of the malaise that is usually present in typhoid. Chills are more frequent, and the fever rises more abruptly, often reaching a temperature of 104° F. on the second day in those of malarial origin, there being an absence of the gradual rise of typhoid. There are also more marked remissions, and it does not run the same continuous type as in typhoid. Epistaxis is frequent in typhoid fever, rare in malarial, while the presence of herpes is a symptom of some value as indicating the latter disease. Gastro-intestinal disturbances are more marked in typhoid, and a characteristic roseola exists in this disease, which is absent in malarial fever.

The most important, however, is an examination of the blood, which makes the diagnosis certain by finding the small amœboid, hyaline æstivo-autumnal parasites if the disease is malarial remittent fever, while Widal's serum test will be of value in showing the disease to be typhoid.

Other diseases that may be confounded with remittent malarial fever are tuberculosis and septic affections, which may be diagnosticated by observing the points considered in the section relating to their diagnosis from the simple intermittent fevers.

This article has already grown so long that I will not speak of the differential diagnosis of the *pernicious forms* of malarial fever, as they do not occur on the Pacific coast.

In closing, I wish to state that during the past few years the blood of all cases of fever under observation, suspected of being malarial, has been examined. On several occasions I have had diseases under treatment in which the symptoms closely simulated those of malaria, but an examination of the blood proving negative, a more careful study of them has resulted in placing them in their true category.

Let me briefly state:

1. That only the milder forms of malarial fever prevail on the Pacific coast; nearly always the tertian, occasionally the quartan, and rarely the æstivo-autumnal variety.
2. The only localities in Washington in which the fever prevails are along one or two rivers in the Puget Sound Basin, the Columbia River Valley, Chehalis Valley, Yakima Valley, and an occasional case in the Columbia Valley of the northeastern part of the State.
3. In Oregon the disease occurs in the Columbia River Valley, the Willamette Valley, Rogue River Valley, Umatilla Valley, and a few cases in the lowlands along the Columbia River in Gilliam County.
4. In California the disease occurs in the Sacramento Valley, San Joaquin Valley, Tulare Basin, and Kern Valley, and there is an occasional case in the Santa Clara Valley.
5. The frequency of malarial fevers in the Columbia River and Willamette valleys is about three per cent. of the total number of diseases that come under observation during the summer months.

ACUTE INFLAMMATORY CONDITIONS OF THE UPPER AIR-PASSAGES ACCOMPANIED BY LARYNGEAL ŒDEMA.*

By CLARENCE C. RICE, M. D.

In looking over the *Transactions* of this association I have been surprised to notice how little œdematous conditions of the larynx have engaged your attention. With the exception of articles and reports of cases by Dr. Glasgow,† Dr. Langmaid,‡ Dr. De Blois,# and Dr. Swain,|| I find nothing more than casual references. This is not remarkable, however, when we consider how rarely we meet with œdema of the larynx as a prominent symptom. I think all of us perhaps commenced the study of diseases of the larynx with the feeling that laryngeal œdema occurred frequently, and that the laryngeal surgeon was never safe unless he carried with him constantly instruments for doing tracheotomy. How untrue this is we to-day all know.

I wish it to be clearly understood that I shall exclude from consideration all phases of laryngeal diphtheria and that moderate œdema which may accompany malignant growths and tuberculous and syphilitic ulcerations and chronic perichondritis. I have looked through the rather large amount of literature on this subject somewhat, and have been impressed with the careless manner in which cases have been classified as regards ætiological causation. It is almost impossible in many instances to decide from the history given whether the laryngeal œdema is primary or due to some preexisting pharyngeal lesion.

Since the subject embraces only those cases in which œdema of the larynx accompanies *inflammatory* conditions of the upper respiratory tract, I shall not consider those of simple laryngeal œdema, which are one of the manifestations of a general anasarca caused by renal, cardiac, and hepatic disease. In such cases the œdema is non-inflammatory and may properly be termed *passive.* Much confusion has arisen by including such œdemas with those due to inflammatory causes. Bosworth * deserves credit for strictly separating these two classes of cases. It is not unwise to include all cases of œdema of the larynx due to traumatism, such as external violence, and all internal irritants, as scalds, burns, because these cases are acute and inflammatory.

Von Ziemssen,† in his chapter on Laryngitis Phlegmonosa, includes œdema arising from almost any and every source, for he mentions as causes diphtheria, erysipelas, burns and scalds, traumatism, foreign bodies, all the infectious diseases, all varieties of nephritis, diseases of the heart and lungs, and compression of the blood-vessels of the neck.

Mackenzie ‡ considers under separate headings, first, œdematous laryngitis or laryngitis phlegmonosa; second, traumatic laryngitis; third, abscess of the larynx, and gives a separate chapter to erysipelas of the pharynx and larynx. He also devotes a chapter to chronic œdema of the larynx, associated with such causes as tuberculosis, cancer, and syphilis. American authors generally have with clearer insight insisted upon the separation of inflammatory and non-inflammatory causes of laryngeal œdema. Semon,# of London, has

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[*] Read before the American Laryngological Association at its twentieth annual congress.

[†] Glasgow. *Transactions of the American Laryngological Association*, 1889, p. 18.

[‡] Langmaid. *Ibid.*, 1889, p. 14.

[#] De Blois. *Ibid.*, 1886, p. 128.

[||] Swain. *Ibid.*, 1896, p. 35.

[*] Bosworth. *Diseases of the Nose and Throat*, vol. ii, p. 549.

[†] Von Ziemssen. *Cyclopædia of Special Pathology and Therapy*, 1876, vol. iv, p. 311.

[‡] Mackenzie. *Diseases of the Throat and Nose*, vol. i, p. 275.

[#] Semon. On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammations of the Throat and Neck. *Medico-chirurgical Transactions*, London, vol. lxxviii, p. 181.

endeavored to simplify the ætiology of phlegmonous inflammations of the upper air tract in an exceedingly interesting attempt to prove that the various forms of acute septic inflammation of the throat, hitherto considered as so many essentially different diseases, are, in reality, pathologically identical; that they merely represent the same infective process, varying in virulence and locality of attack. And to support his views he has classified in order of severity the fourteen cases which he has seen and to which we shall refer later on.

There is grave doubt as to the character of the laryngeal œdema described by such early writers as Morgagni in 1765 and Van Swieten and Bichat * in 1801. They are very likely to have been largely passive œdemas due to cardiac and renal disease. Bayle,† in 1815, treated the subject exhaustively and scientifically. Almost all later writers have consulted and quoted largely from Sestier,‡ who in 1852 presented a most exhaustive treatise on the subject of laryngeal œdema in which he tabulated all reported cases. He does not separate the chronic and acute forms of œdema, nor those of inflammatory and non-inflammatory origin, and it is quite possible that ordinary cases of chronic laryngitis accompanied by tissue thickening are included. He uses a nomenclature which is instructive. He calls the case *typical* where it originates in the larynx; *contiguous,* where it proceeds from the pharynx or other parts; and *consecutive,* where it occurs as a sequel to a previous disease of the larynx. Sestier found that in a hundred and ninety acute cases œdema of the larynx was primary thirty-six times, and secondary to some preexisting laryngeal or pharyngeal malady a hundred and twenty-two times. Sestier says that typical œdematous laryngitis is very rare, since an ordinary catarrhal process rarely proceeds to involvement of the submucous structure with accompanying œdema.

One of the more important phases of this subject, and one which may be discussed with profit, is, first, whether there exists a typical primary acute œdematous laryngitis of purely septic origin—a disease *sui generis;* and secondly, whether this infection is identical with that which manifests itself as erysipelas. Semon believes this latter proposition to be true, as I shall quote after a little. Let us consider this part of our subject for a moment. Mackenzie says that in nearly all the instances of so-called "simple inflammation" the disease is due to blood-poisoning, and that he has met with the affection among hospital physicians, medical students, and nurses, and in cases where defective drainage seemed to be its cause. He makes the statement that "in every case that has come under his notice ample opportunity for acquiring septicæmia has been present." This is an interesting phase of this question, and one upon which I am unfortunately able to give but little testimony, as I do not feel positive that I have seen typical cases of pure œdematous laryngitis due to unhealthy sanitary conditions.

Just here it is of interest to refer to the class of cases, as perhaps of a similar type, which has been presented by Dr. Glasgow * to this association, and called by him "septic œdema of the upper air-passages," in which he describes a form of œdematous laryngitis which occurred epidemically in St. Louis in 1886. I judge from his description that pharyngeal swelling and œdema always preceded that of the larynx. Two of the cases died by reason of the laryngeal œdema. He states after studying these peculiar cases of œdematous disease of the throat he is convinced that we are considering a constitutional disorder rather than a local disease; and he noticed points of resemblance to rheumatic pharyngitis. A condition similar to acute follicular amygdalitis was seen in some of the cases. Localized pneumonia was present in some, as in Semon's cases. In all there seems to have been primary pharyngeal trouble. The discussion which followed Dr. Glasgow's paper seems to have shown that a number of his listeners were not convinced that the cases were not due to diphtheritic infection, though Dr. Glasgow, who certainly was best of all able to judge, was quite certain that they were not in any way akin to diphtheria. Dr. Langmaid's † case of œdema of the larynx accompanying acute multiple adenitis is found in the same volume of *Transactions.*

I have seen a case resembling it in many particulars, which I will allude to. In 1885 Charazac ‡ collected twenty-one cases. He divided œdema laryngis into primary and secondary conditions. The primary condition was separated into serous and phlegmonous. Following about the same line of thought, and reaching about the same conclusions, Bayin says:

1. Acute primary œdema laryngis is infectious.
2. These œdemas present two different appearances and conditions.
3. The serous œdema is acutely infectious and erysipelatous, whereas
4. The phlegmonous œdema is due to retrolaryngeal abscess, corresponding to the inflammatory condition of the pharynx accompanying retropharyngeal abscess.

This is a portion of the evidence in favor of the existence of a typical primary œdematous laryngitis, pure and simple, produced sometimes epidemically by septic and by atmospheric influences. We can not be too careful in excluding diphtheritic infection in all such cases. Whenever we find primary disease of the pharynx, of whatever severity, then the mystery as to causation disappears.

The definite causation of acute inflammatory œdematous laryngitis is to us the most important part of the subject. If idiopathic phlegmonous laryngitis does occur epidemically, or at least frequently, and, according to Mackenzie, in people especially exposed to septic influences, then we apparently have a disease which should be easily recognized, and nothing remains but to discover the special germ which causes it.

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* Bichat. *Anatomie descriptive,* vol. ii, p. 399.

† Bayle. *Dictionnaire des sciences médicales,* vol. xviii, p. 505.

‡ Sestier. *Traité de l'angine laryngée œdémateuse,* Paris, 1852.

* Glasgow. *Transactions of the American Laryngological Association,* 1889, p. 18.

† Langmaid. *Ibid.,* 1889, p. 14.

‡ Charazac. *Œdème du larynx,* Paris, 1885.

I have said that Semon has endeavored to make a comprehensive class of such diseases as have hitherto been separately described as acute œdema of the larynx, œdematous laryngitis, erysipelas of the pharynx and larynx, phlegmon of the pharynx and larynx, and Ludwig's angina, believing them all to be the same pathological condition, differing only in localization and severity. His mildest case is simply an acute œdematous inflammation of the palate and pharynx; his second, an isolated œdematous inflammation of the epiglottis; his next case would seem to be an idiopathic œdematous laryngitis; his fourth was similar to that described by Dr. Glasgow, and the inflammation was first noticed in the tonsil and right side of the pharynx. He says in his fifth case there would probably be doubt in the minds of observers as to whether it was one of septic laryngitis or laryngeal erysipelas; and the same was true of the sixth case; in the seventh and eighth the pharynx was perfectly normal, but there was œdema of the larynx in both, and in both there was double patchy pneumonia. He thinks that most observers would have decided that these cases were instances of erysipelatous inflammation, with subsequent extension to the lungs; and the same is true of the remainder of his fourteen cases. In eight of his fourteen cases the pharynx or the tonsils, or both, were involved. One of his cases occurred in a patient suffering from diabetes; in one there were both albumin and sugar in the urine. In seven of the fourteen cases there was subsequent or accompanying pneumonia or pleurisy, or both. Semon, in his endeavor to prove that all these cases were due to the same septic poison, is not deterred by the fact that fifty per cent. of them were what in our obscure knowledge of that disease are called erysipelas of the larynx.

If it is true that erysipelatous inflammation of the larynx is in no sense a special disease, but only a very virulent form of a catarrhal inflammation resulting from the same bacillus which produces pyæmia, then we need not necessarily look for any accompanying skin lesion or any different or more marked laryngeal manifestations than œdematous inflammation. Massei * (Primary Erysipelas of the Larynx) maintains that erysipelas of the larnyx is frequently nothing else than the process called laryngitis phlegmonosa, and that it may occur in a sporadic as well as epidemic form. On the other hand, Mackenzie † says the majority of cases of erysipelas of the pharynx and larynx occur as an extension of a similar attack on the face. He had seen but four cases, and in none was the diagnosis made until the disease extended to the skin.

Taking fifty per cent. of Semon's cases in which there was involvement of the pharynx and tonsils, with consequent or accompanying laryngeal œdema, we can not see how they differ in any great respect from those cases of brawny cellular and tonsillar inflammation which we all see occasionally, and which are sometimes, but rarely, complicated by laryngeal œdema. It is a matter of the greatest importance to exclude diphtheritic infection in all these cases.

Dr. De Blois * reports in the year 1886 fourteen cases of laryngeal œdema. This was the year before the collection of my cases was commenced. Dr. De Blois remarks that acute primary œdematous laryngitis is very rare, and that there is almost always a preexisting inflammation of the pharynx in these cases. The summary of his cases is as follows: Three, so-called "catarrhal"; three, tuberculous; one, syphilitic; five, secondary to inflammations of the pharynx; and in four the cause is not given. So that among his cases we do not discover any which are remarkable in the sense of being acute and primary from septic causes. In our *Transactions* of 1888, page 136, Dr. Moure reports a case of subglottic œdema occurring in a diabetic patient, and the doctor believes that the diabetes was undoubtedly the occasion of the laryngeal complication.

Le Fevre reports cases of primary œdematous laryngitis, which he calls "dyscrasic," occurring in convicts, and he also mentions "scorbutic" œdema. I have had tabulated forty-one cases of œdema of the larynx in its acute form. Dr. Edward Preble, who did this work, assures me that these forty-one cases include all that are specifically reported in the journals cited by the *Index Medicus* from the year 1887 to date, exclusive of the fourteen cases given by Semon, to which I have referred. Many valuable articles on œdema of the larynx have appeared since 1887, but the number of cases reported is unusually small, ranging only from four to five annually. The prevalence of *grippe* since 1890 does not seem to have increased the number of reported cases.

In the ætiological column the term "catarrhal" is used by the writers with the evident idea that the entire process started in catching cold, or from purely atmospheric influences, without marked exposure to other sources of irritation or infection. Nearly one half the cases come under this heading, the laryngeal œdema being associated with pharyngitis or amygdalitis, or both. To be exact, I find that of the forty-one cases, twenty-one are reported as having no special cause other than that of simple catarrhal inflammation; of these twenty-one so-called catarrhal cases, one was associated with nephritis; of the remaining twenty cases, two occurred in alcoholic subjects; three were caused by the mechanical irritation of a foreign body, and one by swallowing carbolic acid; one in a child of twelve years occurred on the twelfth day of an attack of variola; one is marked venomous, and was thought to be due to a mosquito sting in China; two were in tuberculous subjects; one was Dr. Langmaid's associated with polyadenitis; one is Dr. J. H. Bryan's case reported in 1892, put down as pyæmic, with possible metastatic abscess, in an alcoholic subject (the patient had abscess of the liver); and one other case, reported by J. Tucker, is tabulated as septic (?); one case secondary to retropharyngeal abscess; another to enlarged thyreoid, and three were consecutive to syphilitic perichondritis; in one the cause is put down as unknown. How many of these cases can be put down as primary idiopathic œdematous laryngitis it is impossible to tell without careful research. The majority of the cases reported as catarrhal were evidently supposed to be of the type of simple acute laryngitis. I may be pardoned now for briefly stating the cases which I have observed.

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* Massei. *Ueber das primär. Erysipel des Kehlkopfs*, 1886.

† Mackenzie. *Diseases of the Throat and Nose*, vol. i, p. 203.

* De Blois. *Transactions of the American Laryngological Association*, 1886, p. 128.

I have seen three cases of moderate laryngeal œdema following circumtonsillar cellulitis. In two of these there was suppuration about the tonsil, but in the third, which was attended by the most laryngeal œdema and dyspnœa, the pharyngeal swelling dispersed without suppuration. In the first two cases the œdema was never grave, although they gave us cause for anxiety; in the third it was so extreme that tracheotomy was thought to be necessary. I have seen two cases of moderate œdema of the larynx which may be put down as traumatic, in that one followed the use of the galvano-cautery applied to a fibrous growth low down on the lateral wall of the pharynx, below the tonsil, and the other was caused by a piece of wood which was swallowed, and which lodged in the pyriform sinus.

I have also seen two cases where the laryngeal œdema seemed undoubtedly due to *constitutional causes*, since no local condition could be discovered which would account for its presence.

Number of Case.	Reporter and journal.	Age, sex, date when first seen.	Origin as near as can be determined; chief ætiological factors.	Clinical type; degree of severity.	Situation of œdema as shown by laryngoscopy.	Therapy.	Termination.
1	B. J. Baron, *Brit. Med. Jour.*, 1887, ii, 1328.	Female, 30, May 13, 1886.	Catarrhal.	Acute, severe.	General.	Poultices; steam inhalation (croup tent); nutrient enemata.	Recovery.
2	G. H. Darwin, *Brit. Med. Jour.*, 1888, i, 80.	Female, 45.	Direct irritation (raw brandy given for fainting).	Acute, severe.	General.	Hot fomentations, ice inwardly, steam inhalation.	Recovery.
3	A. Bandler, *Prag. med. Wochen.*, 1888, xiii, 173.	Male, 21, December 22, 1887.	Renal (albuminuria and nephritis); also catarrhal.	Moderate degree; little or no impairment of voice and respiration.	General.	Steam inhalation, moist applications, and management of kidney disease.	Recovery.
4	A. Bandler (*supra*).	Male, 42, February 19, 1888.	Mechanical irritation (choked by a piece of bread).	....	Right side only.	Ice in mouth; ice compresses.	Recovery.
5	A. Bandler (*supra*).	Female, 12, September, 1885.	Variola (eleventh day).	Acute, severe.	(?)	Ice in mouth and externally; scarification.	Recovery.
6	Du Cazal, *Bull. et mém. de la Soc. de chirurgie de Paris*, 1888, xiv, 277.	Male, 25, November 20, 1887.	Traumatic? Small wound on one vocal cord (possibly post-mortem lesion).	Acute, suffocative.	(?)	Emesis only.	Death sudden in a paroxysm of suffocation.
7	Yvert (Chauvet), *Bull. et mém. de la Soc. de chirurgie de Paris*, 1888, xiv, 846.	Male, 21, June 11, 1887.	Venomous? Occurred in China (Tonkin), and thought due to mosquito sting.	Acute, suffocative.	....	Tracheotomy.	Recovery.
8	Lacronique (Chauvet) (*supra*).	Male, 60.	Catarrhal, followed exposure; alcoholic subject.	Suffocative.	General.	Crico-tracheotomy.	Recovery.
9	Audet (Chauvet) (*supra*).	Male (young).	Catarrhal; pre-existent laryngitis.	Acute, suffocative.	....	Death before time for treatment.	Death during paroxysm of suffocation.
10	Chauvet (*supra*).	Male (young), November, 1887.	Catarrhal; tuberculous subject.	Acute, suffocative.	....	Tracheotomy.	Recovery.
11	F. de H. Hall, *Westminster Hosp. Rep.*, 1888, iv, 161.	Female, 54, June 12, 1888.	Catarrhal; followed immediately by amygdalitis.	Suffocative.	....	Ice-bag to neck; ice in mouth; scarification.	Recovery.
12	P. Oulmont, *Médecine moderne*, 1888–'90, i, 484.	Male, 28, April 19, 1890.	Catarrhal (followed exposure).	Suffocative.	....	Tracheotomy.	Recovery.
13	S. W. Langmaid, *Trans. of the Am. Laryng. Assoc.*, 1889 (1890), xi, 69.	Female, 40, April 30, 1889.	Phlegmonous, from polyadenitis of neck.	Severe; suffocative at times.	Vestibule only.	Poultices; ended by spontaneous cure from rupture of mass.	Recovery.
14	G. B. Marta, *Riv. veneta di sci. med.*, 1889, xi, 275.	Male, 30, February 18, 1885.	Catarrhal (followed exposure).	Moderate type, but suffocative at times.	Glottis and epiglottis.	No chance for special treatment.	Death during a suffocative attack.
15	G. B. Marta (*supra*).	Male, 40, March 18, 1885.	"Unsuspected."	Dyspnœa first symptom.	Glottis.	Laryngo-tracheotomy (Trousseau method).	Recovery.

Number of Case.	Reporter and journal.	Age, sex, date when first seen.	Origin as near as can be determined; chief ætiological factors.	Clinical type; degree of severity.	Situation of œdema as shown by laryngoscopy.	Therapy.	Termination.
16	Frankel (F. Peltesohn), *Berl. klin. Wochen.*, 1889, xxvi, 931.	Male.	Renal (albuminuria) and high degree; contracted kidneys.	Acute, suffocative (whole sickness lasted but an hour).	Epiglottis and ary-epiglottic folds.	No opportunity for treatment.	Death during a suffocative attack.
17	J. Garel, *Arch. f. klin. Chirurgie*, 1891, xlii, 46.	Male, 24, April 11, 1889.	Catarrhal (recent laryngitis).	Dyspnœa absent; dysphagia and partial aphonia.	Lateral *cul-de-sac.*	Direct application of tincture of iodine after cocainization.	Recovery.
18	J. Garel (*supra*).	Male, 24, March 18, 1890.	Catarrhal.	Moderate type.	Right arytænoid.	Tincture of iodine as in Case 17.	Recovery.
19	J. H. Bryan, *Med. News*, 1892, ix, 141.	Male, 30, February 2, 1891.	Pyæmic (metastatic abscess?); alcoholic subject.	Moderately severe.	Epiglottis (high degree).	Scarification.	Death Feb. 8th from rupture of hepatic abscess.
20	J. Tucker, *Chicago Med. Recorder*, 1892, iii, 40.	Male, 30, December 24, 1891.	Septic (general toxæmic symptoms).	Severe, suffocative.	Rima glottidis.	Intubation; operative success.	Death from exhaustion Dec. 30th.
21	A. Rhu, *Internat. Med. Mag.*, 1892, i, 839.	Male, 36, February 12, 1892.	Secondary to retropharyngeal abscess.	Severe, suffocative.	....	Scarification.	Death during suffocative paroxysm.
22	A. Rhu (*supra*).	Female, 50, February, 1892.	Catarrhal (influenza).	Moderately severe.	....	Pilocarpine, ⅛ grain hypodermically.	Recovery.
23	A. Rhu (*supra*).	Female, 20.	Catarrhal.	Acute, suffocative.	....	Pilocarpine as in Case 22.	Recovery.
24	F. Betz, *Memorabilien*, Heilbronn, 1891, p. 193.	Male, 55, December 7, 1890.	Probably due in some way to an enlarged thyreoid which invested the larynx.	No history; comatose when first seen.	....	Pilocarpine.	Died without recovering consciousness.
25	J. W. Robertson, *N. W. Lancet*, St. Paul, 1892, xii, 428.	Male, 7.	Catarrhal (influenza).	Acute, severe.	General.	Crico-thyroid tracheotomy.	Recovery.
26	J. W. Robertson (*supra*).	Male, 6.	Catarrhal.	Acute, suffocative.	....	Tracheotomy.	Recovery.
27	J. W. Robertson (*supra*).	Male, 5.	Direct irritation; swallowed carbolic acid.	....	Epiglottis.	Cocaine and emollients.	Recovery.
28	J. W. Robertson (*supra*).	Male, 8 months.	Catarrhal.	Severe, suffocative.	....	None; "too young for tracheotomy."	Death.
29	E. B. Baylies, *Med. Record*, 1895, xlviii, 714.	Male, 30, June 4, 1895.	Catarrhal (author thinks malarial).	Moderately severe, with periodic suffocative attack.	General.	Remarkable improvement from quinine.	Recovery.
30	F. E. Hopkins, *Med. Record*, 1895, xlviii, 552.	Male (adult), January 24, 1895.	Catarrhal and renal? (influenza); albuminuria coexisted with œdema of legs.	Severe, suffocative.	General.	Leeches and cold; scarification.	Recovery.
31	H. R. Wharton, *Med. News*, 1895, lxvi, 429.	Male, 25, December 28, 1894.	Catarrhal.	Severe, suffocative.	Epiglottis chiefly.	Scarification, followed by tracheotomy.	Recovery.
32	O. B. Douglas, *Post-graduate*, 1896, xi, 226.	Male, 40.	Consecutive to syphilitic necrosis of arytænoid cartilage; purulent swelling.	Severe, suffocative.	Left arytænoid body.	Tracheotomy.	Death some days later.
33	L. Bar, *Allg. Wien. med. Ztg.*, 1896, xli, 359.	Male, 5, November, 1895.	Catarrhal.	Severe, suffocative.	Within larynx.	Cold compresses; derivative measures.	Recovery.
34	L. Bar (*supra*).	3½.	....	Mild.	Within larynx.	Emesis, derivation.	Recovery.
35	L. Bar (*supra*).	Female, 11, February, 1896.	Catarrhal (history of much laryngeal trouble).	Severe, suffocative.	Ary-epiglottic folds.	Cold; tannin insufflations.	Death during relapse from suffocation.
36	L. Egger, *Ann. d. mal. de l'oreille*, etc., 1896, xxii, 2.	Female, 30, December 13, 1895.	Catarrhal.	Severe, suffocative.	General.	Insufflation of morphine.	Recovery.
37	D. Roy, *N. Y. Polyclinic*, 1896, viii, 140.	Male, 36, December 4, 1895.	Angeio-neurotic œdema? Came and went suddenly and without cause.	Mild.	Interarytænoid space.	Self-limited.	Recovery.
38	P. Lacroix, *Arch. internat. de laryngol.*, x, 673.	Female, 23.	Syphilitic (associated with confluent mucous patches in pharynx); No KI had been used.	Moderate; dysphagia chief symptom.	Right ary-epiglottic fold.	Immediate improvement under mercury.	Recovery.
39	G. Liaras, *Rev. hebdom. de laryng.*, 1897, xvii, 369.	Male, adult.	Exposure to severe cold preceded, but no catarrhal symptoms.	Moderate severity.	General.	Ice internally and externally; scarification.	Recovery.
40	R. Stankowski, *Münch. med. Wochen.*, 1897, p. 302.	Male, 29, November 11, 1896.	Tuberculous case; tuberculosis of larynx; iodide of potassium exciting cause.	Moderate degree.	Unilateral, circumscribed.	Discontinuance of potassium iodide.	Recovery.
41	R. Stankowski (*supra*).	Male, 31, December 31, 1896.	Syphilis of six years' duration; exciting cause, iodide of potassium.	Mild.	Unilateral, circumscribed.	Discontinuance of potassium iodide.	Recovery.

Case I.—Mr. D., twenty-eight years old; a rather thin young man; bank clerk; perfectly good habits; no specific history; was sent for by his attending physician to see him at his residence. He had been ill for three days. Temperature had varied from 100° in the morning to 101.5° in the evening. Submaxillary glands were swollen in mass, but could not be distinguished separately. There was great tenderness about the base of the tongue when it was pressed upon. The tongue was evidently swollen, and it was felt that the glandular enlargement spoken of was perhaps enlargement of the tongue instead. Nasal tissues normal, as was also the middle pharynx. Tongue was very much coated, but there was no appearance of any exudation about tonsils or pharynx. A good deal of discomfort in swallowing, due to the inflammation at the base of the tongue. I had been sent for because of laryngeal dyspnœa, which had appeared toward the third evening. A laryngeal mirror showed apparently inflammatory œdema about both arytænoid cartilages, not extreme. Warm inhalations were ordered and cold applied to the outside of the neck. Salicylate of sodium was given internally. The patient improved rapidly. There was nothing about the man's occupation or habits and no exposure which would throw any light upon the cause of his trouble. There was no evidence of any diphtheritic infection, and the case seemed to me to be one of rheumatic glossitis with secondary laryngeal œdema.

A second case, very much like the first, I saw in a young woman of twenty-five years of age, a singer, who possibly has incipient tuberculous trouble, but no manifestations of this disease in either the pharynx or the larynx. She complained of a pain about the pharynx in the region of the tongue. There was no trouble with the pharynx or tonsils, but great tenderness in the tongue when pressed upon by the depressor. Her tongue was not nearly so coated as was that of the first case, and she had but little if any rise of temperature. I was sent for the second day after I had first seen her at my office because of laryngeal dyspnœa, and I found an œdematous condition of the larynx, involving the arytænoid cartilages and extending forward slightly. There was slight swelling of the submaxillary glands. What the infection in this particular case was I could not determine. The patient recovered quickly.

I must bring this article to a close. There are, it seems to me, several matters of importance which should be considered. An attempt has been made, and perhaps with justice, to establish the existence of an acute primary œdematous laryngitis, bearing no relationship to any other inflammation in this location, but due to some special germ, some septic infection. Does such a disease exist? Can we be positive that we have ever recognized it? It is difficult to answer this question in the affirmative, because it is quite possible that in the cases which have been classified as acute primary disease diphtheritic infection was not satisfactorily excluded. Is it not possible, too, that examinations of the kidneys and heart were not made? I can not see why so small an anatomical tract as the larynx should receive the entire force of an inflammatory process except from extraordinary causes. There would be nothing remarkable about an œdematous laryngitis occurring on account of exposure to cold, provided the vocal organs had been badly maltreated, as in the case of a public speaker or singer. Such irritation will also be greatly increased by the excessive use of alcohol and tobacco. Are we willing also to subscribe to the pathological identity of acute primary œdematous laryngitis and erysipelatous laryngitis? Personally, I am far from sure of the unity of these two conditions. I should be unwilling to call any affection of the pharynx or larynx erysipelatous unless secondary to a similar manifestation of the skin.

It is probably true that there are certain locations of the neck and pharynx, when inflamed, which very readily give rise to laryngeal œdema by reason of disordered circulation. It would be an interesting study to exactly ascertain what these locations are.

I forgot to say that in some tables of cases the writers have mentioned malarial poisoning as the cause of the laryngeal œdema. I should consider this a very unsatisfactory ætiological factor. I believe that as the cause of this disease is more thoroughly studied, the cases will be exceedingly rare which can not be ascribed to either some preexisting local affection in the pharynx or larynx, or to some constitutional disease or external irritation.

123 East Nineteenth Street.

Therapeutical Notes.

Iodide of Arsenic in Scrofula.—Dr. S. Saint-Philippe (*Journal de médecine de Bordeaux*, June 10th; *Gazette hebdomadaire de médecine et de chirurgie*, November 6th) recommends the following:

℞ Iodide of arsenic	7½ grains;
Distilled water	750 minims.

M. Dissolve cold.

Five, ten, twenty, or even thirty drops may be taken in divided doses through the day. Ten drops contain about fifteen one-hundredths of a grain (one centigramme).

Creosote in Constipation.—According to the *West London Medical Journal* for October, creosote may be administered in drop doses, twice daily, after breakfast and dinner, for constipation. It should not be prescribed in capsules or pearls, but should be taken in milk, beer, wine, etc. After a few days the dose should be gradually increased to seven minims twice daily.

For Congestion of the Female Pelvic Organs.—The *Riforma medica* for September 23d recommends the following:

℞ Sulphate of magnesium		450 grains;
Sulphate of iron, Sulphate of manganese,	of each	120 "
Dilute sulphuric acid		45 minims;
Distilled water		1,800 "

M.

A tablespoonful to be taken before breakfast in a wineglassful of water.

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THE SURGEON-GENERAL OF THE ARMY AND HIS CRITICS.

WE published as a supplement in our issue for November 26th the Official Summary of the Annual Report of the Surgeon-General of the Army. This report has been in more than one instance adversely criticised, It is with regret that we notice that the *New York Times* for November 25th, as a result of consideration thereof, arrives editorially at the conclusion that "Surgeon-General Sternberg's report on the work of the medical corps of the war department is the statement, by an earnest officer and an unquestionably accomplished scientist, of conditions which he and his subordinates appear to have lacked the foresight and the executive force successfully to meet."

Of Surgeon-General Sternberg himself the editorial says that "being one of the most accomplished of investigators, an authority on many medical subjects, it must be apparent that he has lacked nerve, the force of character that carries authority, the general executive ability to put his knowledge to effective use." And again: "The admissions of General Sternberg justify some earlier convictions that we had formed of his earnestness, but appear to make plainer the lack of executive force in the head of the medical corps."

We propose to consider the data and process of reasoning on which these conclusions are arrived at.

The first criticism directed against the surgeon-general is that, while the surgeon-general of the navy applied for necessary hospital supplies and equipment at least two months prior to the beginning of the war—viz., as soon as the blowing up of the *Maine* made it highly probable that war might result—the surgeon-general of the army only acted "immediately on the declaration of war, April 21st." Right at the outset we strike in this point the fallacy which runs through nearly all the criticisms directed against the administrative officers of the army. It is forgotten that the navy is a standing, permanent institution, always on service. Should stores therefore be requisitioned in advance, and be subsequently found unnecessary for the particular purpose for which they were requisitioned, the money would not have been wasted, but the country would merely have paid in advance for what it would sooner or later inevitably have had to pay for. The army, however, was on a different footing altogether.

The hastily raised amateur army of volunteers outnumbered by about ten to one the standing or professional army of the United States, and was essentially temporary in character, this particular war alone being its *raison d'être.* Had the same course been followed by the surgeon-general of the army as was very properly adopted by his naval counterpart, and had the war after all fallen through, it is probable that his present critics would have been the first to raise an outcry about the wasteful expenditure of money before the absolute necessity therefor was beyond doubt. The fault lies in the entire military system, which is not permanently organized, so far as its entire administrative and executive staff is concerned, on such a scale as to be capable of immediate expansion to many times its size on a peace footing with regard to two out of the three necessary component parts—viz., trained administrative and executive officers and material. *Personnel,* the maintenance of which is by far the most expensive part, and the most easily procured and trained, provided the material is ready and all the officers are perfectly efficient in administrative duty and regimental economy, could then be safely left, as the recent war has shown, to recruiting as required.

The next point is found in the statement that "General Sternberg invites criticism from the medical examiners who passed the younger applicants for enlistment by his reference to that class of soldiers as peculiarly liable to break down under the strain of service."

General Sternberg is not at all unlikely to have absorbed and assimilated the cumulative experience of other and more military countries than the United States. It is not alone the "diseases of dissipation" referred to which are to be attributed to the enlisting of over-young recruits. It is well known to all those practically acquainted with military science, and it was pointed out in the *Lancet* for October 29th, and commented on by this journal in an editorial on November 19th, that young and short-service soldiers are especially unresistant to typhoid and tropical diseases, and to those arising from want of sanitation. The British have known this for years from their experience in India, where, despite the most carefully planned and executed sanitary precautions, the death-rate of the army from typhoid has been a perfect scourge, chiefly among these same "young and short-service" men; while the consequences of the Omdurman expedition clearly show that the most perfectly organized and administered army of modern times was not exempt therefrom. And yet the very stringent rules under which recruits were rejected from the United States army were themselves violently assailed.

The *Times* next states that there was needed at the head of the medical corps a man of force, not only intelligent, skillful, and highly educated, but also not afraid to insist that the advice he gave should be heeded, and the orders he made not be thrown into the waste basket.

This argument shows an utter want of appreciation of the part played by time in the inculcation of the automatic discipline necessary to arrive at the desired result.

Under ordinary circumstances in any standing organization, skilled workmen and foremen vastly preponderate, and the training of raw hands becomes an easy matter, their duties advancing *pari passu* with their increasing proficiency. Is there a single commercial man who would reverse this relation and would attempt to operate a large department store with a business necessitating the employment of five hundred people, including heads of departments, foremen, etc., only ten per cent. of whom had any acquaintance whatever with the methods of administration and executive details of the business concerned? We doubt it. The powers of one man, however forceful, intelligent, skillful, and highly educated, are limited. He might be capable of directing and organizing an enormous force of trained employees under trained subordinates, but if the bulk of his material was raw and unused to the special methods and routine which constitute the first principles of military science, it is beyond the limits of human power that one man should be able to control the details of its working. It is said that "good non-commissioned officers are the backbone of the army," and no truer remark was ever made. It has also been said that the capability of senior officers is shown by their aptitude in producing capable subordinates. That is also true. But here, again, comes in the element of time. Though straw and clay be abundant as materials from which to manufacture bricks, time also is essential. They can not be instantly called into being from the raw material by an act of incantation. Take the case of a large department store. In order to pack and dispatch goods purchased it has an efficient staff of competent packers, overlooked and directed by a competent head. Let us suppose that one trained packer can pack and attend to all the necessary details of dispatch of, say, one hundred packages a day. Then, so long as the number does not exceed five hundred a day, five packers will be sufficient. Suppose that one day the business increases so suddenly that five thousand packages have to be dealt with, and that all the skilled packers in the country are already in employment, what can the superintendent do? He can only fall back on forty-five or more unskilled laborers. Would any business house under such circumstances hope to get all its increased work done with the same regularity, smoothness, and freedom from error, breakage, etc., as though a force wholly or even chiefly composed of trained men was employed? And could the superintendent be equitably blamed because it was impossible for him to stand over and personally superintend the work done by each of his raw recruits, and see for himself that they fully comprehended and strictly carried out the instructions issued for their guidance, especially if they were divided into groups working in widely removed buildings? The idea is absurd on the face of it. If he was a good organizer, he would be able in time to make competent foremen out of his best men, and through them trained packers out of his untrained employees; but no one in his senses would blame him because they were not such to begin with, and because, in consequence, his directions were overlooked or disobeyed, his methods rejected or not comprehended, and much loss and damage resulted therefrom.

This is no question of the capacity of civil surgeons for "doctoring"—it is a matter of military administration. Fighting is done by pluck, courage, and endurance, but a successful campaign, which means the attainment of the greatest results with the least possible expenditure of money, life, and health, and with the minimum of mischance and difficulty, forms nine tenths of the science of warfare, and it is only to be learned by long and careful training of every portion of that great machine, an army, from the motive power down to the smallest screw or lever in it.

This brings us to the last of the criticisms. We are told that "the story of failing supply or inadequate supply for troops in the field or in camp seems all the more exasperating and inexcusable in the light of the report of Surgeon-General Van Reypen of the navy that he has yet to learn of the first instance of any failure of that kind in the navy during the entire campaign."

As regards the navy proper, we have already disposed of that objection. But it will, no doubt, be urged that the surgeon-general of the navy had an auxiliary navy to provide for, as the surgeon-general of the army had auxiliary forces to deal with. There is absolutely no parallel between the two cases. The conditions governing the equipment and administration of a ship at sea are just the same whether it is part of a naval force or is bent upon the more peaceful pursuits of commerce. All those in varying degrees of control are perfectly familiar with the methods of administration, the requisitioning and distribution of stores, and with the requirements of the vessel and its occupants, which differ only in slight details in one case from the other. To make the parallel applicable, the auxiliary fleet should have been manned and officered almost entirely by landsmen who had never had anything to do with a seagoing vessel before; who knew nothing of its requirements, had no idea of what supplies and equipments would be needed, how to obtain them, or the best means of distributing them when they were obtained.

This is no question of the mere possession of "common sense." Common sense is all very well, but the shrewdest possessor of it must have a knowledge of facts, principles, and methods to work on ere he can bring it to bear and accomplish satisfactory results. The possessor of the greatest amount of common sense in the world could not solve a problem in mathematical astronomy if absolutely ignorant of the elementary facts and methods of both these sciences, and all his common sense will only lessen, not abolish for him, the time requisite to acquire that knowledge.

The most skilled civil engineer could accomplish but poor results with a large force of absolutely unskilled laborers, and with foremen, the vast majority of whom, however willing, knew only the object to be aimed at, but nothing of the methods and natural subdivision of labor by which that object is usually and best attained.

We said from the first, and we repeat it more emphatically as fresh evidence comes to light, that the administrative part of the army medical department accomplished all that could have been accomplished under existing conditions. The only means of avoiding such another calamity, should a further war ever be forced upon us, lies in having all the necessary material available in time of peace, and all the officers likely to be required already fully trained in their executive and administrative duties. Men can, as we have seen, be quickly enlisted and comparatively rapidly knocked into shape. But officers require time to be educated, and material calls for time to be produced.

THE TREATMENT OF SNOW IN THE STREETS OF GREAT CITIES.

Last week's heavy snowstorm in New York was notable from two points of view. In the first place, it came much earlier than such occurrences are expected, for ordinarily we feel safe against any great fall of snow until after Christmas or even New Year's. In the second place, so far as our memory goes, it was the heaviest snowfall to which New York has been subjected for the last ten years, or since the great blizzard of March, 1888. Consequently it has turned attention in an uncommon degree to the problem of dealing with snow in the streets. The impression made on the public by the late Colonel Waring's exceptional efficiency in cleaning the streets is still fresh. It must be said that during Colonel Waring's term of office as street-cleaning commissioner he was fortunate in the matter of snow. We believe that he would have shown his usual energy had he had to contend with great snowstorms, but the fact remains that that task was spared him. In consequence of this, perhaps, the people had almost forgotten their old-time struggles with the snow, but now they have had a rough reminder of them.

The result is that people are beginning to ask themselves if there is not some better way of handling great masses of snow than has yet been adopted in New York. One suggestion that commends itself to our judgment has appeared in the *Sun*, to the effect that the removal of snow from the sidewalks, as well as from the roadways, might as well be committed to the street-cleaning department. As things are now, it is argued, the householder causes the sidewalk in front of his house to be cleared of snow. He simply has it thrown upon the roadway, whence it has to be removed, if it is removed at all, by the street-cleaning force. Thus that snow has to be handled twice instead of once. Clearly there would be a considerable saving if one handling alone could be made to suffice. It is pointed out, too, that, in consequence of laxity in enforcing the snow ordinances, the snow often lies on the sidewalk for weeks in front of vacant houses, a slippery, ragged, or sodden nuisance; and that whenever the snow falls on a Sunday or holiday, or the night before, it lies untouched in front of business houses until the morning of the next business day. All this, it is urged, might be remedied if the municipality took charge of the work of removing snow from the sidewalks.

Then there is the exasperating practice of salting the streets. It chills the feet of pedestrians and rots their boots, and the final effect of it even on the snow and ice is in no way satisfactory. But that is a minor evil. The real problem is that of how to deal with great masses of snow in the streets. At present the attempt is made to remove the snow altogether, carting it away and dumping it into the rivers. As a matter of fact, the department usually does excellent work in clearing a few of the main thoroughfares of traffic, and the street railway companies keep their tracks clear—by massing the snow on either side. Practically, however, the task is too great to be accomplished in all the streets, even those in which traffic is heavy, and the result is that the snow is piled up on either side of the roadway, where it chokes the gutters and obstructs access to one's premises.

One winter, several years ago, the street-cleaning commissioner tried an experiment in Madison Avenue. He did not attempt to remove the snow, but piled it up in the middle of the street, leaving the gutter free and the curb readily accessible on either side, with an unobstructed driveway on the right and another on the left. The experiment seemed to work well, and we have often wondered that the plan was not more generally adopted. Of course it would not do for the narrow streets in the old part of the town, and it would have to be modified if not altogether dispensed with in streets through which railways run, but such streets are few in number; there remain the great majority in which, so far as we can see, there can be no considerable objection to the measure, and it would certainly save time and money.

MINOR PARAGRAPHS.

THE DISINFECTANT VALUE OF FORMALDEHYDE.

Dr. F. Lopez, in the *Boletin del consejo superior de salubridad* for September 30th, records an experiment conducted by himself in a chamber of the aseptic operating theatre of the Military Hospital of Instruction in the City of Mexico, which, on account of its construction, could easily be hermetically sealed, and which measured approximately three thousand five hundred cubic feet. In various parts of the chamber were distributed test tubes containing a fragment of paper impregnated with cultures of *Bacillus subtilis, Bacillus coli, Bacillus erysipelatos,* and *Bacillus anthracis,* provided by Professor D. José de la Luz Gomez. A formaldehyde generator was then operated, the lamp being charged with a much greater quantity of alcohol than was necessary according to the capacity of the room, while six pints of the fluid to three thousand five hundred cubic feet, or about double the one pint to each thousand feet required by the instructions, were used. After lighting the lamp the chamber was hermetically sealed and all the alcohol allowed to be consumed. Sixteen hours later the chamber was opened, and it was hardly possible to enter it for the suffocating fumes of formaldehyde. The tubes were removed and their contents sown in the health council's laboratory by Professor Gomez. All the germs grew abundantly and equally vigorously as compared with the contents of other tubes which had not been subjected to the disinfecting process. Microscopical examination of the disinfected tubes showed them to contain "great quantities of germs." We presume that the author wished us to understand by this that an increase in growth had taken place, notwithstanding the process to which the germs had been subjected. From this experiment, which the author asserts was made with the utmost care, he concludes that formaldehyde possesses no antiseptic properties, is incapable of killing any microbe whatever, and that it can not be considered as a disinfectant of the first order, as is being claimed for it by the American makers of formaldehyde generators. We note that the author has a good deal to say on the subject that the various apparatuses employed for the production of formaldehyde gas are of American origin, and mentions in his article the special apparatus employed; but inasmuch as his own testimony shows its efficiency in producing a free evolution of formaldehyde gas, it is obviously to the substance itself, and not the apparatus, that any strictures must apply. We have no doubt that Dr. Lopez's experiments will be repeated here, and we shall await the result with interest.

THE GALLANT SURGEON OF THE *YANKEE.*

Dr. McGowan's medical friends recently presented him with a beautiful loving cup. It was on Thanksgiving eve that a number of distinguished doctors of New York gathered in the banquet hall of the Hotel de Logerot to honor their comrade who had recently returned after his cruise with the Naval Reserves in Cuban waters. These eminent physicians saw fit to welcome home their brother and friend, and to make the occasion one that should outlive the night. Their esteem took substantial form, and an exquisite specimen of the silversmith's art was made the token of their high regard for Dr. McGowan. This cup was designed and made by the Gorham Manufacturing Company, and reflects great credit upon the handiwork of the company's artists. Many classic speeches were made during the evening, but especially the scholarly address of Dr. John Aspell was in great harmony with the object, aim, and purpose of the gathering. The night will long be remembered in medical circles, and especially in the heart of the worthy recipient of the cup, Dr. John P. McGowan, of the New York Naval Reserves.

THE TREATMENT OF PERNICIOUS ANÆMIA WITH RECTAL INJECTIONS OF ARSENIC.

According to the *Ufficiale sanitario rivista d'igiene e di medicina pratica* for September, Dr. Viray, finding that neither iron nor phosphorus, quinine, venous infusion, or bone marrow effected satisfactory results, succeeded in obtaining them by means of arsenic. But, as the stomach does not tolerate sufficiently large doses, while the hypodermic route is inconvenient on account of local lesions, he made use of the following formula by rectal injection:

℞ Distilled water	840 minims;
Fowler's solution	60 "

M.

Seventy-five minims were introduced into the rectum in the early morning and the evening, and, after four days' treatment, three times a day, thus causing the absorption of fifteen minims daily of Fowler's solution, corresponding to fifteen one-hundredths of a grain of arsenious acid. This dose proved sufficient to obtain therapeutic results. In graver cases he used a still stronger solution—namely:

℞ Distilled water	675 minims;
Fowler's solution	75 "

M.

By this method the dose of arsenious acid is raised to approximately a quarter of a grain daily, administered in three injections. The advantage of the smaller dose is the capacity to continue arsenical treatment for a longer time without producing tenesmus. The only contraindication lies in diarrhœa. The arsenical treatment should, of course, be accompanied by sufficient alimentation, and finds a good adjunct in the inhalation of fifteen quarts of oxygen before meals.

DUPLICATED VOCAL CORDS.

DR. RAFAEL FORUS records (*Oto-rino-laringología española,* September) the case of a patient suffering from subacute catarrh in whom he found, on laryngoscopic examination, a false glottis consisting of a pair of bands of a pale, rosy color in the subglottic region, united like a fork at the anterior commissure, and resembling the true vocal cords. Dr. Forus expresses himself as in doubt whether the phenomenon was congenital or acquired.

THE ASPIRATION OF MAMMARY CANCER DURING ITS REMOVAL.

MR. T. TREGELLES FOX (*British Medical Journal,* November 5th) reports having made use of suction on an ulcerated cancerous mamma during its removal. He used an improvised apparatus attached to an aspirator. In case there is no open sore, he suggests, cannulæ may be thrust into the mass in various directions, but not through it. The object is to prevent "soiling the wound" with cancerous juices. We fear it is not to be accomplished by such a procedure..

MOZART'S EAR.

ACCORDING to Gerber (*Deutsche medicinische Wochenschrift,* 1898, No. 32; *Riforma medica,* September 20th), the great musician's ear presented a number of peculiarities. In its general conformation it was broad rather than long, and was marked by a rudimentary development of the anthelix and by absence of the antitragus.

AN EPIDEMIC OF MASTITIS.

SCHWARZ (*Orvosi hetilap,* 1897, No. 23; *Centralblatt für Gynäkologie,* September 10, 1898) observed in the year 1896 an epidemic of phlegmonous mastitis affecting twelve lying-in women. They were all attended by a midwife who at the time had charge of a nursling affected with stomatitis, and neglected to disinfect her hands.

ATYPICAL SALICYLIC-ACID POISONING.

RENDU (*Indépendance médicale,* November 2d) relates the case of a young woman with acute articular rheumatism for whom ninety grains of sodium salicylate daily, in divided doses, were prescribed. On the evening of the second day she was seized with violent delirium suggestive of acute mania. At first it was supposed to depend on cerebral rheumatism, but it was finally imputed to the salicylate, although there had been none of the usual symptoms of salicylic-acid poisoning. Discontinuance of the use of the drug was rapidly followed by disappearance of the delirium, which had been accompanied by albuminuria.

ITEMS.

The New York Academy of Medicine.—At a stated meeting of the Section in Ophthalmology and Otology, on Thursday evening, the 1st inst., Dr. B. Sachs was to read a paper on Certain Functional (chiefly hysterical) Conditions of the Eye, which was to be discussed by Dr. H. D. Noyes, Dr. C. L. Dana, Dr. H. Knapp, Dr. L. C. Gray, Dr. T. R. Pooley, Dr. E. D. Fisher, Dr. D. Webster, Dr. J. Collins, and others.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 8th inst., the following papers will be presented for discussion: Phocomels of the Humerus in Epilepsy as a Stigma of Degeneration, with a Report of Two Cases, by Dr. L. Pierce Clark; and The Advantages of Protargol and Argonin in the Treatment of Purulent Ophthalmia in Infants, by Dr. Edward S. Peck.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 26, 1898:

DISEASES.	Week ending Nov. 19.		Week ending Nov. 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	75	11	44	28
Scarlet fever	100	7	113	5
Cerebro-spinal meningitis	0	1	0	6
Measles	149	5	146	4
Diphtheria	186	28	163	22
Croup	15	8	10	7
Tuberculosis	192	142	145	136

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general of the United States Marine-Hospital Service during the week ending November 26, 1898:

Yellow Fever—United States.

Washington, D. C.	Nov. 18	1 case,	1 death.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Sept. 30–Oct. 14	19 cases,	13 deaths.
Barranquilla, Colombia	Oct. 15–22		2 "
Havana, Cuba	Nov. 10–17		6 "

Small-pox—United States.

Hale County, Ala.	Nov. 14	Reported present.	
Mobile, Ala.	Nov. 12	1 case.	
Tinnath, Col.	Nov. 16	5 cases.	
Newport News, Va.	Nov. 14	1 case.	

Small-pox—Foreign.

Antwerp, Belgium	Oct. 22–29	1 case,	2 deaths.
Rio de Janeiro, Brazil	Sept. 23–30	17 cases,	3 "
Rio de Janeiro, Brazil	Oct. 1–7	12 "	7 "
Rio de Janeiro, Brazil	Oct. 7–14	16 "	6 "
Bombay, India	Oct. 11–18		1 death.
Tokyo Fu, Japan	Sept. 30-Oct. 20	1 case.	
Awamori Ken, Japan	Sept. 30–Oct. 20	29 cases,	5 deaths.
Iwate Ken, Japan	Sept. 30–Oct. 20	1 case.	
Moscow, Russia	Oct. 15–22	7 cases,	3 "
Moscow, Russia	Oct. 22–29	11 "	5 "
Odessa, Russia	Oct. 22–29	13 "	1 death.
St. Petersburg, Russia	Oct. 22–29	2 "	
Warsaw, Russia	Oct. 22–29		4 deaths.
Singapore, Straits Settlements	Sept. 30		1 death.
Montevideo, Uruguay	Oct. 8–15	2 "	

Cholera—Foreign.

Bombay, India	Oct. 11–18		2 deaths.
Calcutta, India	Oct. 1–8		2 "

Plague.

Hongkong, China	Sept. 24–Oct. 1	1 case,	1 death.
Bombay, India	Oct. 11–18		150 deaths.
Madras, India	Oct. 8–14	2 cases.	

A Physician's View of Woman's Sphere.—At the banquet of the National Wholesale Druggists' Association, held in St. Louis in October, Dr. I. N. Love, in his response to the toast to Woman, said, among other things, that while every department of work in the business and professional world should be opened to women if they desired to enter and become money-earners, he felt that the good of humanity and women in particular would be best served if women confined themselves to those departments of work which were closely related to the home. There could be no question that the best work for women was that of teaching, nursing, and the practice of medicine and midwifery. A woman who was properly educated and specially trained to become a teacher, to become a nurse, or to become a physician, was in good form for serving humanity and advancing the best interests of the race. In addition, the work in which she was engaged better equipped and prepared her as a home-maker, as a mother of the rising generation. He had often thought that dentistry and pharmacy were especially well adapted to the deft and graceful hand of woman.

The Medical Society of City Hospital Alumni of St. Louis.—At the last regular meeting, on Thursday evening, the 1st inst., the following were to be presented for discussion: Fatty Heart, with a Report of Two Cases, by Dr. G. H. Lane; Care of the Pregnant Woman, by Dr. B. M. Hypes; Remarks upon our Autumnal Fevers, by Dr. I. N. Love; and A Case of Large Multilocular Ovarian Cyst, by Dr. Henry Jacobson.

The St. Louis Medical Society.—At the last regular meeting, November 26th, Dr. J. C. Mulhall was to reread by request his paper on The General Health and the Upper Air-passages; and Dr. John C. Morfit was to exhibit a specimen of gastro-enterostomy.

Peroxide of Hydrogen in Puerperal Sepsis.—Dr. John N. Upshur (*Virginia Medical Semimonthly*, November 11th) records three cases of puerperal sepsis treated with peroxide of hydrogen, and followed by prompt improvement, ending in recovery. His plan of procedure is as follows: First irrigate the interior of the uterus with a normal salt solution, remove secundines or other retained foreign materials by means of the sharp curette, then again irrigate freely with salt solution. After thoroughly drying with aseptic cotton or gauze, hydrogen peroxide is applied to the uterine cavity by means of a small intra-uterine syringe, or an applicator upon which is wound a piece of aseptic gauze or absorbent cotton saturated with the agent. The foam should be removed and fresh applications made until the cessation of foaming gives positive evidence that the uterine cavity has been thoroughly cleansed. This procedure should be practised daily until the temperature falls to normal and remains at that point. This, in the writer's experience, always occurs within a week.

Suture of Wounds of the Heart.—Dr. Giordano (*Riforma medica*, No. 217, 1898; *Gazzetta degli ospedali e delle cliniche*, October 23d) relates the case of a man in whom he sutured the left ventricle of the heart for a large stab wound. After the operation hypodermic injections of caffeine were given. Four days after the wound purulent pleuritis followed, which, however, got better, and fourteen days later the temperature became normal; but on the twentieth day the patient died. The author, however, concludes from his observation that operative interference in wounds of the heart is justified.

The Relation between Dental and Dento-auditory Affections.—M. A. Pont (*Lyon médical*, October 23d) sums up a paper on this subject as follows: 1. Certain ocular and auditory troubles may supervene from many causes—operations on the teeth (extraction, insertion of a crown, etc.), the eruption of the temporary or permanent teeth, dental affections (periostitis, pulpitis, simple caries). 2. The most frequent ocular troubles are conjunctivitis, keratitis, dacryocystitis, blepharospasm, or even blindness. 3. Auditory troubles, particularly frequent in affections of the teeth of the inferior maxilla, are pain, buzzing in the ears, hyperæsthesia of hearing, or deafness. 4. These complications, when due to pulpitis or periostitis, disappear usually after the cure or extraction of the affected tooth, provided the intervention shall have been early enough.

Change of Address.—Dr. E. Wood Ruggles, of New York, to 71 East Avenue, Rochester, N. Y.

Answers to Correspondents:

No. 469.—See Gerster's *Rules of Aseptic and Antiseptic Surgery*, third edition, pages 14 and 15.

Society Meetings for the Coming Week:

MONDAY, *December 5th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, *December 6th:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Herkimer (semiannual—Herkimer) and Saratoga (Ballston Spa), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *December 7th:* Indian Territory Medical Association (first day—Muscogee); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *December 8th:* Indian Territory Medical Association (second day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Jenkins Medical Association, Yonkers, N. Y. (Section in Surgery); New York Laryngological Society; Medical Society of the County of Cayuga (semiannual), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

Friday, *December 9th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *December 10th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

Argue—Bowes.—In Bath, N. Y., on Thursday, November 24th, Dr. Henry A. Argue, of Corning, N. Y., and Miss Teresa Bowes.

Brown—Scranton.—In Rayville, Louisiana, on Wednesday, November 23d, Mr. Samuel P. Brown and Miss May Scranton, daughter of Dr. George W. Scranton.

Chamberlain—Wells.—In Vicksburg, Mississippi, on Wednesday, November 23d, Mr. John Chamberlain and Miss Ella Wells, daughter of Dr. W. M. Wells.

Edwards—Harkness.—In Pittsburgh, on Tuesday, November 29th, Dr. Ogden M. Edwards, Jr., and Miss Lela Harkness.

Higgins—McGuire.—In New York, on Wednesday, November 23d, Dr. Edward T. Higgins and Miss Etta A. McGuire, sister of Dr. C. A. McGuire.

Hogg—Connolly.—In New Orleans, on Wednesday, November 23d, Dr. Francis Baylor Hogg, of Denton, Texas, and Miss Josephine A. Connolly.

Landry—Barker.—In Plaquemine, Louisiana, on Wednesday, November 23d, Dr. Adrian Landry, of Paincourtville, Louisiana, and Miss Celeste Barker.

Lippman—Froehlich.—In New York, on Thursday, November 24th, Mr. Bernard Lippman and Miss Minnie Froehlich, daughter of Dr. David Froehlich.

Malcolm—Gay.—In New York, on Wednesday, November 23d, Dr. Percy Edwin Dunlop Malcolm and Miss Minnie Lee Gay.

Mostyn—Stevens.—In New York, on Tuesday, November 29th, Mr. Berkeley Mostyn and Mrs. Helen Chanler White Stevens, daughter of Dr. Octavius A. White.

Wessinger—Dreher.—In Selwood, South Carolina, on Thursday, November 24th, Dr. J. W. Wessinger, formerly of Charleston, South Carolina, and Miss Rosabel Dreher.

Winsor—Ferry.—In Quidnick, Rhode Island, on Thursday, November 24th, Dr. John Winsor and Mrs. Ella M. Ferry.

Died.

Ellis.—In Westchester, N. Y., on Tuesday, November 29th, Dr. James E. Ellis, in the seventy-ninth year of his age.

Johnson.—In Pawtucket, Rhode Island, on Sunday, November 27th, Dr. Francis Johnson, in the sixty-fourth year of his age.

Moore.—In Helena, Montana, on Tuesday, November 29th, Dr. James Alexander Moore.

Perjot.—In New Orleans, on Saturday, November 26th, Dr. Eugene Perjot, aged eighty-two years.

Wilson.—In Plymouth, Indiana, on Saturday, November 19th, Mrs. L. A. Wilson, wife of Dr. J. H. Wilson.

Letters to the Editor.

THE SERUM TREATMENT OF PUERPERAL FEVER.

[*A Letter to the Profession.*]

121 East Thirty-eighth Street,
New York, *November 28, 1898.*

To the Editor of the New York Medical Journal:

Sir: At the last meeting of the American Gynæcological Society a committee, composed of Dr. Williams, of Baltimore; Dr. Norris, of Philadelphia; Dr. Fry, of Washington; Dr. Reynolds, of Boston; and Dr. Pryor, of New York, was appointed to report next May upon antistreptococcus serum. We have agreed upon a method of securing the discharges in puerperal cases and upon a standard serum which can readily be procured.

We recommend the use of the serum prepared by the New York board of health. Sterile culture tubes can be secured from Dr. Torrens, No. 435 Pleasant Avenue, and from Dr. Jeffries, No. 212 East Thirty-fourth Street. Samples of discharges should be sent to Dr. Jeffries, who will at the earliest possible moment notify by telephone or telegram the physician attending the case under observation whether streptococci are found. In return for this, physicians are requested to furnish us with notes of their cases, showing when and in what amounts the serum was used, what general treatment was employed, what local treatment was applied, and the results.

It is desired by the commission to make the report as exhaustive and thorough as possible, and to accomplish the object sought the cooperation of the profession of the city is necessary. We also desire notes of cases in which the serum has not been used.

While it is manifestly desirable that one kind of serum be employed in all cases, we shall be gratified to receive the results obtained with any which may please the fancy of any particular observer.

In making our report we shall, of course, give full credit to each gentleman who favors us with his reports.

William R. Pryor, M. D.

MATERNAL IMPRESSION BEFORE CONCEPTION.

Lakeside, Ontario, *November 21, 1898.*

To the Editor of the New York Medical Journal:

Sir: As several cases of maternal impression have been reported in the *Journal* during the past two months, I beg to submit the following case, which occurred in my own practice here:

In January, 1894, I was called to attend Mrs. B. in confinement. She was sick for many hours, and at last I resorted to the instruments. After several futile attempts I gave it up on account of faulty position of the head, which was very large. Then, after turning the child, the body with difficulty was delivered, but the arm and head extending on the body could not be delivered. The child being dead, I separated the head from the body, and was then able to complete the delivery. She endured it all with great fortitude, but it seemed to make a profound mental impression upon her. The child was all put into a box and buried without her seeing it, but she got so worked up over it that it had to be taken up and shown to her. In May of the following year I was hastily called to see her again. When I got there a monster was born. It was a few weeks premature, and lived but a few minutes. It had no head on it, but only a face, looking upward, as it were, upon the shoulders. The mother was in continual dread after the first confinement that she would have another child that would have to be decapitated, and this evidently was the result.

Now, one of the unusual things about this case is that the maternal impression was received before conception. In the reported cases the impression usually took place within the first two or three months of gestation. Not so here; the impression lasted for over a year. I am glad to report that since then she has given birth to a large, healthy boy, at full time, though it was a breech presentation and a difficult labor. Her recovery has been good after all her confinements.

A. J. Murray, M. D.

Book Notices.

BOOKS, ETC., RECEIVED.

Human Anatomy: A Complete Systematic Treatise, including a Special Section on Surgical and Topographical Anatomy. By Various Authors. Edited by Henry Morris, M. A., M. B. Lond., Senior Surgeon to the Middlesex Hospital, etc. Illustrated by Seven Hundred and Ninety Woodcuts, the Greater Part of which are Original and made expressly for this Work by Special Artists. Over Two Hundred printed in Colors. Second Edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xxix–1274. [Price, $6.]

Diseases of the Heart and Aorta. By George Alexander Gibson, M. D., D. Sc., F. R. C. P. Ed., F. R. S. E., Senior Assistant Physician to the Royal Infirmary, Edinburgh, etc. With Two Hundred and Ten Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xx–932. [Price, $6.]

Diseases of the Skin: An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, Surgeon to the Skin Department, St. Mary's Hospital, London, etc. With Ten Colored Plates and Twenty-six Engravings. New and Revised Edition. Philadelphia: Lea Brothers & Co., 1898. Pp. xv–589. [Price, $3.25.]

Footnotes to Evolution. A Series of Popular Addresses on the Evolution of Life. By David Starr Jordan, Ph. D., President of Leland Stanford Junior University. With Supplementary Essays by Edwin Grant Conklin, Ph. D., Professor of Comparative Embryology in the University of Pennsylvania; Frank Mace McFarland, Ph. D., Associate Professor of Histology in Leland Stanford Junior University; and James Perrin Smith, Ph. D., Professor of Paleontology in Leland Stanford Junior University. New York: D. Appleton and Company, 1898. Pp. xviii–392. [Price, $1.50.]

The Story of the Rise of the Oral Method in America. As Told in the Writings of the Late Hon. Gardiner G. Hubbard. Washington: W. F. Roberts, 1898. Pp. 3 to 49.

Report of the Surgeon-General, United States Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy, 1898.

Report of the Trustees of the Newport Hospital, presented to the Corporation at its Twenty-fifth Annual Meeting, July 12, 1898.

The Biologic Basis of Ethics and Religion. By George M. Gould, M. D., of Philadelphia.

Annual Report of the Health Department of the City of San Antonio, Texas, for the Fiscal Year ending May 31, 1898.

Nineteenth Annual Report of the New York Hospital Saturday and Sunday Collection of 1897.

International Reports of Schools for the Deaf. Volta Bureau, for the Increase and Diffusion of Knowledge relating to the Deaf, Washington.

The Difference between the Two Systems of Teaching Deaf-mute Children the English Language. Volta Bureau, Washington.

Miss Helen Adams Keller's First Year of College Preparatory Work. By Arthur Gilman, M. A. Volta Bureau, Washington. [Reprinted from the *American Annals of the Deaf.*]

A Case of "Mathematically Perfect Eyes." By George M. Gould, M. D. [Reprinted from the *Annals of Ophthalmology.*]

Address upon the Condition of Articulation Teaching in American Schools for the Deaf. By Alexander Graham Bell.

Asepsis and Antisepsis. By B. Sherwood-Dunn, M. D., of Boston. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

State and Municipal Care of Consumptives. By S. A. Knopf, M. D. [Reprinted from the *Medical Record.*]

Modern Treatment of Tuberculosis. By Charles Denison, M. D., of Denver. [Reprinted from the *Journal of the American Medical Association.*]

Some Observations of General Interest regarding the Course and Management of Cataract. By J. H. Woodward, M. D. Read at the Meeting of the New York State Medical Association, October, 1898.

Extirpation of the Uterus and Ovaries for Hæmatosalpinx complicating Pregnancy. By M. Neumann, M. D., of San Francisco. [Reprinted from the *American Journal of Surgery and Gynæcology.*]

The Relationship between the Genito-urinary Tract and the Rectum. By John L. Jelks, M. D., of Memphis, Tennessee. [Reprinted from the *Memphis Medical Monthly.*]

Sporadic Cretinism in Ontario. By Alexander MacPhedran, M. B., of Toronto. [Reprinted from the *Canadian Journal of Medicine and Surgery.*]

Der Morbus Basedowii. Von Medicinalrath Dr. C. Schwerdt in Gotha. [Separatabdruck aus der *Münchener medicinischen Wochenschrift.*]

Tannigeno e Tannalbina. Pel Dott. Francesco Corletto. Bologna: Dottor Vittorio Dall' Olio, 1898.

Miscellany.

Antistreptococcic Serum in Puerperal Sepsis.—Two cases of puerperal fever successfully treated with antistreptococcus serum are recorded by Dr. Earle Williams and Dr. T. H. O'Connor in the *Boston Medical and Surgical Journal* for November 10th. Dr. Williams used the antistreptococcus serum, formula Fisch, and concludes his paper as follows: "In conclusion, I will state that there was no local trouble, the manifestation of the disease being entirely systemic. Following three of the injections, there was a remarkable improvement in the symptoms which was not noticeable after the second injection, which may possibly be due to its being of a different make. Different nourishment, together with stimulants, champagne and brandy, were pushed to the utmost from the first. Strychnine, strophanthus, and quinine were also pushed to tolerance and she had excellent nursing throughout."

The serum used by Dr. O'Connor was Marmorek's, obtained from the Pasteur Institute. He concludes his paper by saying that on the twelfth day the temperature was normal, pulse 80, for the first time since the second day and one hundred and twenty hours since the first injection of serum, during which time forty cubic centimetres had been given. The temperature continued to fluctuate between normal and 100.5° F. until five days later, after which date it remained at normal and the patient made a rapid convalescence. In addition to the serum injections, the treatment consisted of intra-uterine douches of bichloride, 1 to 4,000, twice daily, quinine sulphate, two grains every two hours, and peptomangan, half an ounce in milk every four hours. Claret was given because of patient's objection to stronger stimulants. No local effect followed the injections of serum, but a depressed feeling and a marked rise in temperature occurred twelve hours after, followed by buoyancy of spirits and a decided drop in temperature in twenty-four hours. While regretting that a microscopic examination had not been made, yet he thinks the course and symptoms warrant the diagnosis of streptococcus infection.

The Closets on Trains.—Dr. R. S. Thornton (*Manitoba and West Canada Lancet*, October), in a paper on The Wind as a Factor in Spreading Infection, has the following sensible remarks and suggestion: "The second point concerns the public health authorities and has to do with the water-closets in use on the railway trains. These are, for the most part, open chutes down which the excreta are projected to the railway track. Many people with ambulatory typhoid, and patients in various stages of the disease *en route* to hospitals or home, use these closets, and thus typhoid stools are spread along the railway, ready for distribution by the wind all over the neighboring country. The same thing might happen were cholera ever to obtain a footing on this continent; but apart from the specific danger in such diseases the method is unhygienic and offensive. It should not be difficult to attach a box below the chute and adopt some modification of the earth closet, the excreta being removed and buried at divisional points along the line."

The Ethics of Low Fees.—To take a small fee, says the *Indian Medical Record* for October 1st, because the patient can not afford a large one, is to act up to the true principle of the profession and to keep up, in its strict form, the honorarium which the fee professes to be. To charge a low fee in order to attract practice is a suicidal policy. It degrades the practitioner who does it to the level of a huckster, and it pauperizes the person to whom the charge is made, and leads him to put a purely commercial estimate upon the services rendered.

The Medicinal Properties of Onions.—According to the *Manitoba and Northwest Canada Lancet* for October, onions are a kind of all-round good medicine. A whole onion eaten at bedtime will, by the next morning, break the severest cold. Onions make a good plaster to remove inflammation and hoarseness. If an onion is mashed so as to secure all the juice in it, it will make a most remarkable smelling substance that will quiet the most nervous person. The strength of it inhaled for a few moments will dull the sense of smell and weaken the nerves until sleep is produced from sheer exhaustion.

The Color of Negro Infants.—In our issue for July 16th we quoted from *Pædiatrics* for July 1st a statement by Dr. Farabery that "the negro baby at the time of its birth is exactly the same color as its white brother." *Pædiatrics* for November contains a series of letters on this subject, all of them traversing Dr. Farabery's assertion. Dr. John H. Claiborne, who has practised for forty-eight years in the "black belt of Virginia," states that he has seen thousands of negro babies, but has yet to see a white one. Even the cross of the white man upon the negro woman, he says, does not produce a white baby. In an unsigned letter, dating from New Haven, Missouri, the writer says that "the color of the newly born scion of African parentage, whether of immediate or remote descent, is not the same as that of the Caucasian or American. It is a sallow or creamy white without the pink glow or tinge that marks the scions of Caucasian origin. The color of certain organs will give evidence of a trace of negro blood until an almost homœopathic dilution is reached." He takes issue with the French physician that there ever appears "a tender pink color" if the slightest trace of African or negro blood is present. The "tanned leather" hue familiarly known as "saddle color," belongs exclusively to a mixture of the white and black races. The pink, rosy hue of the cheek of the Caucasian has never been seen in the cheek of one having even one eighth of negro blood in his veins. He believes the African blood can be distinguished in certain organs to the sixteenth dilution.

Dr. T. L. Robertson, who has been practising in Alabama since 1858, states that in his experience babies born of negro parents are black, some of them very black, while those born of mulattoes or mixed bloods vary according to the predominance of the race.

A Fatal Case of Gonorrhœa.—Ghon and Schlagenhauser (*Wiener klinische Wochenschrift*, 1898, No. 24; *Journal des connaissances médicales*, September 1st; *Bulletin of the Pasteur Institute*, October) report the case of a girl who entered the hospital after having suffered for a month with pains in the limbs, accompanied by symptoms of influenza; four days before entering the hospital she was seized with chills, which were still present at the time of her admission. Examination showed that she was affected with acute blennorrhagia and bartholinitis. She had intermittent febrile attacks; about the sixth day pain suddenly appeared in the right foot, which became cold and bluish, while sensitiveness was diminished in the whole limb. This lesion grew worse and five days later the foot was the seat of gangrene. The cardiac sounds, at first muffled, became more distinct, and a systolic murmur was heard at the base, on the left of the sternum. The patient's condition became very bad and death promptly occurred.

At the autopsy, the following lesions were observed: an ulcerative endocarditis of the aortic valves, with abscesses in the substance of the myocardium; hypertrophy and dilatation of the heart. The gangrene of the foot and leg was caused by embolism of the femoral artery. There was a focus of suppuration in the peritoneal covering of the posterior surface of the uterus. The gonococcic process had invaded the urethra, the vagina, and the cervix. The liver was the seat of parenchymatous degeneration; there were myocarditis and pulmonary œdema. Gonococci were found in the cardiac lesions; this proved the gonococcic nature of the endocarditis. The authors noted the absence of splenomegalia and septic emboli, which usually accompany infectious endocarditis.

The gonococcus was isolated and cultivated; it could not be found in the embolus of the femoral artery, but was present in large numbers in the retro-uterine abscess.

The urethral canal exhibited numerous small, very vascular vegetations, developed at the expense of the connective tissue underlying the epithelium, which vegetations are often met with in subacute and chronic gonorrhœa.

The authors could not find the channel of entrance of the pathogenic microbe into the circulation.

The Cure of Cervical Adenitis without Cicatrices.—M. Calot (*Presse médicale*, October 22d) says that the aim of the surgeon should be to cure cervical adenitis without leaving any trace. The spontaneous evolution of cervical adenitis leads in a longer or shorter time either to resolution or softening. Resolution, which is by no means rare, is a spontaneous cure. In softening the author endeavors to lead to a cure without cicatrix. It is necessary, he says, before the skin is altered, to treat the abscess by punctures with a fine needle and modifying injections. If this method is adopted he expects a cure without cicatrix in ninety-nine per cent. of cases. When with general treatment, and a stay of six months or more at the seaside, the gland remains swollen and indurated, neither showing signs of resolution nor advancing toward softening, the author has tried injections of all sorts—tincture of iodine, salt solution, camphorated naphthol, sterilized staphylococcic and streptococcic cultures, turpentine, iodoformized ether, and chloride of zinc. A one-in-fifty chloride-of-zinc solution has given him the best results. The injection is repeated three or four times, at two days' interval, with thirty to sixty drops of this solution. This treatment has nearly always led to the commencement of softening, when the author finished by injections of camphorated naphthol. The author asserts that by waiting until softening occurs, either naturally or by the use of chloride of zinc, and adopting the treatment outlined, there is nothing to lose, and in saving the patient from a cicatrix much to be gained.

Fever from Coitus during the Puerperium.—Dr. Frances H. Lee (*Woman's Medical Journal*, August, 1898; *Medicine*, November) reports the case of a quintipara in whom each confinement had been followed by chills and fever about the fifth day. In the confinement for which Dr. Lee attended the patient the temperature and pulse were normal until the fifth day, when the patient began to have chills in the morning. The temperature was 103.5° F., the expression anxious, the abdomen slightly distended and tender, and the patient complained of headache. On inquiry it was ascertained that the patient had had coitus on the night of the third and the morning and night of the fourth day—thriee in thirty-six hours. Interdiction of coitus reduced the temperature, and the patient made a good recovery thirteen days after confinement. On inquiry it was ascertained that coitus had been indulged in on the third and fourth days after each confinement, the chills and fever following.

Symphysiotomy.—Dr. William P. Carr (*American Journal of Obstetrics*, October) quotes Lusk as saying of symphysiotomy that "its worst enemies are those who preach its simplicity and who ignore the risks involved in its employment. It is not in all cases easy of accomplishment. The avoidance of hæmorrhage and lacerations calls for constant vigilance, and the after-treatment involves an infinite amount of painstaking."

Dr. Carr says that from his own observations and those of others, he thinks he may safely say that the most objectionable features of the operation are the difficulty and discomfort of keeping the bones in apposition by the methods in vogue, and the consequent danger of pinching the urethra or bladder, the danger of hæmorrhage, and the danger of infection in a wound so close to the vulva and urinary meatus. He believes, however, that by careful attention to technical details all these objectionable features may be overcome.

The ordinary rules of asepsis and antisepsis must, of course, be rigidly observed, and in addition he has the following three suggestions to make:

1. The incision need not extend as low as it is usually made. The lower angle of the wound may be pulled down with a retractor, after the incision has been made down to the bone, and sufficient room thus gained to complete the operation safely without extending the skin wound nearer than two inches to the urinary meatus. This he believes to be an important detail, as it greatly lessens the chances of infection.

2. The bone should be carefully and thoroughly separated from the tissues behind and below, great care being taken to keep next to the periosteum. It is also important that this separation should extend from three fourths of an inch to an inch on each side of the median line, to insure the safety of the blood-vessels and the urethra when the bones are separated. Several large anterior vesical veins and veins from the clitoris lie imbedded in the fat and loose connective tissue between the anterior wall of the bladder and urethra and the posterior and inferior surface of the pubic arch; but these vessels are safe and the urethra is safe if freeing of the bone is carefully done. After the bones are freed all around, the joint may be divided with a Galbiati knife, or preferably with an ordinary scalpel if the precaution is taken of first passing a grooved guard behind the line of incision, as recommended by Farabœuf, Lusk, and others. The articular surfaces are not plane surfaces. Irregular rounded projections of bone, except in very young subjects, will frequently be found passing across the median line from one side or the other and fitting into corresponding concavities of the opposite bone, with only a thin layer of cartilage between. This makes the line of incision irregular, and the irregularities can be better followed with a thin, sharp-pointed knife. If a thick knife is used these bony projections must be forcibly cut through.

3. He would recommend wiring the bones. He can conceive of no possible valid objection to uniting them firmly with stout silver wire, and believes that this will very materially shorten the time necessary for firm union, that it will insure firm union, and that it will add immensely to the comfort of the patient subsequent to operation. He is aware that necrosis and suppuration have been attributed to the use of silver wire in

this manner, but he freely confesses that he does not believe such troubles can be justly attributed to the wire or the wiring. They could have been due to nothing but infection, and should infection of the wound occur it would be an easy matter to remove the wire. Farabœuf, Pinaud, and Caruso recommend silk sutures through the tough ligamentous tissue anterior to the pubes. Such silk sutures are, he says, worse than useless. When the strain of separation comes upon them they will tear through the tough tissues like hot wire through butter; and silk ligatures are vastly more irritating and vastly more apt to become infected than silver wire.

Abortion due to Quinine.—Assistant Surgeon Balagapal (*Indian Medical Record,* October 1st) records the case of a woman about twenty-one years of age who, being in the third month of pregnancy, aborted after taking the fourth dose of a mixture containing two grains of quinine to the dose, which was prescribed for malarial remittent fever.

Attending Physician alone Prohibited from disclosing Professional Information.—According to the *Journal of the American Medical Association* for November 5th, the Pennsylvania act of June 18, 1895, employs the following words: "That no person authorized to practise physic or surgery shall be allowed, in any civil case, to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity, which shall tend to blacken the character of the patient, without his consent." It will be seen at once, says the supreme court of Pennsylvania, in Wells *vs.* the New England Mutual Life Insurance Company, July 21, 1896, that the act establishes a personal incapacity only. It is the physician attending a patient who is prohibited from testifying to information acquired while rendering professional service. He is prohibited by the words, "no person authorized," etc., "shall be allowed to disclose any information," etc. No other person who, being present at the time when the information was communicated, heard the same, would be prevented by this act from testifying to the very matter in question. It is only the physician himself who is prohibited, and that is manifestly on account of the professional relation between himself and his patient. Where a physician was examined as a witness, and his deposition taken, at a time anterior to the passage of the above act, and at that time he was perfectly competent to testify to the matter in question, but subsequently, and before the trial in court, died, and the act above quoted was passed, the court holds that it was error to rule out the deposition because of the incompetency of the witness at the time of the trial if he had been living.

The Physiological Dressing.—Augè and Casteret (*Presse médicale,* September 18th; *Journal of the American Medical Association,* November 5th) have been testing sodium bicarbonate, recommended by the Russians, and find it fully as effective as antiseptics in dressing suppurating wounds, and in many cases more so. It promotes epidermization much more rapidly; suppresses pain and inflammation in from twenty-four to forty-eight hours; dries up the suppuration rapidly; favors the secretions by cleansing the pores, while increasing phagocytosis and restoring the alkalinity to the blood. This latter they consider so vital that they assert that the resistance of the organism to infections is proportionate to the alkalinity of the blood, and that the effect of artificial serum is due to this cause. They have tested the bicarbonate on a number of suppurating gangrenous wounds, panaris, phlegmonous abscesses, and dermatoses, and they conclude their very favorable report with the remark that the still unattained ideal dressing would be one which killed the microbes like the antiseptics—which the bicarbonate does not—while still respecting the integrity of the cells.

Some Points on the Recent War.—At the New York Academy of Medicine, Major William Duffield Bell, surgeon of the Seventy-first New York Volunteers (*Columbus Medical Journal,* November 1st), spoke of the difficulties arising from absence of transportation. Major Wood loaded his own horse, and those of the medical officers with him, as well as the three ambulances, with the necessary supplies, and by repeated trips moved his hospital from Siboney to Savilla. There was an insufficient supply of clothing, due to defective transportation facilities. The transportation of the wounded was a source of anxiety to the surgeons. Men with desperate wounds had to walk or crawl distances of from one mile to several miles over a wild and rugged country. Men who had been shot through the abdomen by the Mauser bullet were known to have walked for three or four miles, and to arrive at the hospital in excellent condition, and eventually recover without operation. Dr. Bell said that, to his own knowledge, men had been wounded in the liver and kidney, and yet up to the present time there had been no serious consequences.

The Mauser Bullet.—At a greater range than two hundred yards the Mauser bullet gave a small wound of entrance, and only a slightly larger wound of exit. In several instances the Mauser bullet passed through the skull and out again without producing any apparent injury to the brain, and the men returned to duty in two or three days.

The Spanish Explosive Bullets.—The explosive bullets used by the Spaniards consisted of a brass coating containing soft lead. They were used by the Spanish volunteers, who fired them from the old Springfield rifle. Their passage through the air was accompanied by a peculiar humming sound, and there was a short, sharp pop as they exploded. Although the use of these bullets had been denied, there were now so many observations regarding wounds produced by them that there could no longer be any room for doubt on this point.

Dressings and Wounds.—The simplest antiseptics were found to answer best. The use of iodoform was almost abandoned, because in the tropics it was apt to cause undue irritation of the skin, and was prone to be absorbed in dangerous quantities. The first-aid packets rendered valuable service, but the volunteers were not well supplied with them, and did not appreciate their value, so that they often threw them away.

The Mortality.—In this campaign there were two hundred and eighty killed and four hundred wounded; but only sixty-five of the wounded died of their injuries.

Effect of Distance on Bone Injuries.—If the wound was received within five hundred yards, the class of fractures was entirely different from those received within eight hundred yards. Nearly all the wounds at El Caney were from bullets at a distance of five hundred yards, whereas at San Juan most of the injuries were received at eight hundred yards or more. The bone injuries on the former battlefield were characterized by a great deal of comminution, while at San Juan there were numerous instances in which the ball passed through the long bones without producing splintering. It was here that the man was shot through the posterior portion of the skull without receiving any obvious injury of the brain.

Effect of the Krag-Jorgensen Bullet.—The Krag-Jorgensen bullet at short range was found to be explosive, like the Mauser bullet, but the range of the former was shorter by three or four hundred yards. On the visit of the British consul to the American lines, during the cessation of hostilities, he was asked to notify the Spaniards that if they did not stop using explosive bullets the Americans would retaliate in kind. To this the Spaniards replied that the Americans were also using them, and upon investigation it was discovered that the Krag-Jorgensen bullet acted in this manner.

The Spanish Wounded did Badly.—In the fourteen hundred and fifty cases treated at Siboney, there were only four deaths up to the 7th of July. Traumatic fever was almost unknown in the camp. It was quite different with the Spanish soldiers. Those who received wounds in the naval battle did badly. There were no clean wounds here, so that amputations instead of resections were demanded. The Spanish soldiers did not have the antiseptic pads, as did our own soldiers. Dr. Bell was convinced that the lives of hundreds had been spared by the use of these pads.

Immunity from Tetanus.—In reply to Dr. Janeway, Dr. Bell said that he had not seen a single case of tetanus, and knew of only one case that had been reported, and that had occurred at Miami, Florida. Possibly this immunity was largely due to the great care taken to carry out the principles of aseptic surgery.

Indications for Laparotomy in Contusions of the Abdomen.—Speaking on a paper on Surgical Intervention in Abdominal Contusions presented by M. Potherat to the Société de chirurgie, M. Hartmann (*Journal des praticiens*, October 29th) said that after contusions and wounds of the abdomen the contraction of the muscles of the abdominal wall indicated certainly a visceral lesion, and consequently demanded laparotomy. This symptom had no doubt been noted by other observers, but the necessary operative indications had not been drawn from it. Out of ten cases of serious contusion, it had been present seven times, and acting upon this indication, surgical intervention had been made, with the result that in each case grave visceral lesions had been found. M. Delorme, however, attached no importance to this symptom. He had observed it many times in cases of grave abdominal contusion occasioned by the kick of a horse, without operating, and his patients had recovered. He, like his colleagues, recognized the necessity of emergency laparotomy in these cases, but only when there existed a pathognomonic group of visceral lesions pointing to intestinal complication.

The Qualifications for an Expert Medical Witness.—Mr. Thomas Hislop, LL. B. (*Physician and Surgeon*, November), gives the following summary of the needful qualifications for a good expert medical witness: If, he says, under the present system, physicians are willing to serve as experts, the experience of their predecessors makes clear several things. 1. No case should be undertaken unless the individual has secured in writing the obligation of responsible parties to pay the expense of his work. If any one expects that the notoriety of public crucifixion in court will pay for services, or that verbal promises by the irresponsible will afford adequate compensation, he will, when too late, discover his mistake. Especially is it necessary to secure such written promise to pay a definite sum when the public officials are to settle the bill. These never pay a fair bill to any expert, if it be presented after service is done. Collectively these officials have no reason or conscience respecting services rendered by an expert to the community. 2. No case should be undertaken without the most exhaustive study of both its sides. Further, the expert should place himself in his opponent's place and ask such questions as he would ask. He should also study the opinions of other experts on the same facts, and distinctly formulate the reasons for accepting or rejecting these. Having done all this, he is in a position to decide whether he desires to engage in the court contest. 3. Expert testimony should always distinguish between facts and opinions. Thus the fact that atropine is a poison differs from an opinion as to the manner in which it caused death in a particular case. Opinions should be based by the expert upon facts personally known to him or proved in the evidence. 4. Expert testimony should be given in the simplest English possible. Here a spade must be called a spade; bruise is better than contusion; black eye is better than extravasation underneath the skin of the blood of a ruptured vessel. Testimony is worthless unless fully comprehended by the judge and jury. It follows that no effort should be made to answer a question which is not fully comprehended by an expert—as the answer will necessarily partake of the muddy mind of the speaker. Expert testimony must be perfectly transparent to the lay mind, otherwise it will vitiate its object. 5. Expert testimony must be without any qualification. All "ifs" must be removed ere it is given. If this is impossible, it is better to answer, "Do not know." But when "Do not know" is given as a reply, it must be strictly adhered to, otherwise the counsel will make the expert and his testimony both appear ridiculous. 6. Expert testimony should never be undertaken by one who lacks perfect self-control under the most trying circumstances. It not infrequently happens that counsel deliberately undertake to break down expert testimony by making the witness angry, and so catching him off guard. Hence, he that does not have full control of his temper, even when called a liar, rascal, thief, or other insulting epithet, either by insinuation or actual statement, had better not assume the work of a modern expert. 7. Expert testimony should not be given by one slow to catch the hidden as well as the expressed meaning of language, and unable to promptly make fitting reply; otherwise his best intentions will be thwarted by skilled counsel, especially when acting under the prompting of other experts. 8. Expert testimony should never be attempted by a physician who is unable to wholly divest himself of his accustomed habits of thinking and reasoning. These habits have trained him to look for causes and manifestations of disease in order that he may plan for saving life and restoring health. The new habits of mind which as an expert he must assume, compel him to look at facts as they are related to the guilt or innocence of a person charged with a crime or wrong against another. It is not possible for all physicians to assume this reversed mental attitude of the expert with equal readiness, and many never can assume it. Others who once assume it are unable to return to their former mental state, and so are greatly injured in their medical work. Patients detect a difference in their medical attendant which they do not like, though generally neither patient nor physician recognizes the nature of the mental change wrought by the expert habit. A patient calls a physician to be cured of some physical disability, not to be studied as a possible criminal. Finally, this paper desires to call attention to the false position in which legal procedure has placed scientific testimony and scientific experts, and to stimulate effort for their removal from such position to that which they first occupied—that of adviser to courts on all matters of science.

Rupture of the Symphysis Pubis during Labor.—Dr. Joseph B. De Lee (*American Journal of Obstetrics*, October) records two cases of this rare affection. In one case the child was delivered spontaneously; in the other it was the subject of a prolonged and difficult extraction by podalic version after three ineffectual attempts with the forceps.

Formol and Carbonic-acid Gas in Phthisis.—At the Congress for the Study of Tuberculosis recently held in Paris, according to the *Scottish Medical and Surgical Journal* for November, M. Cornil said that though formol in its pure state was irrespirable, yet when mixed with carbonic-acid gas it could be used in the treatment of pulmonary tuberculosis. The inhalations should last from fifteen to twenty minutes at most. By means of this treatment the expectoration became white, the râles diminished, and the multiplication of the bacilli underwent a marked diminution. These inhalations had given very good results in hospital in the case also of asthmatics.

The Origin of the Facial Nerve.—Dr. Alexander Bruce (*Scottish Medical and Surgical Journal*, November), as the result of his investigations, concludes: 1. That the physiological relationship between the movements of the lips and the tongue is not of such an intimate nature as to indicate an identity of the nuclei of the nerves to their muscles. 2. That the anatomical evidence as yet available does not point to an origin of the fibres for the orbicularis oris from the hypoglossal nucleus. 3. That there is a crossed root for the facial nerve. 4. That this crossed root does not, as he at one time supposed (*Mid and Hind Brain*, 1892), and as Obersteiner, Marinesco, and others still hold, arise from the opposite facial nucleus, but that it can be traced in an upward direction through the posterior longitudinal fasciculus (toward a nucleus at a higher level than the main facial nucleus). 5. That this crossed root is probably concerned in the innervation of the upper face muscles.

Further Observations on the Chemical Nature of the Active Principle of the Suprarenal Capsule.—In the September–October number of that extremely valuable periodical, the *Johns Hopkins Hospital Bulletin*, Dr. John J. Abel, of the pharmacological laboratory of the university, adds some new observations to those previously published by him in conjunction with Dr. A. C. Crawford.

The extract used was prepared with warm water slightly acidulated with sulphuric acid, and it was then concentrated *in vacuo* until the extract from fifty kilogrammes of fresh suprarenals was reduced in volume to about ten litres. This condensed extract was then heated to 80°, the coagulated proteids were filtered off, and the clear filtrate was benzoated in fractional portions. It was found to be unnecessary to remove the proteids entirely. Dr. Abel says it is a pleasant duty to acknowledge that this research would have been impossible but for the liberality of Messrs. P. D. Armour & Co., of Chicago, who supplied him with large quantities of a concentrated aqueous extract of the suprarenals of the beef prepared according to his direction; and he thanks Professor A. G. Manns, chief chemist of the firm, for the care he has taken in preparing these solutions and for the interest he has taken in the scientific aspects of the subject.

The crude, sticky mixture thus obtained, which consisted of the benzoates of our chromogen, of inosite, possibly also of carbohydrates, creatine, and other substances, was washed thoroughly with water and then dissolved as far as possible in warm glacial acetic acid. A considerable residue remained undissolved. The acetic-acid solution was poured into much ether, and again a great deal of material was precipitated. The acid-ether solution was first repeatedly shaken out with water, causing a further deposition of resinous matter, and then with a solution of sodium hydrate until all the acetic acid was removed and only a clear but slightly colored ether solution of a benzoate remained. These repeated washings caused copious deposits to fall out.

The ether solution was again washed with water, and then once or twice with a ten-per-cent. solution of sulphuric acid, followed with water. This washing with acid was now discontinued, as it caused the benzoate of the chromogen to fall out in the form of a sticky resin.

By these processes a number of foreign benzoates are removed, the benzoate of inosite being insoluble in glacial acetic acid and that of grape sugar in ether.

When the benzoate of the chromogen had been treated as stated, the ether was removed by distillation, and a yellowish, sticky benzoate remained, which became brittle when allowed to dry in the air in thin layers. By boiling its alcoholic solution with animal charcoal further purification was effected, so that when small quantities of this alcoholic solution were allowed to evaporate bunches of prismatic crystals were deposited. Many different solvents have been tried, but from none does it crystallize with enough difficulty to leave a mother liquor.

Nevertheless, he has been able to learn something as to the composition and nature of the chromogen, the assumed blood-pressure-raising constituent. In order to isolate this substance, the benzoate as obtained from the washed ether solution was decomposed with water in an autoclave under a pressure of from eight to twelve atmospheres. A clear, slightly straw-colored solution is thus obtained, which, when freed from benzoic acid and from a certain amount of a black resin which is deposited in this as well as in other methods of decomposing the benzoate, gives all the well-known color and reduction tests of a fresh aqueous solution of the glands, with one difference, which is that the addition of a little ammonia and iodine water no longer gives the characteristic rose-pink color, but, instead, a vivid green. In all other respects the chromogen appears to be unaltered. A little ammonia, however, is set free during the hydrolytic decomposition just described, but whether this is derived from the substance in question or from some benzoate still contaminating the benzoate of the chromogen can not as yet be stated.

When all the benzoic acid has been removed from the solution of the benzoyl product as taken from the autoclave, the cautious addition of very dilute ammonia, drop by drop, causes a copious precipitation of a substance which falls out in a flocculent precipitate much as casein does when precipitated from milk with acetic acid. The precipitate rapidly darkens and must be removed with the help of a suction filter as rapidly as possible.

It is washed with a little water, then with cold absolute alcohol and ether, and immediately ground up in agate mortars while it is still moist with ether. On drying it becomes a light grayish powder. This is the free chromogen with such slight modification as has occurred during the hydrolysis of its benzoate. When dry it is almost insoluble in water, as also in a whole series of organic solvents; it is very soluble in warm dilute acids, in cold glacial acetic acid, and in acetic anhydride. Dilute solutions in slightly acidulated water give an intense green color with ferric chloride or with ammonia, and they reduce ammoniacal silver solutions. Such solutions, exposed to the air, gradually deposit a brown precipitate, and this goes on until but little of the chromogen is left.

The behavior of the substance toward the halogens, which all precipitate it from its solutions, and toward the numerous alkaloidal reagents, the author hopes to report on at some future date. He only says now that a little of the dried chromogen obtained by breaking up the benzoyl product with acids as described in the previous paper, which still gives the rose-pink color with ammonia and iodine water, strikes a rich plum color when treated with a drop of sulphuric acid or with Mandelin's reagent, reminding one of the effect of similar tests on strychnine. The chromogen as derived from its benzoate by hydrolysis in the autoclave does not give this color, but an olive-green followed by pink, which gives place to dirty hues.

Strong alkalies decompose the substance, and boiling it with alcoholic solutions of potassium hydrate and chloroform brings out the nauseating odor of a carbylamine. On attempting to isolate this volatile substance by distillation, it was found to be decomposed, and on again treating the distillate with alcoholic potash and chloroform, the carbylamine was regenerated, thus showing that a primary amine had been split off when the chromogen was treated in this way.

On fusing the substance with powdered potassium hydrate and then diluting with water, the penetrating odor of skatol rises from the solution. When this solution is shaken out with ether and the ether allowed to evaporate, little globules remain having an intensely fæcal odor, and when these are dissolved in concentrated hydrochloric acid the solution at once takes on the fine characteristic pink color always seen when even small quantities of skatol are thus treated.

An alcoholic solution of these globules gives to a pine sliver, moistened with hydrochloric acid, a rich dark-red color; a solution in benzol to which picric acid in benzol is added immediately deposits a picrate, not in crystals, but in the form of reddish droplets, and an aqueous solution treated with sulphuric acid and potassium nitrite gives the whitish turbidity seen when skatol is similarly treated. Salkowski's reaction was also obtained, though imperfectly, as the production of intense colors in this test demands more substance than was left at the author's disposal.

The characteristic odor of this decomposition product, together with its chemical reactions, would make it appear to be either skatol itself or one of the isomeric indols.

Some importance must be attached to this discovery, says Dr. Abel, since, taken with the various reactions of the chromogen, the results of the elementary analyses and such facts as that dry distillation yields benzoic acid, amines, etc., and heating with zinc dust yields pyrol, it clearly enables us to classify the chromogen, in a preliminary way at least, among complex aromatic bases not very unlike the alkaloids. The results of combustion analyses show that its empirical formula is $C_{17}H_{15}NO_4$, thus approaching in elementary composition some of the alkaloids.

Urotropine in the Treatment of Cystitis.—In the *Therapist* for October 15th Dr. T. Gordon Kelly, of Desford, Leicester, remarks that in the treatment of cystitis the first and main indication must be to render the urine antiseptic. As the principal drugs used for this purpose he mentions salol, ammonium benzoate, boric acid, guaiacol, resorcin, benzonaphthol, sodium salicylate, creosote, etc. All these drugs he has found useful in rendering the urine antiseptic, and they have been extensively employed in the treatment of cystitis, but none of them in his experience could be called a perfectly reliable and satisfactory urinary antiseptic. One drug only in his hands has answered this description, and this is urotropine.

He describes it as a non-toxic and non-irritating derivative of formic aldehyde formed by the action of four molecules of ammonia on six molecules of formaldehyde, and says it was first introduced to the profession by Professor Nicolaier in 1895, who asserted that it possessed the power of dissolving uric-acid concretions and also that, taken by the mouth, it prevented the development of bacteria in the urine. Dr. Kelly says he has not had an opportunity of thoroughly testing its power of dissolving calculi, so he can not personally say whether it possesses this property or not, but in cases of cystitis and of phosphaturia its action has, in his hands, been almost specific, and he has been satisfied beyond all expectations with the result.

In some cases, he remarks, it is said to cause a slight burning sensation in the bladder if large doses are taken, but no patient to whom he has given it has ever complained of this to him. He gives brief histories of several cases illustrative of the action of the drug, in one of which it was "most brilliantly successful" after every other drug of this nature had failed. It was one which many eminent men had regarded as beyond medical treatment.

In prescribing urotropine the reaction of the urine should first be discovered. If it is very acid a little citrate or acetate of potassium, or if it is very alkaline a little dilute mineral acid should be given in addition to the drug.

In the author's opinion, we have in urotropine the most thoroughly reliable urinary antiseptic and astringent, and the one nearest approaching to a specific for cystitis and allied affections.

A Royal Woman Doctor.—We learn from the *Woman's Medical Journal* for October that Queen Amelia, of Portugal, has recently graduated as a doctor of medicine after pursuing a five years' course of study. Her first patient was her husband, King Charles I, whom she has been treating for obesity.

Dr. Kelly's Work on Operative Gynæcology.—According to the *International Medical Magazine* for October, Dr. Howard A. Kelly is highly complimented in a review of his work on *Operative Gynæcology* in a late number of the *Lancet*. The reviewer speaks of it as "undoubtedly the most important work on this subject which has yet been written in the English language." He says: "The two volumes comprising it will long remain the standard work upon the subject of which they treat, and should be in the hands of all gynæcologists and surgeons performing pelvic operations."

An Extraordinary Damage Suit.—We learn from the *Railway Surgeon* for November 15th that an attorney of San Antonio, Texas, claims, in the United States court, fifteen thousand dollars damages from the Pullman Palace Car Company on the ground that while journeying in a Pullman car he was drenched, while asleep, with rain water through a hole in the roof of his berth, and that from the effects of this wetting he contracted a severe cold, which resulted in consumption.

The Treatment of Otomycosis by the Insufflation of Boric Acid and Oxide of Zinc.—Dr. Samuel Theobald, of Baltimore (*Johns Hopkins Hospital Bulletin*, September–October), says that seventeen years ago, in an article published in the *American Journal of Otology*, he called attention to the value of a powder containing equal parts of boric acid and oxide of zinc in the treatment of otomycosis aspergillina. In this article objection was urged to the use of alcohol, the agent most commonly employed for the destruction of aural fungi, on the ground that it not infrequently caused considerable pain when instilled into the auditory canal and tended to aggravate the inflammation of the canal walls and tympanic membrane usually present in otomycosis. A distinct gain, it was pointed out, would be made if a remedy could be found which would effectually destroy the parasite and at the same time exert a beneficial influence upon the inflammation excited by its presence; and such a remedy, it was contended, had been found in the boric-acid-and-oxide-of-zinc powder.

Experiments were described which showed the specific action of boric acid in destroying aspergillus and other fungi, and the drying effect of the oxide of zinc was held to render the germicidal action of the acid more effectual. At the same time there was abundant evidence to show that the combination of the two, used as suggested (by insufflation), was one of the most efficacious remedies that we possessed in overcoming diffuse inflammation of the external ear.

Although in the interval that has elapsed since the publication of that paper the author has used this remedy in all the cases of otomycosis that he has met with, and has never known it fail to destroy effectually the parasite—a single application often accomplishing this result, and more than two applications being seldom needed—he would not feel warranted in bringing the subject again to the attention of otologists but for the fact that the majority of them, to judge by the text-books, still seem to adhere to the practice, which, he thinks, should long since have become obsolete, of treating these cases by alcohol instillations.

That alcohol is a suitable agent to pour into a diffusely inflamed and painful auditory canal, he says, will hardly be maintained by any one, while its relative inefficiency in destroying aspergillus seems to be shown by the statement of Politzer, that the instillations should be kept up for "a year" to prevent a return of the growth, and that of Hovell, who says they should be repeated "two or three times a day" until the parasite is got rid of, and continued at intervals of a week for "several months" in order to guard against a relapse. As opposed to this, says Dr. Theobald, we have the one, two, or, at most, three applications of the zinc-and-boric-acid powder, at intervals of twenty-four or forty-eight hours, immediately and effectually eradicating the parasite, and at the same time, almost invariably, greatly benefiting the attendant inflammation.

The Craig Colony Prize for Original Research in Epilepsy.—The president of the board of managers of Craig Colony offers a prize of a hundred dollars for the best contribution to the pathology and treatment of epilepsy, originality being the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the board of managers of Craig Colony, October 10, 1899. Each essay must be accompanied by a sealed envelope containing the name and address of the author and bearing on the outside the motto or device which is inscribed upon the essay. The successful essay becomes the property of the Craig Colony, for publication in its *Annual Medical Report*. Manuscripts should be sent to Dr. Frederick Peterson, No. 4 West Fiftieth Street, New York, on or before September 1, 1899.

The Representation of Medicine in Art.—The *Gazzetta degli ospedali e delle cliniche* for October 2d contains an interesting article on this subject, illustrated by reproductions from ancient illuminated MSS., of various medical operations, methods, etc.

Coryza, apparently of Dental Origin.—Mr. E. P. Collett (*London Lancet*, January 1; *Journal of Ophthalmology, Otology, and Laryngology*, July) records the case of a physician who suffered from persistent coryza, principally unilateral, for three or four weeks. Examination demonstrated no physical cause except some stigmata on the middle turbinated bone associated with general vasomotor dilatation of membrane. Neuralgic pain in temple, malar bone, and subsequently behind right ear, supervened. Local treatment proved of no avail. The writer found a periodontitis of the first maxillary premolar, which he extracted—no pus was evacuated. The neuralgia was cured next day and the coryza in three days.

Extraordinarily Acute Case of Graves's Disease.—E. H. Sutcliff (*London Lancet*, March 12; *Journal of Ophthalmology, Otology, and Laryngology*, July) records the case of a woman, thirty-three years old, whose mother died of cancer. A sister had curvature of spine. The patient had had three severe confinements, which greatly depressed the tone of health. She had all the usual symptoms of the disease. Three weeks before death she vomited everything; took no food, as rectal feeding was not allowed; and could sip little water. Shortly after this persistent vomiting supervened, the pulse was 200, a very troublesome and painful cough developed, and the pharyngeal and laryngeal muscles became paralyzed, causing choking from taking water. The patient died three months after first symptoms.

The New York School of Clinical Medicine.—We learn that Dr. Carl Beck has resigned his professorship in the school.

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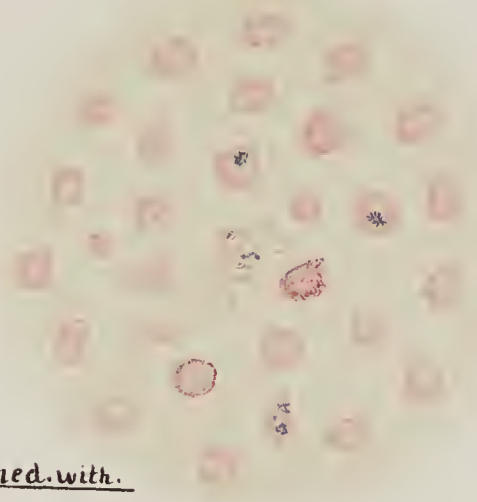
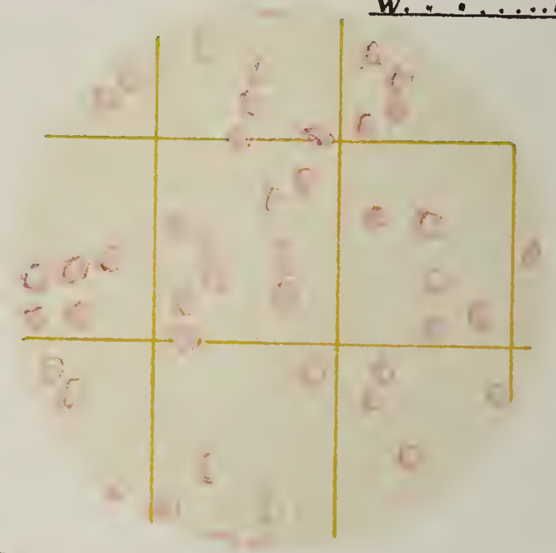
F. L. S[redacted] age. 22.
11th Infantry. Co. K.

Disease..... MALARIA.
Treatment... Hemaboloids.℥i.tid.

Blood. Exam.. Aug. 29. 98. Haemoglobin.... 58 %.
Magnified.. 800.. x. Red. Cells.. 3.100.000.
W. " " ..... 6.300.

Blood. Exam.. Sep. 18. 98. Haemoglobin... 65 %.
Magnified.. 500.. x. Red. Cells.. 3.400.000
W. " " ..... 6.300.

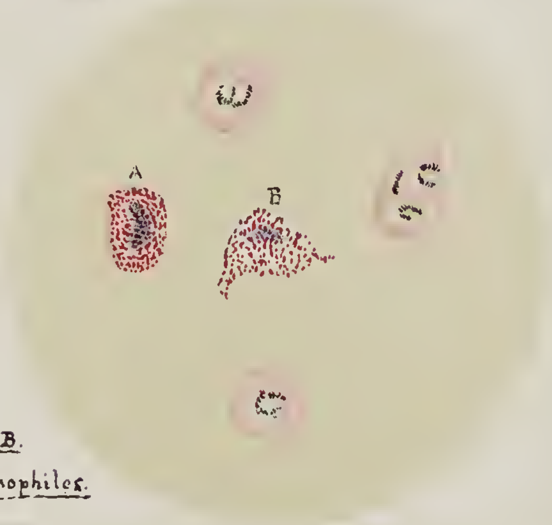




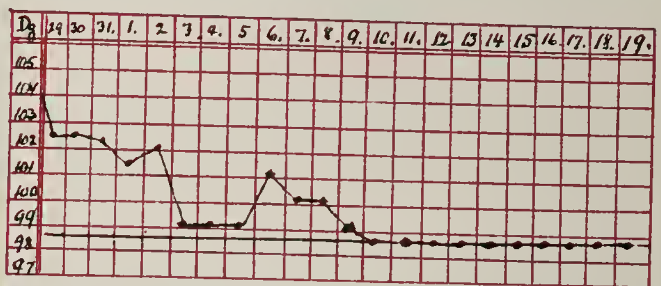
Stained. with.
Eosin and Methyl. blue.

Malarial. Plasmodia from above. Case.

Magnified.. 1500.. x. [redacted] Hospital. Brooklyn. N.Y.



A and B.
Eosinophiles.



DR. WARNER'S ARTICLE ON THE ARTIFICIAL PRODUCTION OF THE PLASMODIUM MALARIA AND THE RATIONAL TREATMENT FOR THE REMOVAL OF SAME IN MALARIA.

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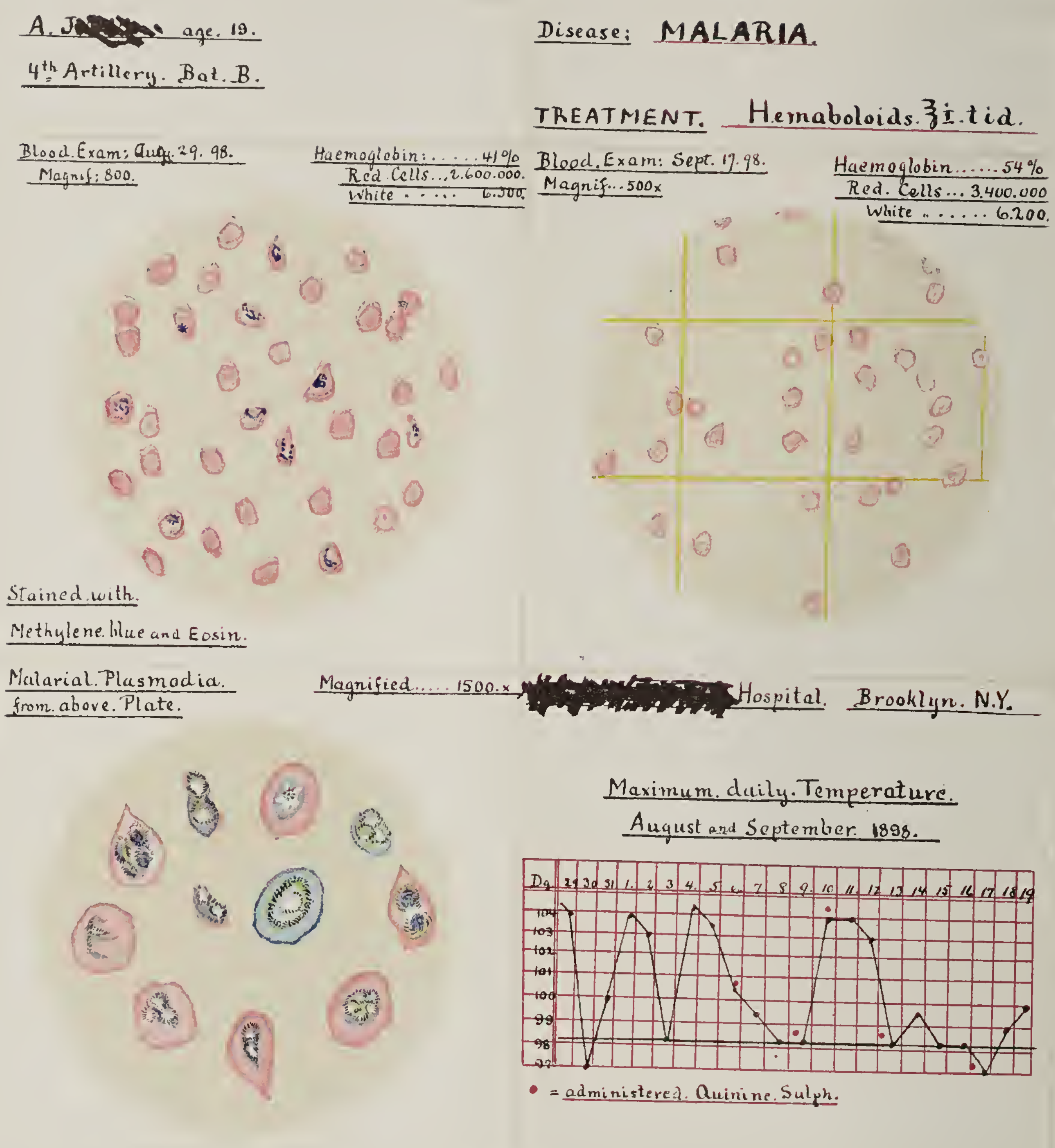

DR. WARNER'S ARTICLE ON THE ARTIFICIAL PRODUCTION OF THE PLASMODIUM MALARIA AND THE RATIONAL TREATMENT FOR THE REMOVAL OF SAME IN MALARIA.

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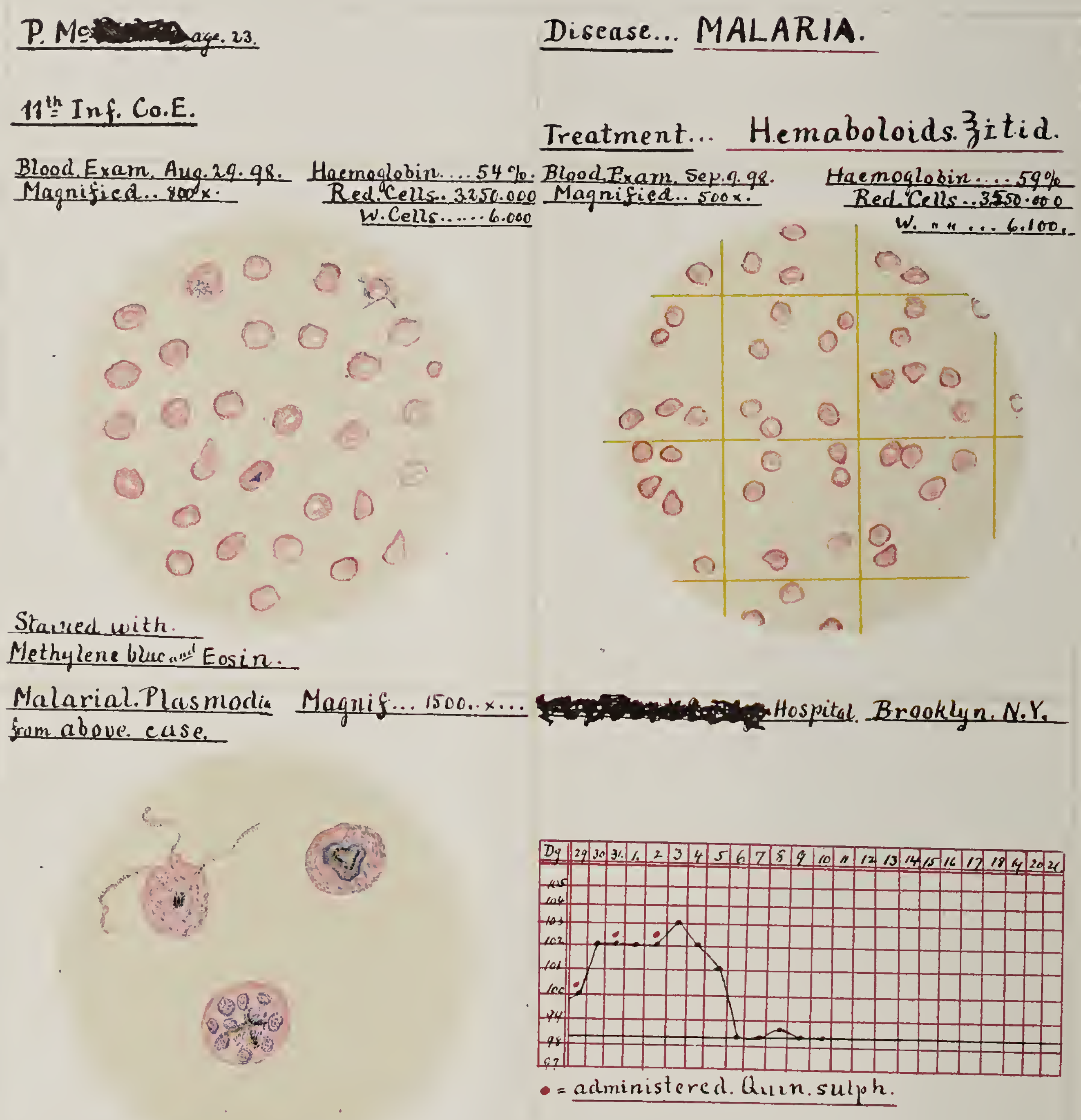
UNIVERSITY OF ILLINOIS



P. Mc[redacted] age. 23.

Disease... MALARIA.

11th Inf. Co.E.

Treatment... Hemaboloids ℥i t.i.d.

Blood. Exam. Aug. 29. 98.
Magnified.. 400x.

Haemoglobin....54%.
Red. Cells.. 3250.000
W. Cells......6.000

Blood. Exam. Sep. 9. 98.
Magnified.. 500x.

Haemoglobin....59%
Red. Cells..3550.000
W. " "....6.100.

Stained with.
Methylene blue and Eosin.

Malarial. Plasmodia from above. case.

Magnif... 1500..x...

[redacted] Hospital. Brooklyn. N.Y.

● = administered. Quin. sulph.

DR. WARNER'S ARTICLE ON THE ARTIFICIAL PRODUCTION OF THE PLASMODIUM MALARIA AND THE RATIONAL TREATMENT FOR THE REMOVAL OF SAME IN MALARIA.

THE NEW YORK MEDICAL JOURNAL, December 10, 1898.

Original Communications.

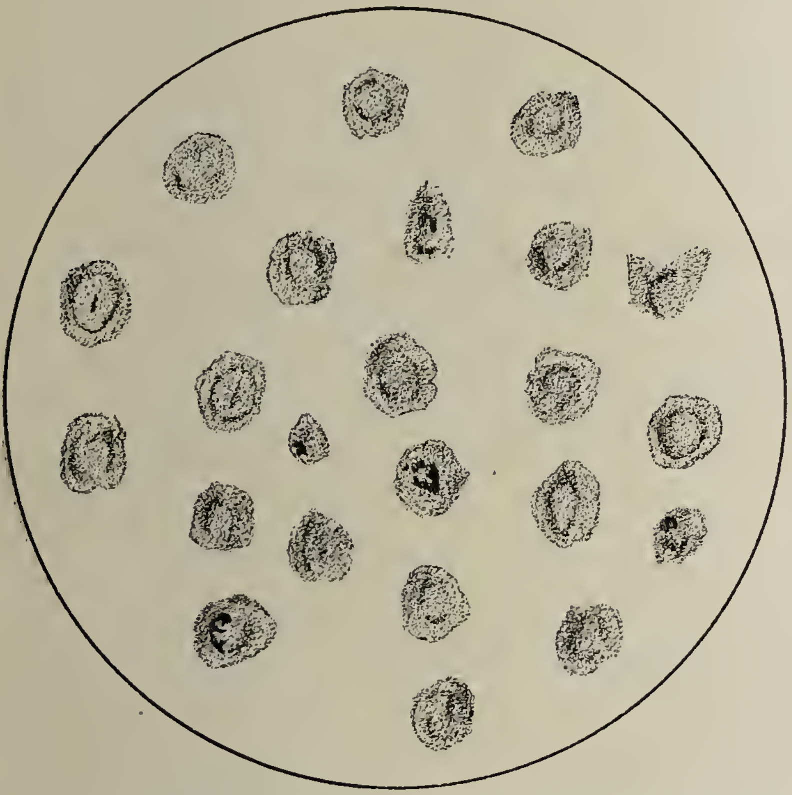
THE CULTIVATION OF THE PLASMODIUM MALARIÆ

AND THE RATIONAL TREATMENT OF MALARIAL DISEASE.*

By L. H. WARNER, M. D.,
BROOKLYN.

Through the courtesy of Surgeon-General Sternberg I was enabled to proceed to Camp Wikoff, Long Island, and there make a series of examinations of the blood obtained from patients suffering with malarial and typhoid fevers.

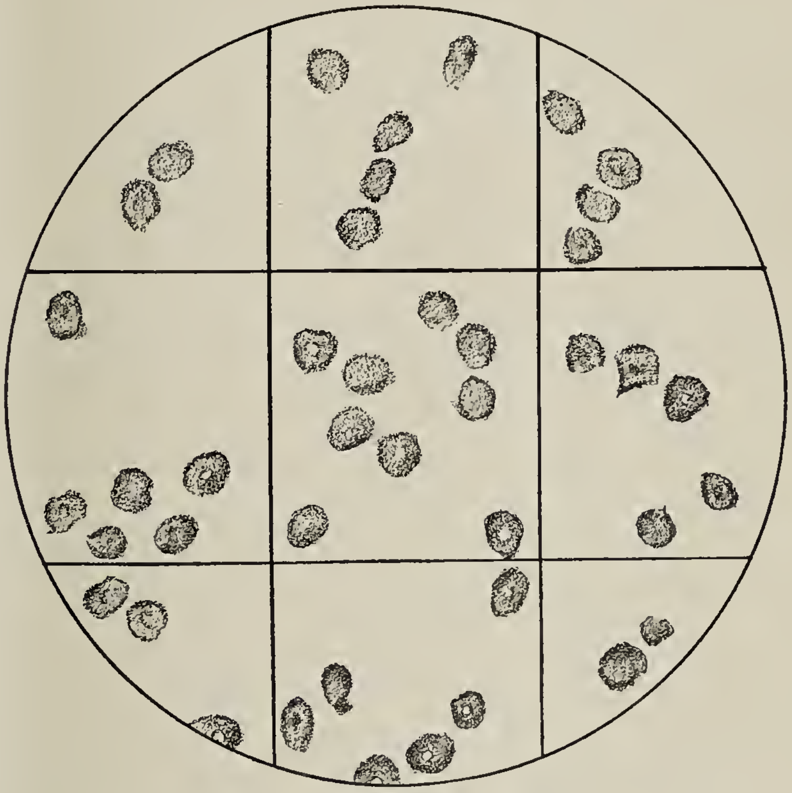
The physical condition of the malarial infected differed in all respects from that of those whom heretofore I had seen in this country afflicted with a like disease—in fact, various symptoms seemed to differ. The conditions of about fifty per cent. of the cases that came under my observation reminded me of a condition which for years I had found in fever patients in South American countries—they were of a typho-malarial type. Before reciting the results of these examinations I desire to submit a series of experiments which I have conducted in conjunction with these blood examinations, led to do so by the various theories now advanced as to the ætiology of malarial fever.



Case I.—Blood examined, August 29, 1898. Hæmoglobin, 54 per cent.; red cells, 2,900,000; white cells, 6,300. Stained with methylene blue and eosine. Magnified × 800.

Long before Laveran's discovery of the malarial parasite it was believed that some poisonous material entered the system by breathing, or in food, or in contaminated water. In 1896 Dr. Patrick Manson delivered a lecture on the Life History of the Malarial Germ Outside the Human Body before the Royal College of Physicians in London, in which he described the various forms found in the different types of malarial disease, and in which he regards man as the alternate host of these germs, from whom they must escape in order to complete their life cycle, and this, in his opinion, is brought about by suctorial insects, more especially the mosquito. He reasons that the plasmodia taken from man by the mosquito continue their development until sporulation takes place, when they are deposited by these insects in water or soil, whence again they return to man. He does not refer in his paper to the primary introduction, or to the cause of its existence, or to the origin of the malarial parasite in the human system, unless water or soil is by him considered the infecting source.

Dr. Walter F. Scheele, of New York city, recently conducted a number of experiments and investigations in mosquito development which prove that there are three distinct types of mosquitoes, each possessing a distinct degree of poisoning power in its sting. His claims are that mosquitoes originate and develop in foul water, especially when vegetable or animal albuminous substances are present. In the first stage of its development the mosquito is a conglomerate mass of different bacteria and microbes formed by decomposing matter, composed of vegetable and animal albumin, which has been slowly abstracted from dead plants or animal substances. The latter, being in a state of decomposition, is a deadly poison. In the second stage of development the mosquito appears in wormlike shape with some power of motion. In the third stage it appears in ball form, keeping constantly turning around; in the fourth stage it comes to the surface of the water fully developed, excepting the wings, which soon grow,



Case I.—Blood examined, September 5, 1898. Hæmoglobin, 59 per cent.; red cells, 3,250,000; white cells, 6,300. Magnified × 500.

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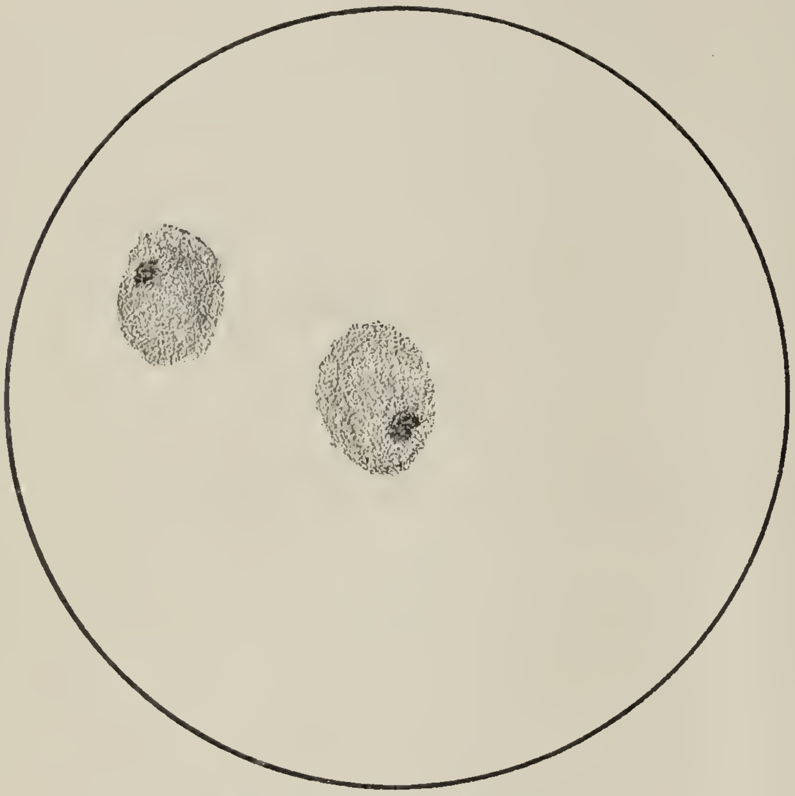
* Read before the Mississippi Valley Medical Association, October 14, 1898.

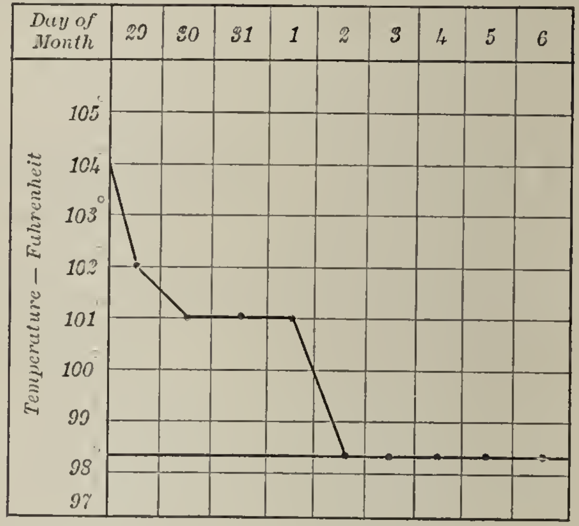
and at the last stage the most important point is to be noted. Upon emerging from the water the mosquito is charged with a surplus of the albuminous poison, which must be got rid of immediately or death occurs; hence it instinctively seeks to preserve its life by stinging and injecting the injurious albumin into the only objects that will receive it, man and beast.



Case I.—Malarial plasmodia. Magnified × 1500.

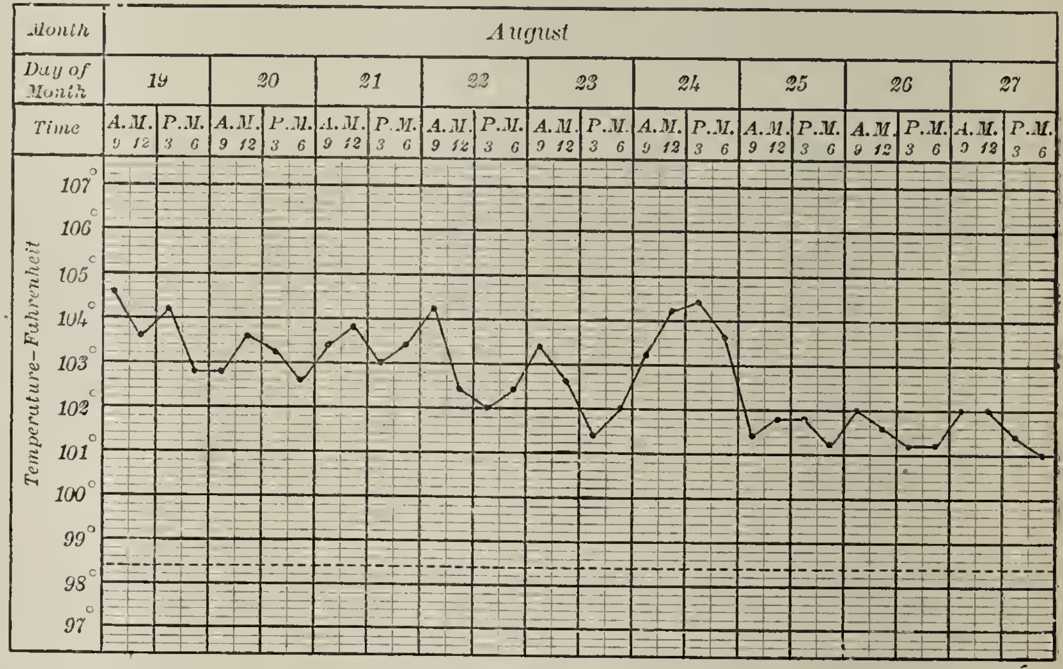
Dr. Scheele here ends his investigations, and it occurred to me that further experiment might reveal some additional facts relating to the inoccupation of the malarial parasite by the mosquito. My first steps were directed to procure specimens of marshy water from various malarial distracts, and subject them to a bacteriological analysis. In every one of the eight different samples I found present one or more of the different spirilla, as follows: *Spiromonas volubilis* (Perty), a colorless transparent cell, rapidly motile and revolving on a longitudinal axis. *Spiromonas Cohnii,* a colorless cell consisting of a spiral and a quarter, with both ends acutely pointed and provided with a flagellum. This latter species is only found in water containing decomposing matter. *Spirillum volutans,* of thread form, tapering toward its extremities, which are rounded off. It possesses dark, granular contents. Each thread has two to four spirals or windings. They have a flagellum at each end and are sometimes motile, sometimes not. All these species produced no growth when introduced into blood-serum culture tubes and kept in an incubator for twenty-four to forty-eight hours.

I followed my investigations by making a number of blood examinations, and selected a few cases where the blood count read hæmoglobin, 70 to 74; red corpuscles, 4,500,000 to 5,000,000; white cells, 6,000 to 6,500, from which I collected *sanguis hominis,* one gramme, by means of a sterilized hollow needle connected with the bulb of a sterilized syringe. Quickly the blood thus collected from each individual case was transferred into a blood-serum culture tube and put at once into a thermostat, where it was kept at a temperature of 100°.



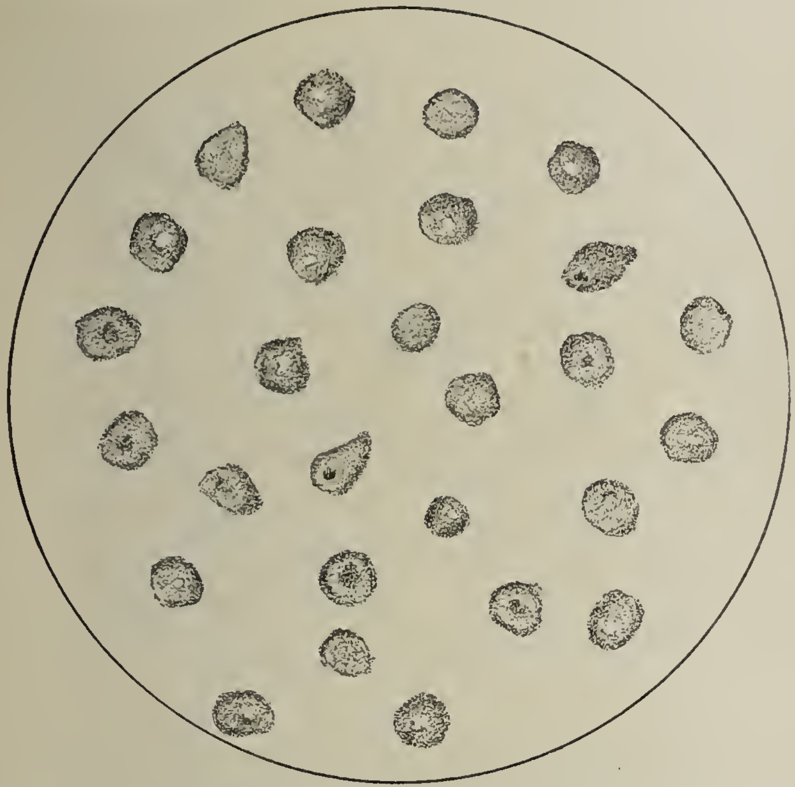
Case I.

Next, a number of mosquitoes were collected and kept in a sterilized bottle, and from these I abstracted some of the albuminous substance heretofore spoken of, and by means of a platinum needle inserted some in each of the blood-serum cultures, whereupon they were returned to the incubator. An examination after twenty-four hours revealed a parasite resembling in every respect the malarial parasite, and my conviction has grown stronger in the belief that malarial infection is to a certain extent attributable to the mosquito.

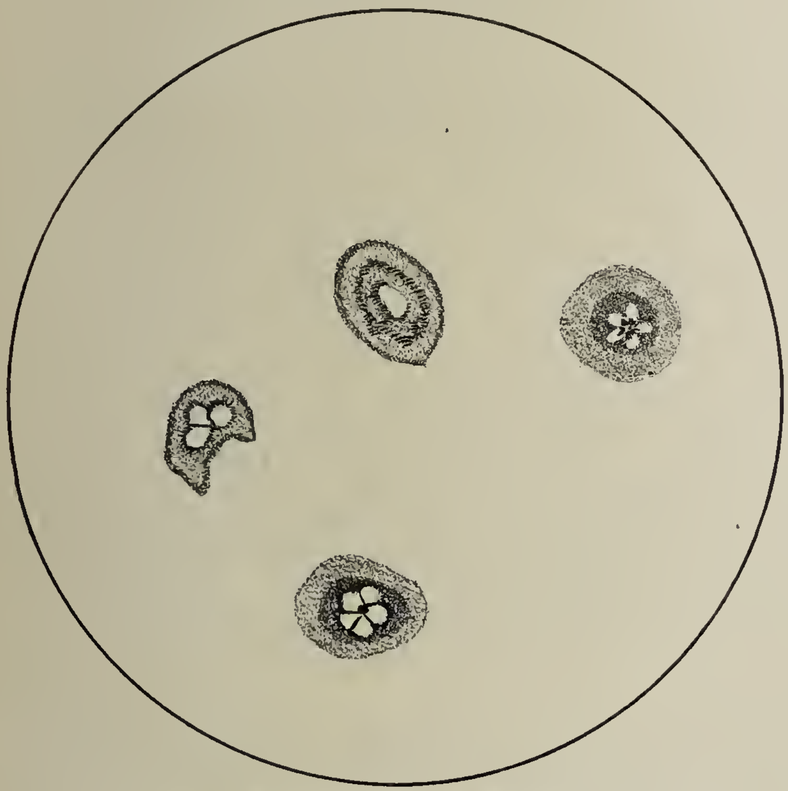


Case IV.—Temperature Chart.

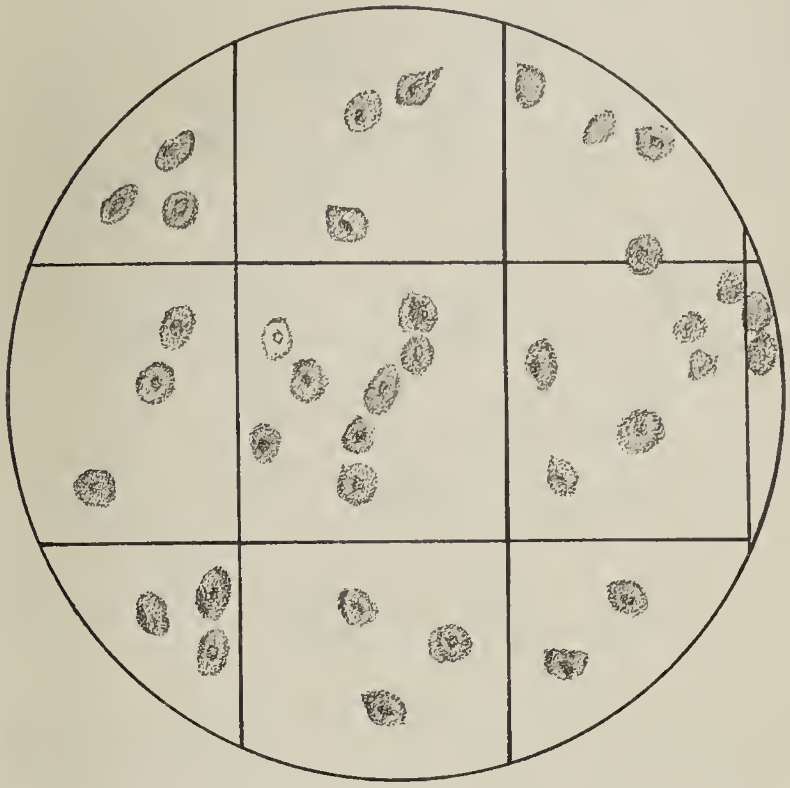
The malarial parasite in the blood of man has its actual home in red corpuscles, where it begins to spore, becomes segmented, escapes from the corpuscles, and breaks up into spores. These again break up and attach themselves to other blood corpuscles, in which they go through various phases of development, till at the proper period they in turn form spores again, and thus the whole process keeps on repeating. These spores grow at the expense of the hæmoglobin, and convert it into their tissue and black pigment, which is considered an excrementitious product of the parasite's digestion. The time of their maximum growth is considered to be about forty-eight hours.



Case V.—Blood examined, August 29, 1898. Hæmoglobin, 49 per cent.; red cells, 3.100,000; white cells, 6,400. Stained with eosine and methylene blue. Magnified × 800.



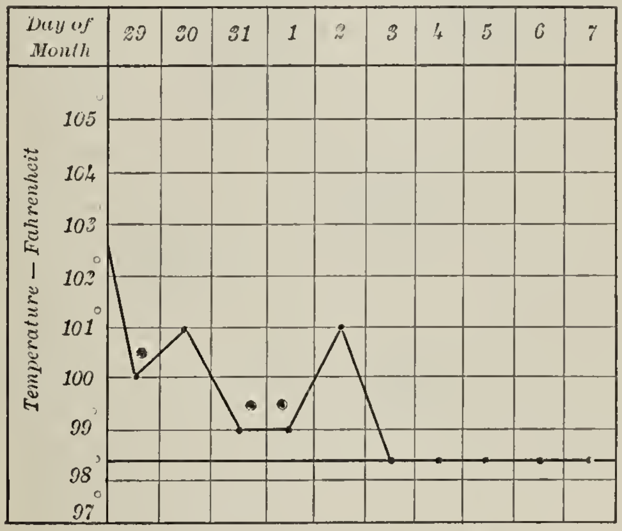
Case V.—Malarial plasmodia. Magnified × 1500.



Case V.—Blood examined, September 8, 1898. Hæmoglobin, 53 per cent.; red cells, 3,250,000; white cells, 6,300. Magnified × 500.

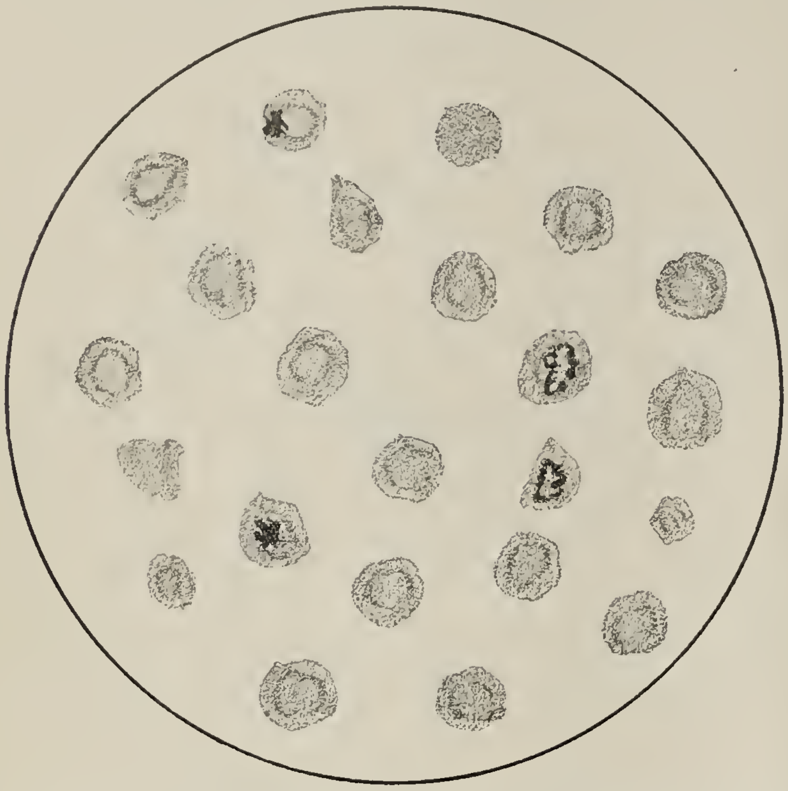
The different varieties of the *Plasmodium malariæ* are known as the tertian, quartan, and æstivo-autumnal parasites. They develop within the red corpuscles and cause the destruction of the corpuscles affected. The earliest forms of the parasite appear in the blood during the latter part of the malarial paroxysm or shortly after it. They appear as small, colorless, disc-shaped, hyaline bodies, occupying but a small portion of the blood-corpuscles. They show an amœboid movement, dependent upon the type of organism. After developing, the parasites completely fill the corpuscle containing them, and the hæmoglobin of the latter produces the reddish-brown pigment. Segmentation is the indication of an approach of a paroxysm. Chronic malarial poisoning may develop without chills, and lead in a number of months to pronounced emaciation and cachexia. In malarial cachexia the spleen is large and the crescent plasmodium is likely to be present in the blood, and the proper study of the blood would also detect a grave anæmia.

My examinations at Camp Wikoff were all made with fresh blood, and all the men examined had been thoroughly exposed to malaria, and most of them had received quinine in large doses. In all, in the neighborhood of a hundred cases were examined on different days and the plasmodium was found in forty-seven cases, while the results microscopically were negative in the re-



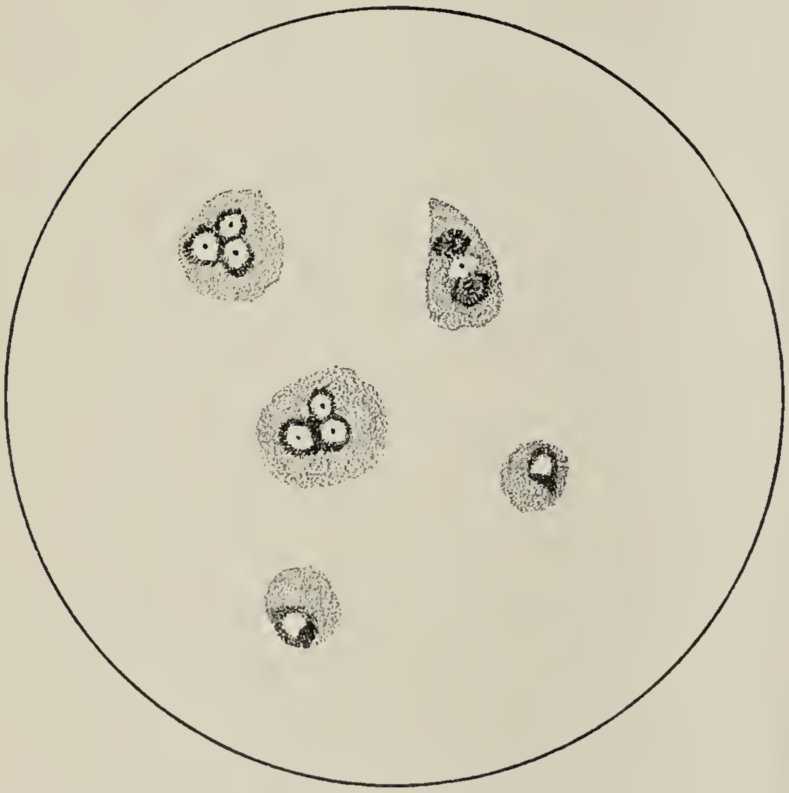
Case V.—● = administered quin. sulph.

maining cases, although clinical evidence was present. The treatment in most of the cases consisted of quinine, strychnine, or Warburg's tincture, the temperature ranging between 105° F. and normal, and pulse 119 to 120 beats per minute.

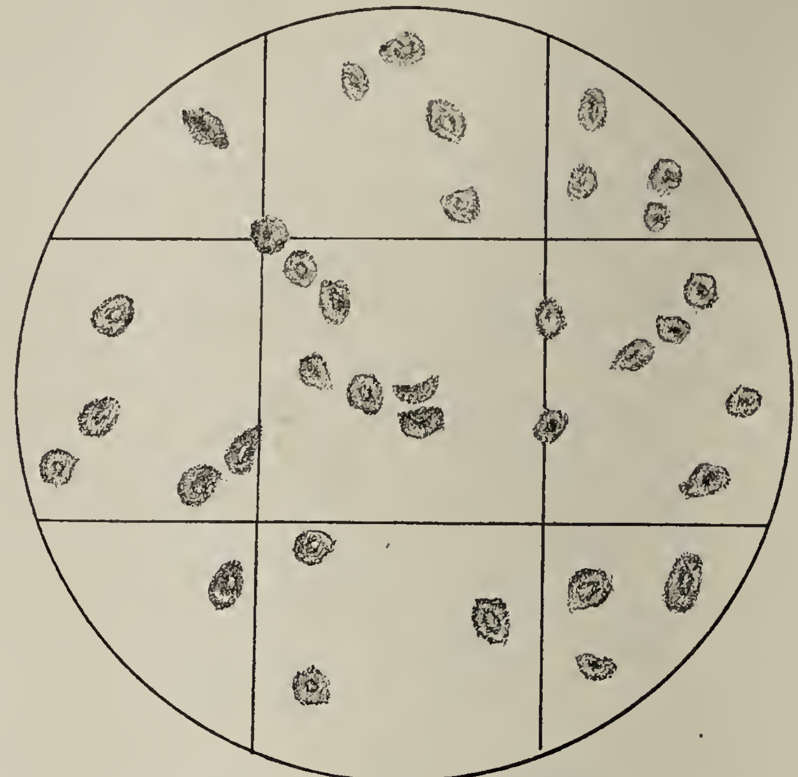


CASE VI.—Blood examined, August 29, 1898. Hæmoglobin, 46 per cent.; red cells, 2,750,000; white cells, 6,200. Stained with eosine and methylene blue. Magnified × 800.

The irregularity of temperature appeared to me one of the striking features, it being normal in the morning and rising to 104° and 105° F. in the afternoon. Perspiration seemed to be a characteristic symptom in these cases. The early symptoms, as described by the patients, were uncomfortable feeling for a week or more, loss of appetite, chills, headache, pain in bones, sleeplessness. The tongue is covered with a thin, yellowish-white coating; the edges and tip are red; there is a feeling of weight and tenderness in the epigastric region, and, in many cases, constipation. Repeated blood counts show the diminution of red blood-corpuscles, and the complexion changes from pale to sallow or dull clay color. The expression of the face is dull, listless, apathetic, anæmic.

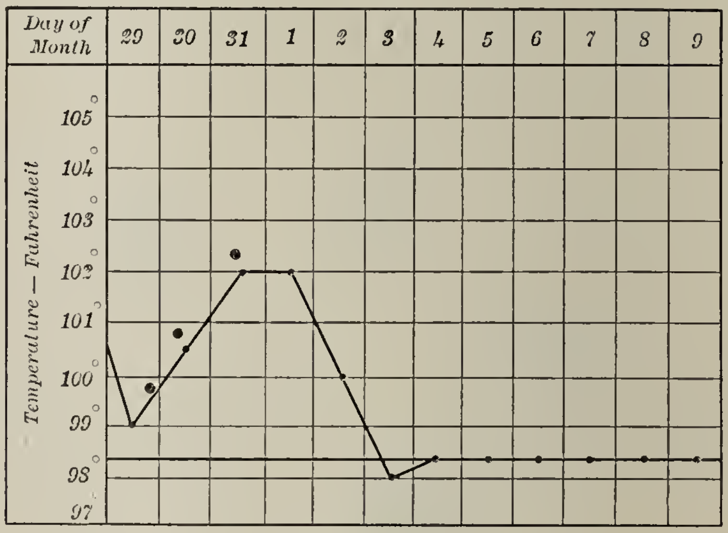


CASE VI.—Malarial plasmodia. Magnified × 1500.



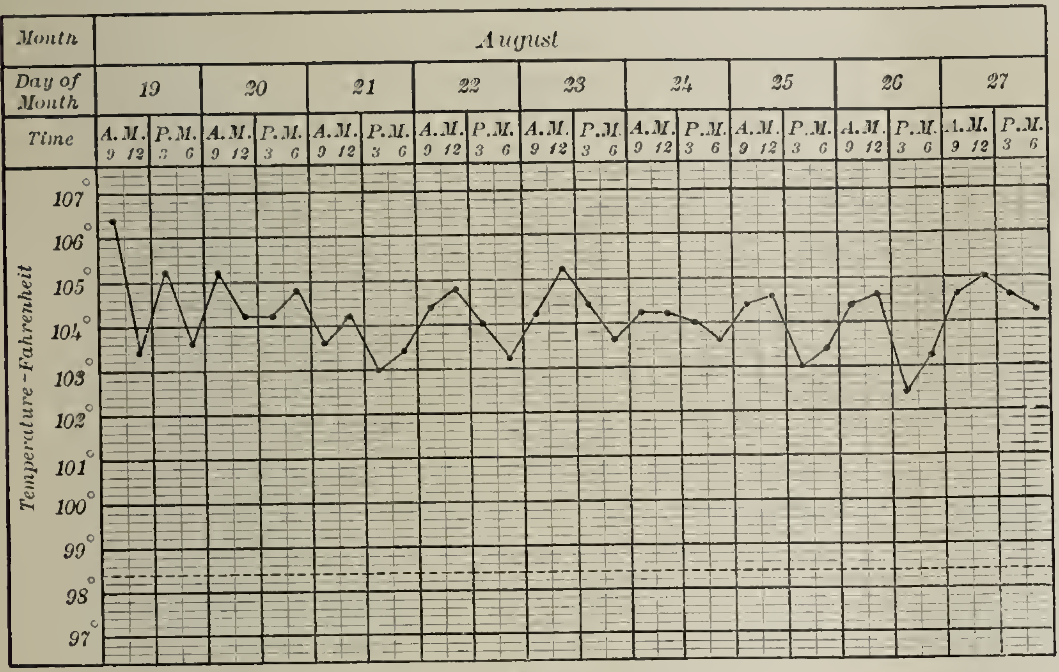
CASE VI.—Blood examined, September 6, 1898. Hæmoglobin, 49 per cent.; red cells, 2,950,000 ; white cells, 6,200. Magnified × 500.

Looking over the clinical charts accompanying these cases, the rise and fall of temperature had the remittent type, and improvement, if any, was slow. We have as an acknowledged fact that quinine is a poison to the plasmodium, but it is useless against the toxine manufactured by the latter. Hence, for some time past, I have been trying to find some remedial agent that would eliminate the toxine thus produced. As it is a well-known fact that the malarial parasite feeds on the hæmoglobin of the red corpuscles, it occurred to me it might prove the proper treatment to use in conjunction with quinine some remedy which was known to enrich the amount of hæmoglobin and increase the number of red corpuscles.



CASE VI.—● = administered quin. sulph.

I have had an opportunity to observe the good results obtained in anæmia, chlorosis, tuberculosis, etc., by the use of hæmaboloids, a preparation holding in combination the various iron-bearing nucleoalbumins of the vegetable kingdom, reenforced by bone-marrow extract and beef peptones, and antiseptically treated with nuclein. The latter is known to increase the number of white corpuscles, at the same time being a germicide. I at once designed to have the cooperation of some of the volunteer surgeons to make a number of comparative tests, the observation on some of which I was enabled to follow up later on at St. Peter's and the Long Island College Hospitals in Brooklyn.



CASE VII.—TEMPERATURE CHART.

CASE I. *Malaria.*—C. G. V., Sixth Massachusetts Volunteers. *August 21st* to *26th.*—Treatment: Quinine, twenty-grain doses. Temperature ranging between 104.2° and 102° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains hypodermically. Temperature in twenty-four hours, 101° F.; in seventy-two hours normal, at which it has kept since. Patient improved at once, grew stronger, appetite returned, no return of fever. Blood count, August 29th: Hæmoglobin, fifty-four per cent.; red corpuscles, 2,900,000; white corpuscles, 6,300. Blood count, September 5th: Hæmoglobin, fifty-nine per cent.; red corpuscles, 3,250,000; white corpuscles, 6,300.

CASE II. *Malaria.*—F. S., Third Wisconsin. *August 20th* to *26th.*—Treatment: Quinine, twenty-grain doses. Temperature varying between 104° and 101° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains hypodermically. Within forty-eight hours temperature no higher than 101° F. Within a hundred and twenty hours normal. Kept nearly so ever since. Blood count, August 29th: Hæmoglobin, forty-seven per cent.; red corpuscles, 2,900,000; white corpuscles, 6,500. Blood count, September 5th: Hæmoglobin, fifty-three per cent.; red corpuscles, 3,100,000; white corpuscles, 6,300.

CASE III. *Malaria.*—S. M., Eleventh Infantry. *August 20th* to *26th.*—Treatment: Quinine, fifteen-grain doses. Temperature, 103°–102° F.

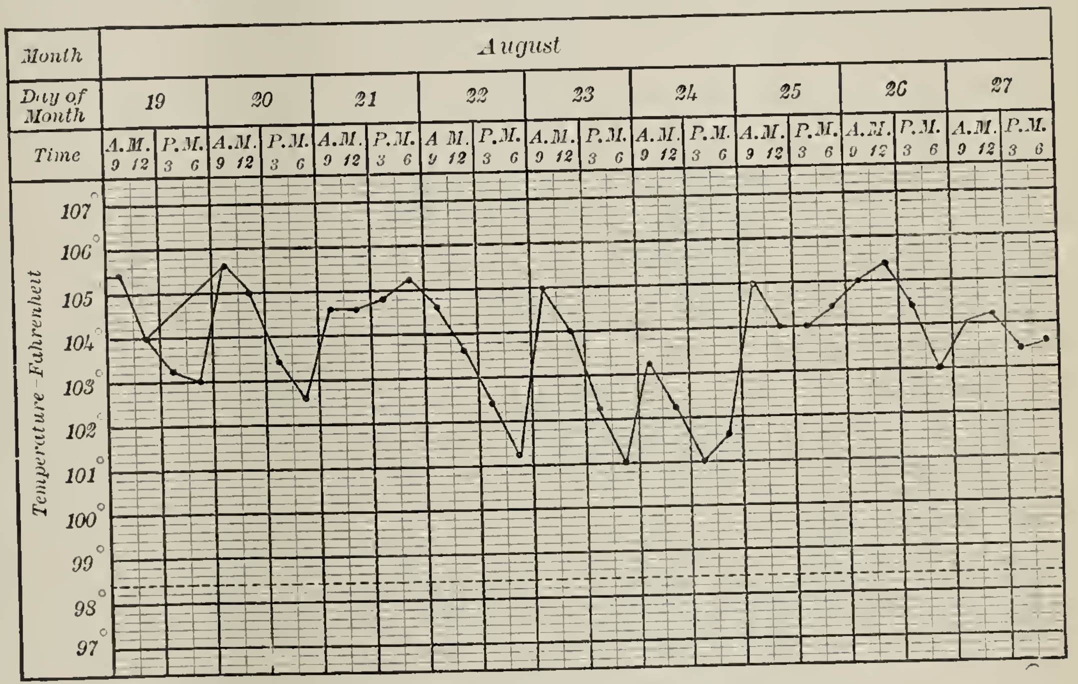
29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains hypodermically. Temperature in twenty-four hours changeable from 100° – 99° F. Continued 99° for one week, then normal. Blood count, August 29th: Hæmoglobin, fifty-two per cent.; red corpuscles, 2,800,000; white corpuscles, 6,100. Blood count, September 5th: Hæmoglobin, fifty-four per cent.; red corpuscles, 3,000,000; white corpuscles, 6,150.

CASE IV. *Malaria.*—P. McL., Eleventh Infantry. (See first plate.) *August 20th* to *26th.*—Treatment: Quinine, twenty-grain doses. Temperature, 104°–102° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains. Within four days temperature normal; no return of fever. Blood count, August 29th: Hæmoglobin, fifty-four per cent.; red corpuscles, 3,250,000; white corpuscles, 6,000. Blood count, September 5th: Hæmoglobin, fifty-nine per cent.; red corpuscles, 3,500,000; white corpuscles, 6,100.

CASE V. *Malaria.*—J. F. W., Sixteenth Pennsylvania Volunteers. *August 20th* to *26th.*—Treatment: Quinine, twenty-grain doses. Temperature, 102° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains hypodermically. Within twenty-four hours temperature reduced to 99°. Occasional rise to 100° F., but now normal. Blood count, August 29th: Hæmoglobin, forty-nine per cent.; red corpuscles, 3,100,000; white corpuscles, 6,400. Blood count, September 5th: Hæmoglobin, fifty-three per cent.; red corpuscles, 3,250,000; white corpuscles, 6,300.



CASE VIII.—TEMPERATURE CHART.

CASE VI. *Malaria.*—T. B., Eleventh Infantry. *August 20th to 26th.*—Treatment: Quinine, twenty grains; strychnine, one dose of a thirtieth of a grain. Temperature, 104.3°–102° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; no quinine. Temperature reduced to normal in five days; no recurrence of fever. Blood count, August 29th: Hæmoglobin, forty-six per cent.;

red corpuscles, 2,750,000; white corpuscles, 6,200. Blood count, September 5th: Hæmoglobin, forty-nine per cent.; red corpuscles, 2,950,000; white corpuscles, 6,200.

CASE VII. *Malaria.*—A. J., Fourth United States Artillery. (See second plate.) *August 20th* to *26th.*—Treatment: Quinine, twenty grains; strychnine, one sixtieth of a grain. Temperature varying, 104°–101° F.; intermittent type.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; quinine, five grains hypodermically. Temperature since, 102° F. Blood count, August 29th: Hæmoglobin, forty-one per cent.; red corpuscles, 2,600,000; white corpuscles, 6,300. Blood count, September 5th: Hæmoglobin, forty-five per cent.; red corpuscles, 2,850,000; white corpuscles, 6,200.

CASE VIII. *Malaria.*—F. L. S., Eleventh Infantry. (See third plate.) *August 20th* to *26th.*—Treatment: Quinine, twenty grains, and nux, half a grain. Temperature, 104°–103° F.

29th.—Treatment: Hæmaboloids, half an ounce, three times a day; no quinine. Temperature within one week to normal; no recurrence of fever since. Blood count, August 29th: Hæmoglobin, fifty-eight per cent.; red corpuscles, 3,100,000; white corpuscles, 6,300. Blood count, September 5th: Hæmoglobin, sixty-one per cent.; red corpuscles, 3,300,000; white corpuscles, 6,200.

This cites the results of but a few cases out of forty-seven in which like observation has been made both at Camp Wikoff and in the above-named hospitals. The final disposition of the aforesaid cases is as follows:

C. G. V. discharged from hospital September 6th, well.

F. S. still in hospital, improving daily. Temperature running between normal and 99.2° F. Last blood count: Hæmoglobin, fifty-six per cent.; red corpuscles, 3,250,000; white corpuscles, 6,300.

S. M. discharged from hospital September 18th, well.

P. McL. discharged from hospital September 10th, well.

J. F. W. discharged from hospital September 9th, well.

T. B. discharged from hospital September 7th, well.

A. J. still in hospital. This patient was placed on hæmaboloids, half-ounce doses, three times a day. On August 29th, and within a few days, the temperature, which heretofore had been very high, began to go down. This treatment was continued till September 10th, when in addition quinine, ten grains, was administered. The temperature at once began to rise again, and upon its discontinuance, slowly went down to 99° F.

September 17th.—Quinine again was administered, with like results as before, and since its discontinuance patient is doing well under hemaboloids only. Has picked up in weight, appetite, and general appearance. Last blood count shows hæmoglobin, fifty-four per cent.; red cells, 3,400,000; white cells, 6,200; an increase in four weeks of thirteen per cent. hæmoglobin; and 800,000 red cells.

F. L. S. discharged from hospital September 19th, well.

Reviewing the different treatment employed in these as in other cases, and taking into consideration the cause of high temperature, it is necessary to note that in most fevers the rise of temperature is essentially due to diminished heat dissipation, thermolysis. Bodily temperature may be variously influenced by drugs and other substances, micro-organisms. Whenever variations in heat production, thermogenesis, and heat dissipation balance, bodily temperature remains unaltered; but when changes in one exceed the other, temperature rises or falls. It does not follow that because heat production is increased, the bodily temperature must be similarly affected, since heat dissipation may be increased to the same extent, and thus effect a compensation. About ninety per cent. of the heat of the organism results directly from chemical decomposition, and ten per cent. results indirectly from mechanical movements.

Thermolysis is regulated or affected by the blood supply, by the quantity of air inspired, and the quantity of sweat secreted. The destruction of the hæmoglobin of the red cells by the malarial parasite aids in thermolysis, and I believe this defect can be compensated by the administration of such remedies as tend to increase the amount of hæmoglobin in the blood, at the same time combining with it such antiperiodics as quinine, which is a powerful antiseptic, is destructive to infusorial and vegetable life, destroys micro-organisms, and prevents fermentation and putrefaction.

88A THIRD PLACE.

IS APPENDICITIS A SURGICAL DISEASE?

BY CARL BECK, M. D.,

NEW YORK.

(Concluded from page 763.)

THE technics of simple appendectomy, as I perform it in recent years, is the following:

First of all, I make it a principle to put the patient in bed for at least two days and to give him only fluid diet during this period. After admission to the hospital he first takes one or two tablespoonfuls of castor oil; on the following day, and on the morning of the operation, an enema is applied. For thorough prophylactic disinfection the iliac and pelvic regions are shaved. While a warm bath is taken, a rigid scrubbing with green soap is done. Then a poultice of green soap is applied to the right lower abdomen, which remains twenty-four hours. I regard this an essential factor for the disinfection of the skin, because I do not believe that under ordinary circumstances the epidermis, which shelters a multitude of pathogenic bacteria, can be rendered sterile by the usual methods of disinfection, which generally are not carried out for more than from ten to fifteen minutes. A period of twenty-four hours gives the soap a chance to permeate the epidermis thoroughly, so that scrubbing on the following day is much more effective. Sometimes, indeed, the poultice macerates the epidermis so that it can be wiped off easily. Shortly before the operation the skin is scrubbed with gauze mops dipped in alcohol, the use of which is more important than that of any antiseptic drug, as it dissolves the fat of the skin. Bacteria so long as they are imbedded in fat will not be influenced at all by the strongest antiseptic medicament. I always attempt to have the protecting sterile napkins as near the wound margin as possible, fastening them there with small miniature forceps, so that all subsequent manipulations, especially ligation and suturing, can be done on a safe and sterile field. I have repeatedly seen surgeons who had taken minute care in their aseptic preparations wallow around the intestine on the abdominal skin in the roughest manner while manipulating it after it was taken from the abdominal cavity.

The operator, as well as the assistant engaged at the wound, and the one who hands the instruments, wear sterilized linen gloves. So long as we are not in possession of an absolutely reliable method of rendering the hands of the operator indisputably sterile, they should have a reliable aseptic protection, even though this may interfere with the elegance of the operation. After the abdomen is opened the gloves might be taken off for the minute work on the intestine. In pus cases they may be taken off after the abdomen is well cleaned. (On the employment of gloves, compare the writer's manual of the theory and technics of surgical asepsis, Saunders, Philadelphia, 1895, p. 94.)

The procedure of making the skin incision is of greatest importance. After having experimented with various methods, I found it most opportune to modify McBurney's method in making a long incision in the direction of the fibres of the external oblique muscle in such a manner that its centre fell into the middle of the line drawn from the symphysis to the anterior end of the eleventh rib. The incision begins about three fingers' breadth above the symphysis, and ends in the same distance from the anterior end of the eleventh rib in the line described (Fig. 10). Now the fatty superficial fascia and the fascia of the external oblique muscle are divided. The rectus muscle is not concerned, there being no fear of injuring its sheath, which would cause little, yet troublesome, hæmorrhage, and also a series of disturbances in the course of the wound treatment, inasmuch as the wound margins could only with difficulty be approximated to each other.

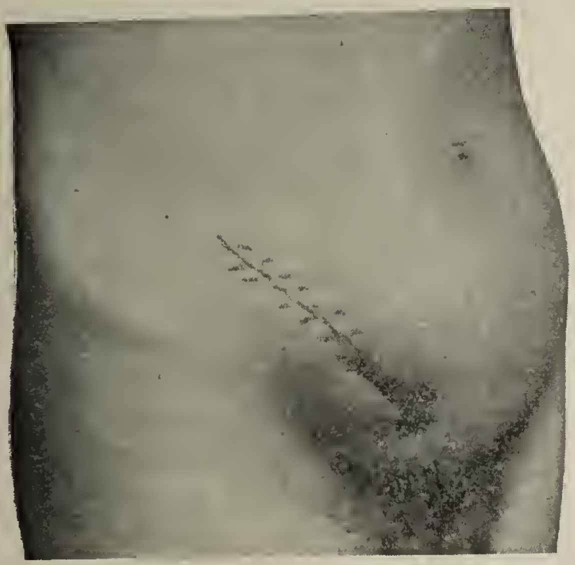


FIG. 10.—Direction of the incision in appendectomy.

Now the fibres of the external oblique muscle are carefully separated, which can be done easily with the handle of the scalpel, considering that the direction of the incision corresponds to that of the muscular fibres. If the margins are kept asunder by broad hooks, it is generally possible to separate the underlying fibres of the internal oblique and of the transverse muscle bluntly in the same manner—that is, corresponding to the direction of the fibres. The centre of this cross incision must be identical with the one of the oblique longitudinal incision. It is true that there is a longitudinal as well as a crossed wound, but the size of the former, if the margins be kept well asunder, permits of considerable distention of the second incision, which, in emergencies, might be prolonged to the sheath of the rectus muscle on one side and to the crista ossis ilei on the other.

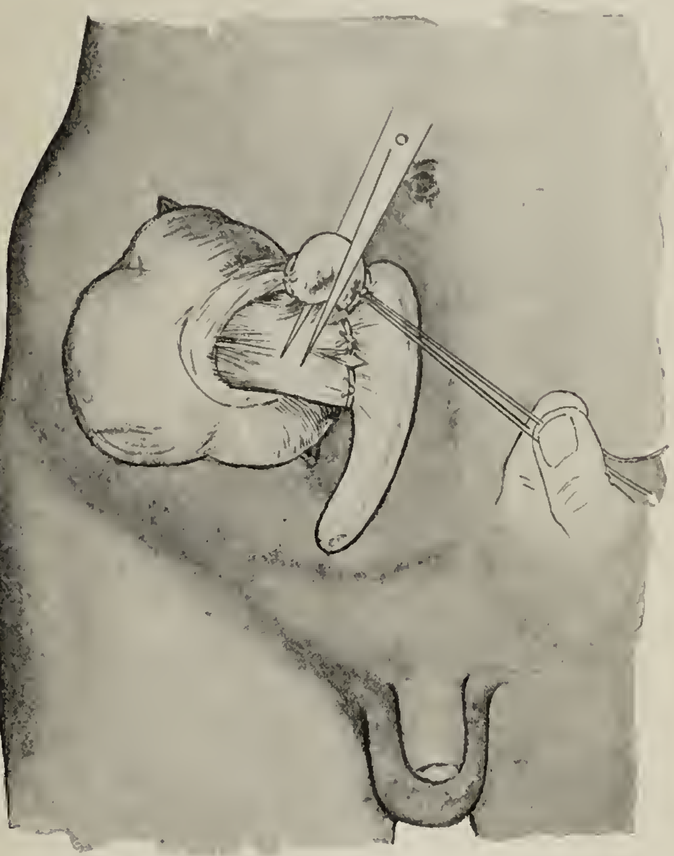


FIG. 11.—Removal of the appendix after securing the base by a ligature.

Nothing but the fatty subserous stratum, which partitions off the peritonæum, now remains; it must be pushed out of the way. After having stopped each point of hæmorrhage thoroughly, no matter how scant it may be, the peritonæum is lifted by a small-toothed forceps and is carefully raised at its most elevated point just wide enough to permit the insertion of a grooved director, upon which the further division of the peritonæum is completed. Now the index finger is introduced to get hold of the appendix. Sometimes it can be made to slip out like a little eel, so that the whole operation can at once be finished extra-abdominally. But in the majority of cases the caput coli must first be drawn out; and even then the adhesions formed by previous inflammatory processes tighten it to such an extent that the abdominal wound must be enlarged transversely. But even then it frequently takes some time until the appendix, which has undergone pathological changes, can be brought into view. In order to get a landmark it is best to secure the ascending colon, which can be recognized by the longitudinal direction of its muscular fibres. By following the ascending colon downward the fundus of the appendix is reached anteriorly. If there be no adhesions of any account the appendix is removed after having ligated its mesenteriolum in three or more portions (Fig. 11).

For this purpose I use the formalin catgut exclusively, the sterility of this material, after it is boiled, being indisputable. After squeezing the contents of the appendix into the cæcum, the fundus of the appendix is tied with a catgut ligature. The same procedure is repeated about half a centimetre below (compare Fig. 11). Then with one stroke of the scissors the appendix is severed closely above the lower ligature. By previously having squeezed out the contents of the appendix and by tying doubly afterward, the exit of any fæcal matter is prevented. The protruding mucous membrane of the appendix, after being disinfected with a strong solution of bichloride of mercury, is then seized with an artery forceps and pulled out as far as possible. Now it is cleanly cut off with the scissors (Fig. 12). There is then left a muscular serous flap, which can easily be united by three Lembert sutures (Fig. 13). After the removal of the mucous membrane some iodoform powder is dusted over the remainder of the mucous membrane in the depth; but dusting the little wound margins, which are to be united, is to be very carefully avoided. All these manipulations take place after the neighboring intestines, particularly the area situated directly below the appendix, are protected extensively with sterile compresses.

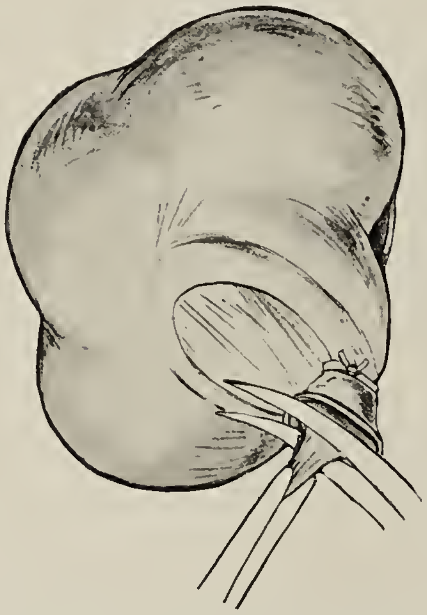


FIG. 12.—Removal of the mucous membrane.

In some cases the appendix is so deeply imbedded in thick adhesions that it appears, as said above, like a mummy baked into lava. Its structure is then so much changed that it can only be identified after a long search. Then it is recommendable to separate the appendix at its cæcal end first, so that the colon can be pushed away from the operating field, after which removal of the appendix can be done much easier. It has happened to me repeatedly to have to proceed step by step by making very small incisions to shell out the appendix, which sometimes reached crosswise up to the spinal column. After its removal its groovelike bed resembled the emptied husk of a bean pod.

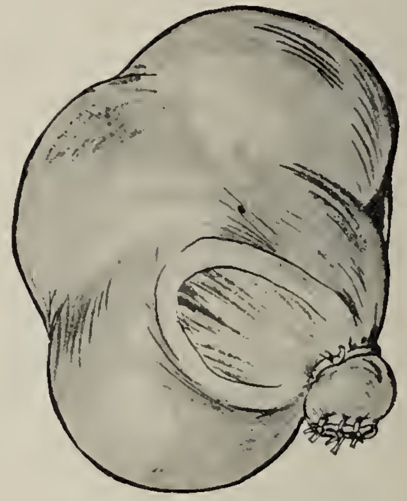


FIG. 13.—Suturing the stump.

In doubtful cases it is preferable to leave a serosa fragment rather than to extirpate too radically, in which cases the surface bleeding may become considerable.

After having stopped every little bleeding point minutely, whether by means of hot compresses or with the finest formalin catgut, the peritoneal margins can be united with the same catgut. Then follows the transverse fossa. The transverse and the external oblique muscle require but little suturing, as they approximate themselves by themselves as soon as the tenacula are withdrawn.

Hernia after this operation is an impossible sequel. It can occur only in cases where the great extent of adhesions necessitates enlarging the transverse wound to such an extent that the sheath of the rectus muscle has to be injured. It is, of course, in the interest of the patient to enlarge the opening at the expense of a possible hernia rather than to restrict the liberty of intra-abdominal manipulations. Still, I have always succeeded so far in removing the appendix within the limits described without attacking the neighboring tissues.

The technics of appendicotomy (*sit venia verbo*) is the same in principle, be there an acutely inflamed, a perforated, or a gangrenous appendix. Virtually the preparations should be just as thorough as if there had to be done a simple appendectomy in a non-infected abdomen. The patient can not, of course, spend two days in making preparation; but the disinfecting procedures immediately preceding the operation should be carried out with great strictness, while the patient is anæsthetized.

From the time of the consultation up to the time of the operation at least two hours elapse, during which time there is a chance to scrub the abdomen with green soap, and alcohol thereafter. Up to the time when the anæsthesia is complete a poultice of green soap or formalin should be kept on the abdomen.

If the pulse is of a bad quality, a subcutaneous saline infusion should always be given. I am accustomed to administer a saline infusion shortly before each capital operation prophylactically if the pulse is not very good.

The direction of the incision is also the same. But if palpation or percussion indicates the presence of an exudate, the incision must be made as lateral as possible. Generally the line drawn from the symphysis up to the anterior end of the eleventh rib answers best. But if the exudate be situated far outward, the incision may be made nearer to the spina anteriora superiora ossis ilei. It may easily happen that in incising above the so-called McBurney's point the partition walls, situated toward the median line and formed of protecting adhesions, should be cut. This deplorable accident has happened twice to me. Such a focus, secluded by adhesions from the abdominal cavity, becomes, in fact, extraperitoneal, and its opening is nearly as innocent as that of an abscess situated not too superficially on most other parts of the body.

The incision should not begin above the symphysis, as in simple appendectomy, but partly above it, as it is exceptional that the lower limits of the abscess can not be followed down to the true pelvis.

As demonstrated above, the formation of small abscesses directly above Poupart's ligament, which are often only demonstrated by percussion, is by no means of rare occurrence. In the last instance one may be guided as to the preference of the direction of the incision by the result of the palpation or percussion. By all means the principle should be obeyed: "Better too far outward than inward."

The external oblique muscle can also be separated bluntly. In regard to the fibres of the internal oblique and the transversalis, which run crosswise, it is not necessary to be as conservative in the case of the presence of an exudate as if there was a simple appendectomy to be performed. If speed is required, the fibres may be divided nearly transversely—that is, directly parallel to the skin incision. But in simple appendicitis or pyappendix the blunt method always holds good.

After having arrived at the peritonæum the way is best cleared, if there be an exudate, with the grooved director. If pus appears on it, a small forceps is pushed along the groove of the instrument and the opening in there gradually dilated. Frequently the dark-red cæcum, covered with fibrinous flocks, presses forward, so that the greatest care has to be observed not to injure it with a cutting instrument. Therefore it is urgently advisable to use none but dull-pointed scissors or scalpels for the further division of the peritonæum.

Now careful wiping and inspection is done. Generally, only fresh adhesions are found, and in order to approach the appendix, tightly bound down, they have to be severed first by moderate pulling. During these procedures the neighboring organs must always be well protected by gauze mops which are pushed underneath.

If the appendix is closely attached to the wall, consisting of protecting adhesions, it is preferable to leave it there, provided it can not be removed without destroying the protecting wall. Then an iodoform gauze strip should be built around it or its fragments, which can be removed safely a few days thereafter. But if it can be shelled out without such difficulties, it should be done, and the tying and extirpation should be performed according to the methods of simple appendectomy. But every possible means should be tried before making the decision to leave an appendix, degenerated and infected, in the abdomen. It often happens that we are too conservative, and small abscesses, covered by the imbedded appendix, are overlooked, so that the patient may still die, the large abscess only having been discharged and one or more little foci upholding and spreading the infection.

If there is complete gangrene, the appendix can not be recognized as such any more. There its grayish-black fragment must be removed with a blunt forceps. Even the slightest pull on its cæcal junction may cause the discharge of fæcal contents, and it is therefore of the greatest importance to push gauze compresses without delay underneath the endangered area just as soon as the appendix comes into view. Suturing is inadvisable; iodoform-gauze packing is to be preferred, after having cleaned the abdominal cavity thoroughly. Sometimes small fæcal fistulæ form, which usually close spontaneously.

If the mucous membrane protrudes, the attempt may be made to cauterize the ectropion by Paquelin's cautery. If this proves ineffectual, extensive post-operative means have to be resorted to (compare Case VIII, Fig. 9).

In gangrene, however, a protecting wall, consisting of adhesions, is hardly ever formed; in such cases we have to deal with peritonitis rather than with appendicitis. Sometimes it fortunately happens that the adhesive peritonitis agglutinates the intestinal loops adjoining the cæcal region, so that really extensive peritonitis is confined to a comparatively circumscribed area. This rare good fortune is explained by the careful evacuation of pus foci by the guarded boring index finger, and furthermore by the minute wiping off of all fibrinous flocks. (In my article on Appendicitis in the *Berliner klinische Wochenschrift,* 1896, No. 37, I described a very interesting case of this sort.)

After the inflammation has given up its circumscribed character then matters are much worse. Still, even in such desperate cases, results are obtained now and then, especially if one has the luck to discover encysted foci after external inspection and palpation of the peritoneal cavity. By exercising a great deal of patience it is often astonishing how foci are discovered which were not suspected on a superficial examination. Anæsthesia should be employed in such cases. Such foci must, of course, be exposed thoroughly. The peritoneal cavity is washed with a hot saline infusion, the fibrinous flocks are wiped off carefully, and extensive drainage is effected by the use of iodoform wicks.

The thorough exposure of the suspicious peritoneal region first of all permits a complete evacuation of the pus accumulations from the edges and niches of the abdominal cavity. Adhesions, the results of preceding inflammatory processes, can be loosened easily, even though the thorough disinfection of the abdominal cavity still remains a pious desire rather than a surgical reality. Still, by these procedures a considerable amount of accumulated infectious material is got rid of, not to speak of the most beneficial lowering of the intra-abdominal pressure, and the consequent freeing of the respiration. There is a series of authentic reports, according to which a cure was effected in most desperate cases, to the treatment of which the surgeon proceeded without a spark of hope, where, for instance, the pulse was hardly perceptible. *Vice versa,* however, many cases have ended fatally where the prospects seemed entirely favorable.

It is no doubt depressing for a surgeon to proceed to heroic manipulations under such gloomy circumstances, where he must fear every moment that the small vital spark would become extinct. And, on the other hand, he can not forget that such a patient has nothing to lose and everything to gain, and that under these circumstances at all hazards this last chance should be offered to him. His permission is easily obtained, for such patients often suffer intensely, and are generally cognizant of the hopelessness of internal medication. Unfortunately, in most cases, the valuable span of time, which may eventually offer a chance for recovery, is sacrificed to aimless deliberation.

In infection of high virulence the prognosis is absolutely bad. When, on incising the peritonæum a serous exudation of a fæcal odor pours forth, I always say to myself: "Lasciate ogni speranza." Up to date I have lost all my cases of this kind. This form of exudation seems to point to an infection of high virulence. Treatment with antitoxine has also proved a failure in such cases.

Regarding the occlusion of the abdominal wall, primary union should always be striven for in simple inflammatory processes. Consequently the abdominal wall should be sewed up. In simple abscess formation the wound cavity is packed with iodoform gauze, and the abdomen is kept open and protected with a large piece of immobilizing moss board. The dressing is changed once in three days.

If virulent infection is assumed, the moist open-wound treatment is substituted for the dry open treatment by keeping the gauze filling in the wound cavity constantly moist with formalin. Instead of the moss board and the bandaging, only a compress, saturated with the formalin solution, is put over it. If the patients do well, a laxative is given twenty-four hours after the operation. As an anæsthetic, nearly always ether was employed. For the last six months Schleich's mixtures were tried, and while I have to acknowledge the ease with which some patients came under and out of their influence, I have failed to discover any material advantages over the usual methods of ether anæsthetization.

All patients in whom the open-wound treatment is tried have to wear an abdominal supporter, which has to be well padded on the right side.

THE ELECTROTHERAPEUTIC CONTROL OF CURRENTS FROM CENTRAL STATIONS.

By GEORGE W. JACOBY, M. D.

(*Concluded from page 804.*)

Dynamo Currents.—At first impression it seems foolhardy to desire to make use of an electric current for medical purposes which has caused so many accidents; the convenience of this source of current is, however, so great that if it can be shown that the dynamo currents can be so regulated that their employment is unattended with danger, then every physician who has access to such a current will undoubtedly make use of it.

The current which is easiest to use is the one employed for lighting incandescent lamps, as that one is furnished directly in all modern houses.

For lighting lamps both direct and alternating currents are used. The direct-current dynamos deliver a current which to all intents and purposes is constant,* and which practically in no way differs from a battery current. It will serve the purposes of the physician in every way.

The alternating current, on the other hand, is wanting in electrolytic quality, and requires a transformer for cutting down the voltage and a commutator for turning the alternating current into a unidirectional one before it can be made available for our purposes.

In New York city the direct current delivered to us is the Edison current, which we receive at a pressure of a hundred and ten volts approximately. It is this current to which we refer in the following, unless some other is specially mentioned. In considering the physical laws governing this current all that has been said concerning battery currents will apply here, only that, inasmuch as we have no internal resistance to deal with, we can from our one-hundred-and-ten-volt source of supply obtain an infinitely large current if an infinitely small resistance is placed in the current, and it need hardly be said that by interposing a sufficiently large resistance we can prevent any current whatever from passing.

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* Ample experiments have been made which prove that nothing need be feared on account of the inconstancy of the current, as is shown by the steadiness of the galvanometer needle.

We therefore see that practically the regulation of our current is entirely a question of interposed resistance.

Before now proceeding with a description of the apparatus used for control of the current pressure and current quantity let us directly answer the question which is daily asked: Is there no danger in the use of an electric-light current? *There certainly is!* But the danger in New York and other large cities, with their subways and perfected source of supply, does not lie, as is generally assumed, in the sudden increase of the current strength or in the failure of supply. The actual dangers against which we must guard lie, as Hedley has shown, in *leakage currents,* and, when the alternating current is employed, also in the breakdown of insulation between primary and secondary transformers.

The first source of danger has by all writers, with the exception of Hedley, been underestimated or completely ignored; nevertheless, the danger is a menacing one and may give rise to serious accidents. In order to understand these accidents let us see how the direct current is distributed to the consumer here in New York. This is done by the three-wire system.

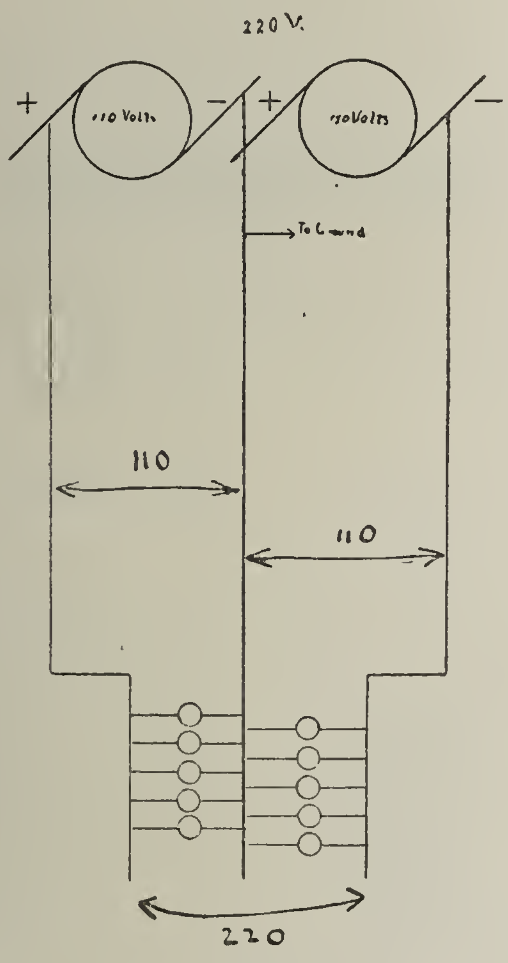

Fig. 6.

This system consists of a double circuit, each one of which has an E. M. F. of a hundred and ten volts, the entire circuit thus giving two hundred and twenty. This is done for purely practical purposes, inasmuch as two hundred and twenty volts will carry a larger amount of current a longer distance with a smaller percentage of loss than a hundred and ten volts will.

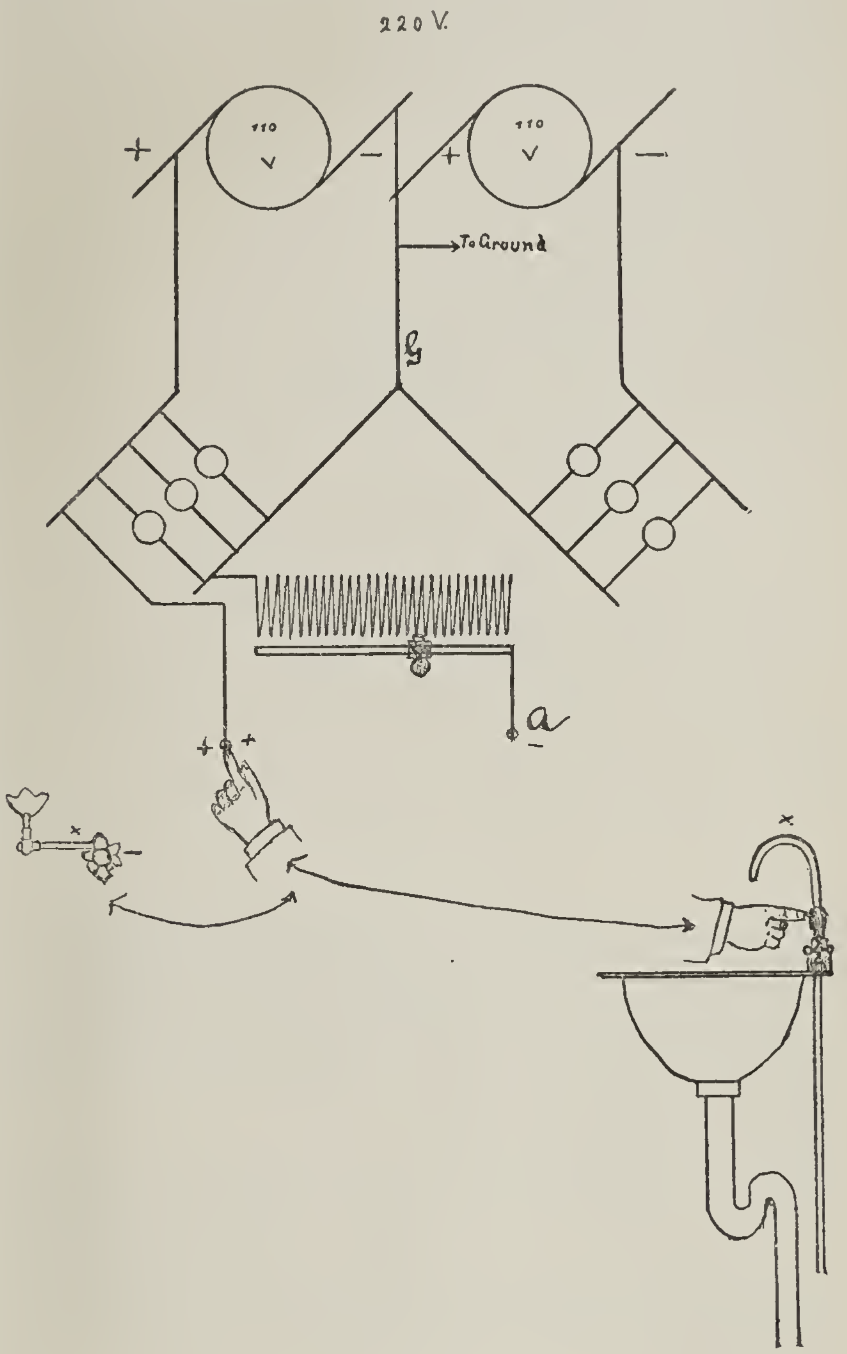

Fig. 7.

In this double circuit the middle or neutral wire leads to the ground, or is perhaps, contrary to law, even grounded.

The accompanying diagram shows the wiring of such a two-hundred-and-twenty-volt circuit.

Inasmuch as all water and gas pipes are under ground, the neutral or grounded wire may prove a source of danger by carrying an excessive amount of current into houses through these gas and water pipes, as they actually form branches of the neutral wire which are free in the rooms at all outlets—*i. e.,* gas jets, chandeliers, bath tubs, and faucets.

This danger is shown in the following diagram.

It will here be seen that the neutral wire *g* is connected through the earth to faucets and gas arms, and certainly also to waste pipes. Now, if the rheostat or current-regulating device is connected between the one terminal *a,* leading to the patient, and the wire *g,* in the diagram, then we can plainly see that if the patient should in any way form a ground connection, through a damp floor or through a bath tub with a waste pipe attached, or by coming in contact with a gas arm or water faucet, the rheostat would become useless, as the current would take the course of least resistance and pass from the ground through the patient to the positive wire, thus giving the patient the full voltage (one hundred and ten) on the line.

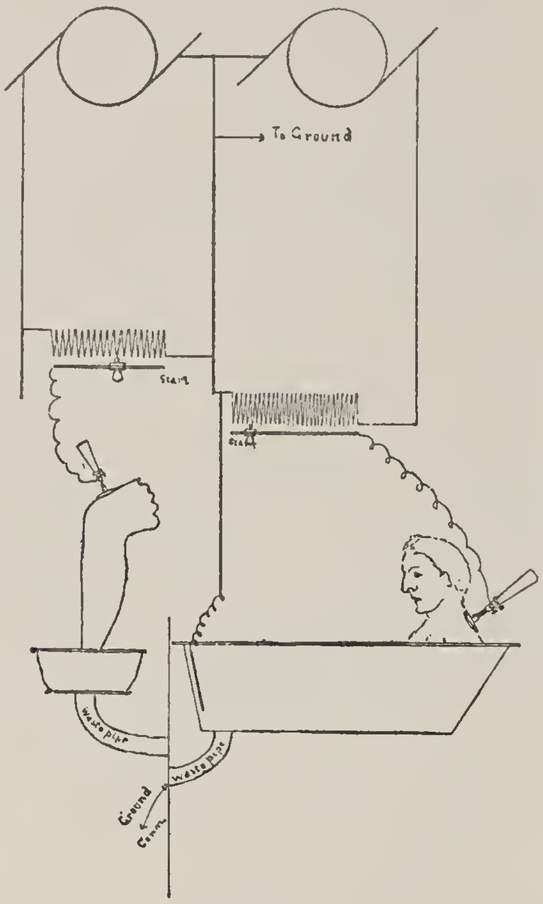

FIG. 8, 8a.

It is thus apparent that there is danger connected with the use of the street currents, unless the right wires are first selected and the proper controlling apparatus thus placed in the proper place. The proper manner of introducing the controlling apparatus is shown in Figs. 8 and 8*a*.

As previously mentioned, another source of danger may lie in a sudden increase of current on the line in consequence of an accident at the central station, or through the crossing of our supply wires by wires from another source (arc lights); while this is not liable to occur in New York city, a method should be provided to guard against danger from such an occurrence.

This danger may be practically overcome by the employment of a compound shunt. Here the shunted current is again shunted and the already reduced voltage again reduced. No more delicate graduation of a current can be imagined than the one obtainable by this means. A reference to Fig. 9 will make this clear.

I believe that this is the first time that this idea has been practically applied.

We are now in a position to use any current at our disposal for any purpose which may be necessary.

It is all a question of the proper device for controlling the current for the purpose in question, and of placing this device at the proper location in the current.

The device for controlling the direct current from the main will differ from that necessary to control the battery current only in its adaptation to the larger volume of current which we make use of. The principles governing such adaptation are as follows:

1. In galvanization of the human body no more than one ampère of current is ever required; therefore an additional resistance sufficient to limit the volume to this amount may be placed and *allowed to remain* in series with the controlling device.

This is the limit resistance and is non-variable.

As such a limit resistance incandescent lamps have been used, such lamps limiting the current in accordance with their candle power; thus with a one-hundred-and-ten-volt current an eight-candle-power lamp would limit the current to a fourth ampère; a sixteen-candle-power lamp would limit the current to half an ampère; a thirty-two-candle-power lamp would limit the current to one ampère; a fifty-candle-power lamp would limit the current to one ampère and a half; but these limits are only correct when the lamps are at full incandescence, as the carbon filaments have a great deal higher resistance when below incandescence. On the other hand, the life of the lamp is limited, and the filament is apt to break, or may become detached from its socket, even before it is exhausted, by a sudden jar, and thus the supply of current be suddenly cut off.

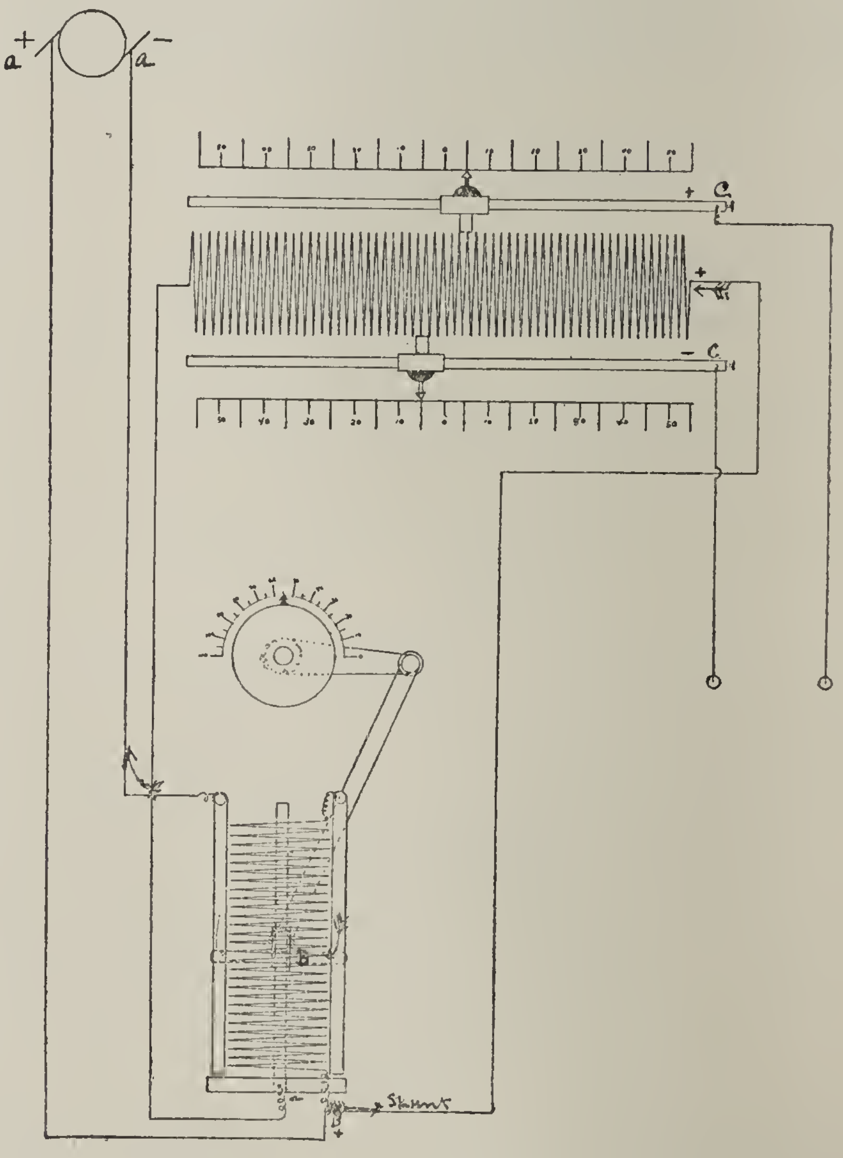

FIG. 9.

A wire resistance of the proper capacity has very many advantages: it always furnishes a reliable and unvariable resistance, will not deteriorate, and if properly arranged will not get out of order.

Secondly, we must make use of some contrivance for regulating the intensity and the quantity of the current thus obtained.

In almost all contrivances now in use, together with a galvanic controller (rheostat), lamps are employed for shunting off current—that is, for reducing the voltage or intensity. Nothing can be more reprehensible than such an arrangement, for, should such a shunt lamp break down or loosen from its socket, the voltage of the current passing through the patient would be suddenly and very materially augmented.

2. For affecting the relative intensities of a current, a rheostat (of considerably higher resistance) is connected in series with the limit resistance, and from this rheostat we derive our current, properly modified and perfectly adjustable.

In the construction of these rheostats for the use of the street current we must not fail to consider that a greater amount of heat is apt to be generated in the resistance cylinders than would be the case if the battery current were used.

This heat production must, if possible, be guarded against, not only because it may be so great as to fuse the wires, and thus destroy the apparatus, but also because the resistance in the controlling device will vary with the temperature and thus interfere with accurate measurements. This is the main reason, so it seems to me, why carbon rheostats are more or less unsatisfactory when used in connection with the street current. I have made use of such rheostats for years, with entire satisfaction with a battery current, and with entire dissatisfaction with a street current.

The only satisfactory rheostat for use in connection with the street current is a metal resistance device of the proper capacity, with *sufficient heat radiating surface.**

The apparatus which I make use of for regulation of the current (voltage and ampèrage) from the main therefore consists of the following: A limit resistance made in accordance with the foregoing principles. A resistance cylinder in the main circuit (first volt controller shown in Fig. 10) from which a current is shunted; this shunt current is passed through another controller (second volt controller of Fig. 10), and herefrom another current is derived, in the circuit of which the patient is placed.

The current in the shunt circuit will always be proportionate to the resistance of the main and that of the shunt circuit. In the resistance in the main (first volt controller) two terminals or slide contacts are employed for the purpose of varying the relative resistances, according to their position upon the cylinder. If the terminals are at opposite ends of the resistance cylinder, the entire resistance in the main is interposed, and the maximum amount of current obtainable will flow through the shunt circuit. As the contacts are approached to each other, the interposed resistance in the main grows less and the current in the shunt becomes correspondingly diminished, until they are directly opposite each other on the cylinder, when no current will flow in the shunt. The electromotive force in the shunt current will also be dependent upon the resistance in the main as already elucidated.

E. M. F. of main, 110 volts.

Resistance of cylinder, 1,100 ohms.

If now we include twenty-five ohms between the two slide contacts, according to the laws which have been explained, the E. M. F. in the closed shunt will be $\frac{110 \times 25}{1100} = 2.5$ volts; or, if we take five hundred ohms between the slides, we will obtain E. M. F. $\frac{110 \times 500}{1100} = 50$ volts.

Owing to the construction of the resistance cylinder, the variations in the intensity of the shunt current take place very gradually by small fractions of a volt.

The shunt current thus selected is then still further reduced by the second controller, which is constructed similarly to controller No. 1, only that it is so modified that no switch is required to turn the current on and off. The same movement (hand or motor power) that actuates the slide contacts turns the current on and off by means of two bars and a spring which traverses them. These circuit-breaking bars run parallel with one of the slide bars, and each one forms a continuous conductor from one end of the resistance cylinder to the other; but at that point at which the two slide contacts are directly opposite each other, the spring which has formed an electrical connection between the two bars is forced to ride into an insulation, thus breaking the electrical contact between the two circuit-breaking bars; then no current will pass through the controller.

The current in the shunt can not be shut off without gradually diminishing it to zero.

This apparatus thus embodies in itself the rheostat, the pole changer, the circuit-closing switch, the slow interrupter, and a sinusoidal machine of slow alternations.

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* Heating capacity: One hundred and ten volts will send half an ampère through two hundred and twenty ohms; if this resistance is made to consist of a thin wire of about four feet in length, it would at once become red hot when connected with a one-hundred-and-ten-volt circuit; if the wire were made longer, it would necessarily have to be made thicker in order to keep its resistance at two hundred and twenty ohms; then, while the same amount of heat would actually be generated in the wire, it would nevertheless not become so hot as in the case of the thinner wire, because it presents a larger amount of surface to the surrounding atmosphere and thus permits of the escape of more heat. Therefore, the greater the amount of heat-radiating surface, the less heat will there be throughout the entire resistance. If, however, we take the thicker wire and, instead of connecting it to a one-hundred-and-ten-volt circuit, connect it with one of two hundred and twenty volts, we would again have the same state of affairs. It is thus apparent that our resistance must, in addition to having ample heat-radiating surface, also be adjusted in accordance with the pressure of the available source, and the resistance body selected must be of sufficient capacity to carry the limit of current required for the special purpose.

For other purposes than the direct application of the current to the human body slight alterations must be made according to the purpose designed, thus:

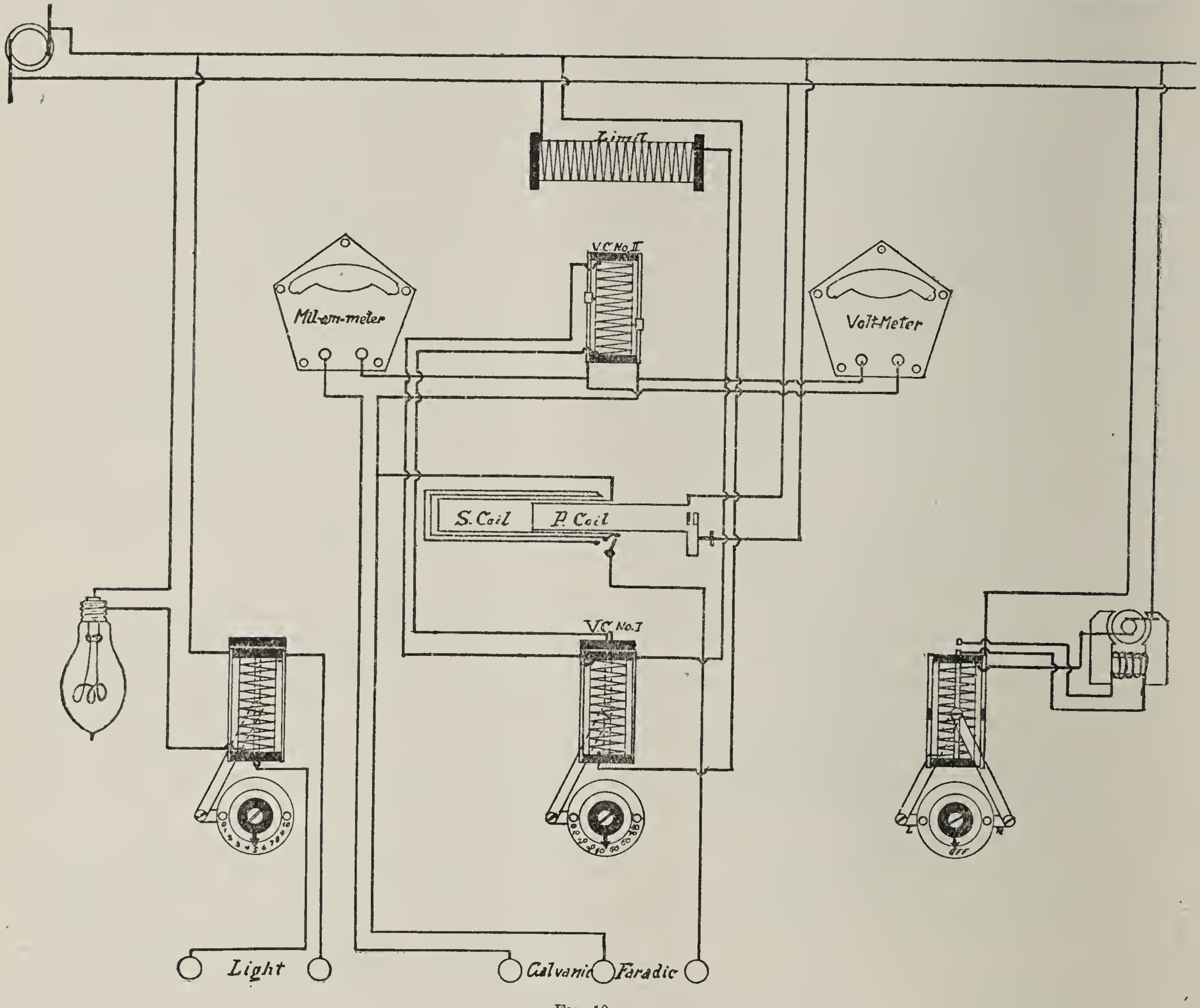

Fig. 10.

For all purposes of minor importance it is economy to use incandescent lamps as ampère limits; as, for instance, for operating the faradaic coil, for lighting small exploring and examining lamps, and for charging storage batteries.

Exploring Lamps.—Take between a quarter and an ampère and a half current and from four to fifteen volts. The circuit for such lamp would consist of a fifty-candle-power lamp, which allows an ampère and a half to pass, and a volt controller in series with the lamp.

The controller, having a capacity of an ampère and a half, need not have a resistance of more than twenty ohms; the voltage then obtainable would be—

E. M. F., a hundred and ten volts.

Resistance of lamp, seventy-three ohms.

Resistance of shunt (controller), twenty ohms.

$$\frac{110 \times 20}{73 + 20} = 23.6 \text{ volts.}$$

Thus 23.6 volts can be obtained at a strength of nearly one ampère and a half, and the current can be varied by fractions of a volt. The small lamps in use require between four and fifteen volts.

Faradaic Current.—In order not to burn the platinum contact plate on the interrupter of the ordinary faradaic coil, it is necessary to reduce the tension of the current to one similar to that obtained from two to three cells—*i. e.*, four to six volts.

For the excitation of a faradaic coil, the same kind of a rheostat can be used, but it is unnecessary to limit to an ampère and a half and to go as high as twenty-three volts. In fact, all that would be required for operating the coil would be a lamp of thirty-two candle power in series with a four- to six-ohm resistance wire of one ampère capacity; that would make it equal to a three- to four-cell battery, because a shunt or parallel connection with six ohms carrying one ampère yields about six volts at one ampère—*i. e.*, $\frac{110 \times 6}{110 + 6} = 5.6$ volts.

This could be still further regulated if desirable.

Cautery.—In order to heat the metal of the instruments placed in circuit for cautery purposes we must get our current, if we use batteries, from cells of high E. M. F. and very low internal resistance. That a current of this nature, one giving fifteen to twenty ampères, is easiest obtained from the line and not from batteries is evident.

Accordingly, various devices have been constructed for the purpose of utilizing directly the current from the main. Among the first of these was a rheostat of twenty ampères capacity. Here, however, in order to have the use of a hundred and twenty watts of energy, two thousand and eighty had to be wasted, and an enormous amount of heat was generated in the rheostat in a very short space of time.

This appliance proved in every way to be more inconvenient than a storage battery, as a shunt current had to be obtained of an intensity of about ten volts; a higher voltage would cause heating of the contacts, of cautery handle, and arc at the break of the current.

The use of a motor-dynamo seems to offer a better source of current for cautery work.

This apparatus may be called a rotary transformer, and consists of a machine of one common field and two windings on one armature, each winding having its proper commutator.

The one-hundred-and-ten-volt current is connected to the fine wire winding as motive power, and is returned in a transformed state, fit to heat cautery electrodes and snares.

Or the one-hundred-and-ten-volt direct current may be utilized for cautery purposes by placing collector rings upon the armature shaft and connecting them to opposite segments of the commutator; from these collector rings an alternating current is obtained which is of nearly the same intensity as the current from the main, but is easily transformed by means of a proper step-down transformer.

It is, however, my conviction that these outfits as today placed upon the market are mere toys. For efficient work a motor of less than one quarter horse power is entirely out of the question.

I believe that a good storage battery is more reliable and more economical for cautery work than any of the above appliances. The method of wiring the apparatus which I make use of for electrotherapeutic work, and which consists of the two controllers, a motor and motor controller, a milliampèremeter, a voltmeter, a high-tension coil, and an appliance for lighting small exploring lamps, is shown in Fig. 10. All forms of current (galvanic, faradaic, galvano-faradaic, galvanic interrupted, and sinusoidal), except that for illuminating purposes, are obtained directly through the three binding posts on the front of the apparatus.

In conclusion, I would make a few remarks concerning another source of danger in the use of the street current.

The danger is one which can, of course, occur only with transformed systems, and is that due to a breakdown on the insulation between the primary and secondary windings of a transformer.

In such an occurrence the secondary windings would have their potential very materially raised.

This is an occurrence which can not be guarded against, so the only remedy could lie in some arrangement by which the current would be cut off in the event of such an occurrence.

Various apparatus for this purpose exist: one by means of which the secondary mains are automatically connected to the earth upon a dangerous rise in potential; another means would be to have a second transformer in circuit with the patient, or, finally, to make use of a magnetic cut-out in the circuit so that upon rise in pressure of the current the cut-out will gradually diminish the current to zero. Fusible cut-outs and lamps as safeguards are worse than useless, for they induce us to place confidence in apparatus which will never act promptly, as they require time to melt or to break. But even the safety cut-offs first spoken of, no matter how well constructed, must fail to guard the patient against a momentary shock, which, no matter how short in duration, may, for all we know to the contrary, do irreparable damage.

No safety cut-out can act before the increased current has reached it, and as soon as it has done this, it has also passed over it to the other end of the line.

The only absolute safety in the use of transformed systems lies in the employment of storage batteries.

NOTE.—The apparatus above described has been made for me by the Wappler Electric Controller Company of this city, and I am indebted to Mr. R. Wappler for the drawings of the diagrams as well as for much other valuable assistance in the preparation of this article. The cell selector constructed by Dr. Rudisch and myself in 1883 furnished the starting point for the elaboration of the principles incorporated here.

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CONTINUOUS APPLICATION OF ICE-BAGS IN THE MANAGEMENT OF PYREXIA.

By L. B. LOCKARD, M. D.,
TOLEDO, OHIO.

The reduction of excessive temperatures by the external use of cold in those diseases where the fever is of long duration has to-day almost superseded the administration of antipyretics.

In these diseases—viz., typhoid fever, etc.—there are three common methods in vogue: the Brand, or cold plunge, the cold sponge, and the ice pack. Although generally of the greatest value, they have in common three great disadvantages—disadvantages which will ever prohibit their common use in private practice. First, and by far the most important, is the absence in the private home of the proper appliances and their absolute infeasibility in the homes of the very poor. Next is the ignorant prejudice against them held by the great majority of our common people—a prejudice which it is often impossible to overcome. Thirdly, even these heroic measures will occasionally fail, and within a short time succeeding their withdrawal the temperature will have again passed the danger point. When oft-repeated, they become fatiguing to the patient and at night may seriously interfere with sleep.

In what form, then, can cold be used in order to escape these objections and give us a method easy of application, certain in its results, and so simple that it can meet with no objections from the ignorant? All of these requirements are met by the use of ice-bags applied over the arteries at their most superficial points and continued in place until the temperature has become normal, then removed, excepting for those requisite to keep the temperature near the normal point. To the advantages enumerated it boasts one not possessed by the other methods, and one of no slight importance: the non-necessity of disturbing the patient.

Neither is their use objectionable to the sick; for the first hour or two they do give rise to some discomfort and annoyance, but this soon passes away and is succeeded by a period when their presence is barely noted. In many of the conditions where their use is indicated they are rather agreeable than otherwise, and this is notably the case in inflammatory rheumatism and pneumonia.

The cheapness of the bags, the infrequent intervals at which they require filling, and the ease with which the applications are made are especially appreciated in those cases where a nurse is not to be had and the physician must rely solely on the aid given by members of the family.

The number of bags to be applied and the mode of use necessarily differ in each case, according to the individual type of disease and the degree of pyrexia. As the temperature falls, it becomes necessary to gradually reduce the number in use, and care must be exercised that it fall not too low, as may and frequently does happen.

It is in this particular respect that one of the greatest advantages of the bags is manifest: the possibility of regulating perfectly the amount of cold according to the degree of fever present. No matter to what an extent it may fluctuate, the amount of ice in contact fluctuates in corresponding ratio.

The usual way in moderate degrees of fever, say 102° F., is to use four bags, one in each axilla and one in each popliteal space. If the fever is still higher, these are reenforced by one to the nape of the neck and one at each wrist, and in exceptional cases it becomes necessary to place others at the ankles. If any special indications are to be met—viz., pneumonia, headache, pericarditis, inflamed joints, etc.—they may also be applied to the affected areas. In the course of an hour, on an average, the fever will begin a gradual decline and continue to fall until, in many cases, if all the bags are continued in force, it becomes subnormal. As soon as any increase is noticeable they should be renewed one at a time until the fever is under perfect control.

By this method it has been possible in a considerable number of cases to keep the temperature of typhoid fever at a fairly stationary point; it never exceeding 102° F., the degree at which the bath is commonly given.

The following temperature charts of various diseases, given here only so far as is necessary to show its remarkable power of keeping the fever in subjection, are taken in part from private practice and in part from records of cases under my charge while interne at the Erie County Hospital, Buffalo, New York.

They begin in each case with the first reckoning taken before the treatment was instituted, and are continued only to such a point as where it had become fairly stationary. In many of these there would be occasional relapses of an hour or so, due to complete withdrawal of the ice for experimental reasons, and so the completed charts would show over again just such variations as here indicated, but space forbids that the entire chart, in some cases extending over several weeks, be given.

Case I. *Typhoid Fever.*—Until the eleventh day of the disease the usual methods of combating the fever had been used, but without avail. It had continued high, and for three days preceding the application of the ice-bags had never fallen below 103° F., excepting for a few minutes immediately succeeding the use of the bath.

5 P. M.—Temperature, 105°; pulse, 144; respirations, 33. Treatment: Ice pack, thirty minutes.

6 P. M.—Temperature, 104.6°; pulse, 132; respirations, 32. Treatment: Cold plunge, fifteen minutes.

7 P. M.—Temperature, 104.5°; pulse, 130; respirations, 30. Treatment: Cold plunge, fifteen minutes.

8 P. M.—Temperature, 105°; pulse, 148; respirations, 34. Treatment: Seven ice-bags.

9 P. M.—Temperature, 104.2°; pulse, 144; respirations, 34.

10 P. M.—Temperature, 103°; pulse, 114; respirations, 28.

12 M.—Temperature, 101.2°; pulse, 112; respirations, 26. Two bags removed.

6 A. M.—Temperature, 101°; pulse, 108; respirations, 26. One bag removed.

9 A. M.—Temperature, 99°; pulse, 100; respirations, 22. All bags removed.

5 P. M.—Temperature, 103°. Treatment: Seven bags.

6 P. M.—Temperature, 102°.

8 P. M.—Temperature, 101°.

10 P. M.—Temperature, 99.5°. All bags removed.

From this time on until complete recovery the temperature never passed 102°, no other treatment being instituted. Pulse remained strong and steady, and general condition good.

CASES II AND III. *Typhoid Fever.*—Both severe types of the disease, and at the beginning of treatment were running high temperatures. Subsequent course very similar to Case I.

CASE IV. *Typhoid Fever.*—Hyperpyrexia not controlled by baths or ice pack. Ice-bags likewise failed. The baths were then renewed and the bags applied in the intervals and temperature kept down.

CASE V. *Typhoid Pneumonia. 4 P. M.*—Temperature, 105.5°; pulse, 150; respirations, 36. Treatment: Five bags, and two to the lungs.

6 P. M.—Temperature, 103°; pulse, 120; respirations, 30.

8 P. M.—Temperature, 101°; pulse, 108; respirations, 32.

12 M.—Temperature, 99.4°; pulse, 80; respirations, 28.

2 A. M. — Temperature, 95.4°. Bags removed: stimulants.

4 A. M.—Temperature, 99.5°; pulse, 100; respirations, 30. Rose gradually until 5 P. M.

5 P. M.—Temperature, 104°; pulse, 120; respirations, 32. Four bags.

6 P. M.—Temperature, 103.2°; pulse, 124; respirations, 30.

8 P. M.—Temperature, 102°; pulse, 106; respirations, 28.

10 P. M.—Temperature, 99.5°. Bags removed.

Ice was kept continually upon chest, and found to give even more relief than poultices. In many cases ice applications were substituted for poultices and ever with good results.

CASE VI. *Gonorrhœal Endometritis.*—Temperature high for two days, never falling below 103°.

2 P. M.—Temperature, 104°. Five bags.

3.10 P. M.—Temperature, 102.2°.

7 P. M.—Temperature, 101.4°.

From this time on temperature was maintained at about this point by constantly varying the number of bags.

CASE VII. *Inflammatory Rheumatism.*—When first seen, patient had been sick one week. Temperature had been exceedingly high and pain so severe that no sleep had been obtained for three days. The wrists, hands, knees, and ankles were badly swollen and inflamed.

Four bags for fever were immediately applied, as well as one to each joint for the relief of the pain. In fifteen minutes the patient had fallen into a refreshing sleep, and the temperature fell gradually to normal, where it was afterward maintained.

In several other cases the efficacy of this treatment in the relief of pain was tested, and always with the most gratifying results. When hot applications had failed, ice would always bring almost immediate relief. The author suffered from an attack of medium severity some time since and obtained more relief from the ice than from any other remedy.

CASE VIII. *Pneumonia. 4 P. M.*—Temperature, 102°.

5 P. M.—Temperature, 103.5°. Four bags.

6 P. M.—Temperature, 100.8°. One bag removed.

8 P. M.—Temperature, 98.4°.

12 M.—Temperature, 96°. All bags removed.

4 A. M.—Temperature, 100.5°. Four bags.

6 A. M.—Temperature, 100°.

12 M.—Temperature, 98°. All bags removed.

4 P. M.—Temperature, 102.5°. Four bags applied.

6 P. M.—Temperature, 97.6°. Bags removed.

CASE IX. *Acute Miliary Tuberculosis.*—The fever was invariably reduced, and the patient thus rendered much more comfortable than he could otherwise have been.

CASE X. *Pneumonia with Infectious Endocarditis.*—Three or four times daily, at stated intervals, the temperature would rise to 106° to 107°, then fall abruptly to 96° to 97°. This occurred regularly for ten days. At this time each paroxysm was anticipated two hours by the application of nine bags, and in this manner they were so controlled that the temperature rarely passed 103°.

CASE XI. *Scarlet Fever with Hyperpyrexia.*—On second day of disease, at 11 o'clock A. M., temperature was 104°. Four bags were applied, and in an hour a gradual decline set in until 99° was reached. From that time it was never allowed to pass 100°.

CASES XII, XIII, and XIV. *Follicular Amygdalitis.*—All had severe throat lesions, with considerable fever. Here the bags were used with the one idea of noting their effect, as these temperatures are usually easily controlled. After their application, the fever would at once fall, only to rise again upon their removal.

CASE XV. *Puerperal Fever, Gonorrhœal. 4 A. M.*—Temperature, 105°.

8 A. M.—Temperature, 103°.

12 M.—Temperature, 106.5°.

4 P. M.—Temperature, 97°.

8 P. M.—Temperature, 102°.

12 P. M.—Temperature, 106°.

4 A. M.—Temperature, 105°.

8 A. M.—Temperature, 104°.

12 M.—Temperature, 106°. Treatment: Nine bags.

4 A. M.—Temperature, 103°.

8 A. M.—Temperature, 100.5°.

12 M.—Temperature, 101°.

4 P. M.—Temperature, 101°.

8 P. M.—Temperature, 102.5°.

12 P. M.—Temperature, 103°.

4 A. M.—Temperature, 99°.

8 A. M.—Temperature, 101°.

Two days later, hysterectomy and death.

In a large number of other cases, including diphtheria, measles, phthisis, dysentery, malarial disease, scarlet fever, and pneumonia, this method was used experimentally and with good results. The cases cited are sufficient, however, in number and variety to demonstrate its efficacy.

914 JEFFERSON STREET.

HÆMATOCELE OF EXTRAORDINARY SIZE FOLLOWING LABOR.

WITH RECOVERY.

By M. J. SHIELDS, M. D.,
VISITING PHYSICIAN TO THE CARBONDALE, PA., EMERGENCY HOSPITAL, JERMYN, PA.

THE peculiar and interesting features of the case are the largeness of the tumor, total paralysis of the sphincter ani, the subsequent rupture of the tumor, and also complete recovery of the patient. Cases of this kind I think are rare in general practice, and writers on obstetrics state that where the thrombus is large the fatality is considerable.

On August 9, 1898, at 5.30 A. M., I was called to attend Mrs. W., a multipara, who had been delivered two hours previously of a female child of ordinary size by a midwife, after a rapid labor of an hour. The midwife stated that "everything was all right" until shortly after the delivery of the afterbirth, when the patient suddenly grew pale and faint and complained of a severe pain in the region of the rectum, with a desire to evacuate the bowels. The pain growing rapidly more severe and the patient's condition alarming, I was sent for. When I arrived I found the patient on her hands and knees, and, from her outcries, she seemed to be suffering excruciating pain. Pulse 130, weak, and thready; extremities cold; face very pale. There was no external hæmorrhage to speak of. Upon vaginal examination my fingers were arrested by a mass on the right side of the vagina, extending from the vulva as far as my fingers could reach. By crowding them past the tumor I could not reach the cervix with my finger alone, but managed to do so by using considerable force and introducing my whole hand. The uterus was pushed upward and toward the left side by the tumor. I then made a rectal examination, and to my surprise I found the muscle totally paralyzed, so that I could have introduced all my fingers with ease. The tumor could be felt plainly through the rectal wall, a tense, hard mass, and with two fingers of one hand in the vagina and two fingers of the other in the rectum I could map out the tumor very clearly, and could judge as to its size, which was certainly as large as a child's head. On inspection of the external parts I found a large extravasation under the skin in the groin; there was a much larger one under the skin of the right buttock, extending down to the middle third of the thigh behind. The vulva on the right side was very much enlarged; was hard and brawny; had a bluish appearance. The symptoms being very urgent, and shock profound, I gave morphine hypodermically, followed by hypodermic injections of ether and strychnine, and tamponed the vagina the best I could, owing to the great difficulty of getting the tampons past the obstruction and the intense tenesmus and bearing down that the patient had. Having requested a consultation when I first saw the patient, Dr. Graves and Dr. Wheeler now arrived and examined the case. The patient by this time had rallied somewhat, pain was less severe, pulse stronger—in fact, all the symptoms pointed toward cessation of the hæmorrhage, and, considering it was good policy to let "well enough" alone, we concluded to await developments. I saw the patient at 1 P. M.: condition much improved, pain ceased, and she had slept some. On the 10th I saw the patient again; removed tampon; tumor had not increased in size; rectum still dilated; bowels moved involuntarily; general condition improving; temperature normal—in fact, patient felt so well that operative measures, which had been recommended, were objected to by the patient's friends. I saw the case every day after that until the 15th, when, on making an examination, I found that the tumor had ruptured at a point an inch from the vulva, with such a slight discharge of its contents that it was unnoticed by the patient on account of lochial discharge. My finger entered the rupture very easily, and with the aid of it and a dull spoon curette I removed a double handful of dark clots, washed the cavity out, and packed it with iodoform gauze. This was done every other day till the 30th, when the patient was discharged, having made a complete recovery. Sinus in the vagina closed, rectal paralysis disappeared.

The case, I think, is remarkable for one thing—that is, total absence of sepsis, notwithstanding the length of time the blood clots remained in the pelvic cavity and the subsequent sloughing of the vaginal wall. Of course, I used all antiseptic precaution possible, but do not think that my antisepsis was strict enough to have prevented absorption.

ADENOMA OF THE SOFT PALATE.

By W. L. BULLARD, M. D.,
COLUMBUS, GA.

IN December, 1897, Dr. Fred Bussey, of Waverly Hall, Georgia, was kind enough to send me a patient, a mulatto married woman, aged twenty-three years, who, for some time—two years—had noticed a growth upon the soft palate. At the time she consulted me it had grown to be of the size of a guinea-egg, which, on account of its weight and size, caused the most labored breathing when asleep—in fact, sleep was almost impossible on account of this. To the touch it was of a firm and very elastic consistence and covered by normal mucous membrane. She was also troubled in speaking and swallowing. There was no glandular trouble. The patient was chloroformed by Dr. E. E. Mansfield, and, on account of paralysis of the palate from the weight of the tumor, the breathing became so stertorous that it seemed alarming, so much so that it was advisable to introduce a catheter into the throat. The growth was a little to the right side, and an incision was made through the mucous membrane down to the growth, and with the fingers and blunt scissors the tumor was easily enucleated. Hæmorrhage was rather free, but was readily controlled after enucleation. The wound healed in a few days, and in ten days the palate had about resumed its normal condition, though there existed a nasal twang to the voice for several weeks after the operation. There has been no recurrence, or evidence of such, to date, October 18, 1898.

MEMBRANOUS ENTERITIS.

By D. ALBERT ROSE, M. D., C. M.,
TORONTO, CANADA.

Membranous enteritis, an affection known by various names, such as mucous colitis, tubular diarrhœa, and mucous colic, is more or less of a rare disease of the bowels, and is characterized by the production of a very tenacious adherent mucus, which may be passed in long strings or as continuous tubular membrane. Thinking it might be of some interest, I wish to report the following case which came under treatment by me:

Mrs. F., aged about forty-two years, suffered from constipation for several months until September, 1897, when she noticed in the motions from the bowels long, stringy masses, which she thought to be of the nature of a tapeworm. This condition was present off and on for several months, and she consulted her family physician about it, and he treated her for tapeworm. In May, 1898, when I first saw her, she had just then passed two pieces of mucus which were perfect casts of the bowel, one about eight inches and the other ten inches long. Upon inquiry I found that this was the nature of the motions, and at no time had a tapeworm been present. I therefore recommended a change in treatment. She presented in addition the following symptoms—viz., paroxysmal pains in the abdomen following the course of the colon, which were described as being like something gnawing or moving; there was constipation, followed by diarrhœa, which gave some ease; and she showed considerable loss of weight and nervous irritability. The treatment consisted in careful diet, for some time milk alone, and gradually varying, avoiding all articles with much residue, as the coarser vegetables. Locally, large enemata of warm (twenty grains to an ounce) boric acid were used daily, flushing out the colon as much as possible; and internally, tonics, as arsenic, and also bichloride of mercury in small doses. The condition of mucous tubular casts was present for some three months after, but diminished markedly under treatment until the end of July, when there were practically none present. I then gave Blaud's mass with nux vomica and a little aloes; this was continued to the middle of September, when the general health and regularity of the functions of the bowels became normal, and have remained so since.

The nature of the casts I do not think should be mistaken; however, under the microscope the mucous character is clearly seen.

50 Avenue Road.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Thursday evening, the 6th inst., the following papers were to be read: The Curability of Cancer, by Dr. N. Jacobson, with discussion by Dr. John Parmenter and Dr. H. R. Gaylord; and Colles's Fracture, by Dr. E. M. Dooley, with discussion by Dr. W. C. Phelps, Dr. M. Hartnig, and Dr. E. A. Smith.

A MODIFICATION OF LABORDE'S METHOD FOR RESUSCITATION IN DEEP ASPHYXIA.

By W. FREUDENTHAL, M. D.

At the meeting of the Académie de médecine of Paris on July 5, 1892, Laborde,* as is well known, demonstrated a method which he had applied for the resuscitation of two drowned persons. Later on he published further observations on this topic. His method consisted in regular rhythmic tractions on the tongue, which "alone often sufficed to restore respiration."

Many practitioners have tested this method, but Herzog † was one of the few who made a more thorough study of this question. After practical experience and experimental research Herzog came to the following conclusions:

1. Laborde's method is not of value, and should not be applied in asphyxia occurring during the later stage of narcosis.

2. In asphyxia during an earlier stage of narcosis Laborde's method is probably of some value as an auxiliary to other methods of resuscitation, which are more effective.

About a year ago I had occasion to operate in a case which suggested to me a modification of Laborde's method. As I have but one case to report I can only speak from a theoretical point of view, yet on this basis the modification appeals to me as one worthy of recommendation. The case is the following:

Mr. N., thirty-eight years of age and a printer by occupation, had tuberculous affections of the larynx for about a year; lungs were only slightly affected, heart normal. An abscess of the size of a fist had formed on the outside of the throat corresponding about to the location of the arytænoids. On one of those sultry hot days which we know so well in New York, we had to open the abscess in a small room of an apartment house. The patient was in *deep* narcosis and the incision had just been made, when almost simultaneously cessation of respiration and of the heart's action occurred. We made attempts at resuscitation, until our strength was almost exhausted. Finally, I introduced a swab of gauze into his mouth in order to remove the secretion.

It was then that the idea struck me to induce reflex action by irritation of the epiglottis. This was done in a very simple manner. With the patient's head hanging over the edge of the table, and his jaws separated by means of a gag, I introduced one hand into his mouth and moved the index finger to and fro over the epiglottis. After a short while the patient commenced to swallow, and then breathe, only to stop two minutes later. A second "tickling" of the epiglottis had the same favorable result, which also occurred the third time, whereupon both pulse and respiration remained normal.

Although Laborde does not refer to the epiglottis, nor to irritating the same, I nevertheless consider this only a modification of his method for the following reasons: Laborde's object in making rhythmical traction is to irritate the sensitive nerves of the tongue and reflexly, by means of the central nervous system, the motor nerves of respiration. The sensitive nerves to be especially considered in this connection are the glossopharyngeal and the superior laryngeal. Now, the glossopharyngeal is distributed to the anterior surface of the epiglottis, while the superior laryngeal—*i. e.*, its inner branch—supplies the posterior surface of the epiglottis, the base of the tongue, and the epiglottidean glands. When, therefore, traction is made on the tongue, the epiglottis is subjected to this traction as well, and thus both nerves mentioned are indirectly irritated.

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* *Le Bulletin médical*, p. 1044, 1892 ff.

† Ueber den Werth einiger Wiederbelebungsmethoden beim Scheintod während der allgemeinen Narkose. *Deutsche Zeitschrift für Chirurgie*, p. 492, Bd. xlvii.

A much more powerful effect, however, is directly exercised upon these nerves by energetic irritation of the epiglottis. I therefore consider my method nothing but a modification of Laborde's. But there are more reasons in favor of my modification.

1. I do not consider traction on the tongue as being perfectly free from all danger; at least, I can not imagine why muscle bundles should not be torn in the manipulations. By tickling the epiglottis nothing can be injured.

2. We know by daily experience how anxiously we try to avoid touching the epiglottis in intralaryngeal operations, even after thorough cocainization. We are afraid of the reflex caused by the least sensation of tickling. Ought we not to learn by this experience?

Therefore, in asphyctic conditions tickling the epiglottis might perhaps be tried as a means of resuscitation.

Therapeutical Notes.

For Hemicrania.—Robin (*Riforma medica*, October 6th) recommends:

℞ Antipyrine, Bromide of potassium,	of each 7½ grains;
Hydrochloride of cocaine	$\frac{15}{100}$ grain;
Caffeine	$\frac{30}{100}$ "
Powdered *Paullinia sorbilis*	4½ grains.

M.

For one powder.

Take one powder at the end of the first crisis.

The Temporary Relief of Toothache. — Ackland (*Treatment*, June 23d; *Therapeutic Gazette*, November 15th) recommends that the gum be dried and painted with the following formula:

℞ Iodine liniment, Tincture of aconite,	of each 1 minim;
Chloroform	10 minims.

M.

Nitroglycerin as a Hæmostatic in Hæmoptysis.—According to the *Clinica moderna* for September 28th, half a drop of a one-per-cent. alcoholic solution of nitroglycerin in a little water, given every half hour, arrests intractable hæmoptysis.

For Hepatic Colic.—Fagio (*Crónica médica*, July 31st) recommends the following:

℞ Chloroform water	1,350 minims;
Neutral glycerin, Orange-flower water,	of each 300 "

To be taken in three doses in the course of two or three hours.

A Mixture for the Treatment of Burns.—The *Gazette hebdomadaire de médecine et de chirurgie* for September 11th credits the following to Lucas-Championnière:

℞ Retinol or vaseline	400 parts;
Oil of thyme, Oil of origanum, Oil of vervain, Oil of geranium,	each 1 part;
Sodium naphthol (microcidine)	4 to 12 parts.

M.

A Procedure for Removing Foreign Bodies from Beneath the Nails.—*Nouveaux remèdes* for August 24th calls attention to this procedure: Soften the nail by applying to it a ten-per-cent. solution of caustic potash, scrape away the softened portion with a piece of glass, repeat the potash application and the scraping, and the foreign body is exposed and can easily be removed.

An Antigalactic Ointment.—The *Gazette hebdomadaire de médecine et de chirurgie* for November 10th gives the following as Guéneau de Mussy's formula:

℞ Morphine hydrochloride, Extract of conium,	each 8 parts;
Camphor	2 "
Lard	60 "

M.

Local Anæsthesia.—Dr. Bagot (*Journal des praticiens; Normandie médicale*, November 15th) considers that the tonic action of sparteine on the heart combats the depressant effect of cocaine, while aiding the local anæsthetic effect of the latter. He recommends the following:

℞ Hydrochloride of cocaine	$\frac{3}{5}$ grain;
Sulphate of sparteine	$\frac{3}{4}$ "

in each powder.

For use, dissolve one powder in either fifteen or thirty drops of boiled water at the time of injection. Begin with the weaker solution. Fifteen drops are injected in the line of operation on one side of the small tumor to be removed; after waiting seven or eight minutes, the other half on the other side. At the end of some moments he commences the operation on the side first injected, and by the time that is finished anæsthesia is complete on the other side.

An Emetic for Children.—According to the *Gazzetta degli ospedali e delle cliniche* for November 22d, Bagnicki gives to children over six years of age a teaspoonful every half hour, till vomiting is produced, of the following mixture:

℞ Powdered ipecacuanha	7½ grains;
Tartrate of antimony and potassium	$\frac{15}{100}$ grain;
Oxymel of squills	150 minims;
Distilled water	300 "

M.

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NEW YORK, SATURDAY, DECEMBER 10, 1898.

THE *REDUCTIO AD ABSURDUM* OF “CHRISTIAN SCIENCE.”

The *British Medical Journal* for November 12th, in an article entitled Christian Science: What It Is, cites, with comments, several of the leading propositions of Mrs. Eddy’s puerile cult. Matter does not exist. It is only a false conception of the human mind. Nothing bad exists. It is only “thinking makes it so,” as Hamlet says. Disease does not exist. It, too, is merely a false conception of the mind, whence it follows *per contra* that health must be the same. Pain, and even death, are delusions which must be exorcised from the mind by means of the inculcation of “Truth.” That being the case, of course vigor and life must be nonexistent likewise. All this wonderful philosophy is contained in a book by the Rev. Mary Baker Eddy entitled *Science and Health with a Key to the Scriptures.* We have carefully perused this book, and are irresistibly reminded of another of Shakespeare’s inspired remarks: “The devil can cite Scripture for his purpose.”

The *British Medical Journal* quotes from Mrs. Eddy’s book the following passages: “The metaphysics of Christian science, like the rules of mathematics, prove the rule by inversion. For example: There is no pain in Truth and no truth in pain; no nerve in Mind and no mind in nerve; no matter in Mind and no mind in matter; no matter in Life and no life in matter; no matter in Good and no good in matter.” Again, “A hypodermic injection of morphine is administered to a patient and in twenty minutes the sufferer is quietly asleep. To him there is no longer any pain. Yet any physician—allopathic, homœopathic, botanic, eclectic—will tell you that the troublesome material cause is unremoved, and that in a few hours, when the soporific influence of the opium is exhausted, the patient will find himself in the same pain unless the belief which occasions the pain has meanwhile disappeared. Where is the pain while the patient sleeps?” On this the *Journal* remarks: “This conundrum we must leave to the Christian scientists.” We do not consider the conundrum so difficult of answer. Passing by the untrue assertion that any educated physician of any school would assert that pain will return unless the *belief* which occasions the pain has disappeared, we would point out that pain is a sensation, and is therefore dependent upon an act of perception, not of belief. True, by a sort of “short-circuiting” cerebral process a false conception of pain, seemingly peripherally originated, may really originate centrally, as occurs in hysteria, or in the hallucinations of the senses found in delirium. No one supposes pain to be material, though it is a function or property of matter, just as weight is not material, though it can not be conceived of by the mind until mentally associated with matter. We can not see motion in the abstract, but we can recognize its existence through its effect upon matter.

The action of the morphine is to deaden this sense of perception whereby the mind becomes conscious of unwonted forces, or normal forces operating in an unwonted manner in the body. When the “Christian scientist” therefore asks Where is the pain? he is talking nonsense. The abnormal forces are at work just the same, but he is prevented by the morphine, which chains up his powers of perception, from perceiving them, just as a man chained to the wall in an absolutely dark room would be unable to perceive a pendulum swinging noiselessly from the ceiling out of his reach.

Or, take another example: An operator at one end of a telegraph circuit sends a message; it is conducted along the wire and signals the message on the instrument at the other end. But that instrument gets out of order, or the receiving operator falls asleep. Where is the message? asks the “Christian scientist.” Surely it is just as much in existence as though the instrument were in order or the operator awake.

To a certain degree and under certain circumstances “suggestion,” whether hypnotic or otherwise, has a similar effect. We can see the influences of suggestion operating all through life, and, as has been aptly said, “Our lives are but the reflex of the suggestions around us.”

It has been said in theological science that every heresy that survives does so solely in virtue of the grain of truth that it enshrines, and the same is true of physical science. The grain of truth in “Christian science” is the influence of “suggestion” on the human economy; and it is to suggestion solely that whatever good results are in occasional instances attained by “Christian science” methods are due. That such are occasionally so attained is no doubt true, and it is to this fact that the adherence of a few perfectly conscientious and upright people to this eminently commercial cult is to be attributed.

But the applications of suggestion are strictly limited to a certain class of cases, and, moreover, it is in the highest degree advisable, indeed, imperative, that the use of even scientific suggestive therapeutics should be confined to properly trained persons, who are competent to recognize the nature of and to deal radically with the morbid processes actually at work, and to which the mere phenomena which suggestion can affect are attributable. A great deal of harm can already be traced to the injudicious use of suggestive therapeutics at the hands of persons unpossessed of the scientific training requisite to make them competent to use it judiciously.

Moreover, while the physician merely uses suggestion, or gives morphine in organic disease to procure temporary symptomatic relief, he does not rely on it to cure, but has recourse subsequently to radical measures for removing the cause where possible; and it is in placing obstacles in the way of the use of such measures that the "Christian science" folly is morally criminal.

In therapeutic suggestion, the great art lies in the ability to present the suggestion in such a persuasive, convincing, and apparently probable light as to command the assent of the subject. It is just here that whatever success "Christian scientists" occasionally attain is to be found, and for this reason man's nature is such that he instinctively inclines toward credence in the possibility of anything that claims to be based upon the omnipotent attributes of a Deity. This claim brings the mind to a state of passive receptivity, since most men believing in a Deity, who must be *ex hypothesi* omnipotent, are prepared to assent to the proposition that there is nothing that it is not *possible* for him to effect. But it is also *possible* for him equally to keep man alive without the material elements of food or drink, or in an atmosphere destitute of oxygen; to keep him warm without clothing or shelter, and to reproduce his race without the mediation of the act of material congress. Yet he does not usually do so, and we have still to hear of the "Christian scientist" who carries his or her contempt for that delusion, matter, to the extent of abstaining altogether from food, drink, clothing, and house shelter, or who proposes to abolish the relation of the sexes. Moreover, the avidity with which the "Christian scientist" absorbs that eminently material product, money, is by no means assuring to persons of common sense in the light of his denunciation of the falsity of the "material," and his assertion that only the spiritual is real. Why does not the adherent of this nineteenth-century bubble recognize that the other material things of this life, as well as the money wherewith to purchase them, are also "mere substitutes for the dignity and potency of the Divine Mind and its power" to sustain life, and as such condemn and discard them as he does material aids to healing?

That he does not is evidenced not only by the enormous fees charged for pupilage in this college of quackery, and extorted for its ministrations from its dupes, but it is shown by a case recorded in the *New York Times* for November 25th which would be ludicrous were it not so pitiful an example of the depravity of human nature. A man who asserted that he had been injured by falling down an unprotected areaway, and was cured of his injuries by a "Christian science" healer, brought suit in the District Court of Des Moines, Iowa, to recover damages for his alleged injuries. Inasmuch as the process of healing consisted in the inculcation of the "Truth" that he had not really sustained any injury at all, but that his sensations on this point were merely delusions of his mind, the man was undoubtedly morally guilty of an attempt to perpetrate a fraud. Fortunately, the judiciary had sufficient sense and courage to throw the case out on the ground that "injuries which could be cured by 'Christian science' must have been either wholly imaginary, or so nearly so that their estimation in dollars and cents, and even in cents alone, was impossible."

The *British Medical Journal* further points out that from a "Christian science" point of view medical treatment is not merely useless but immoral, and it quotes in support of this position the following paragraph, again from Mrs. Eddy's jumble of nonsense and irreverence: "Drugs, cataplasms, and whisky are stupid substitutes for the dignity and potency of the Divine Mind and its power to heal. It is pitiful to lead men into temptation through the by-ways of physiology and materia medica, to victimize the race with intoxicating prescriptions for the sick, until mortal mind acquires an educated appetite for strong drinks, and men and women are made loathsome sots." What logic is here? Pain and disease do not exist; they are only hallucinations, because they are manifestations in the material plane, which material plane has no real existence but is purely illusory. How, then, can the physical vices of alcoholism, morphinism, and sottishness exist, for they are the productions of the material also, and must therefore be equally illusory? How can physical unchastity exist, since it is a result of material contact? The drunken man is not drunk, because the condition of alcoholism is the effect of a material substance upon his material body, and matter is illusory. Perhaps it will be asserted that this is the exception which proves the rule, on the ground that alcohol is spirit; which would be really no more absurd than most of their arguments.

Well, then, since disease is a delusion, a patient does not really contract syphilis as the result of an impure connection, and therefore there is nothing for him to be ashamed of in being possessed of the delusion that he has. Neither is it possible for him to communicate it; he can only give rise to a delusion. What sense, therefore, is there in interdicting intercourse to syphilitics? Further, the physical act whereby he thinks he contracted the disease is not real, being material, therefore he is not guilty of unchastity.

In short, this pernicious folly strikes at the very root of all purity and morality, as much as it makes of life and responsibility a farce, and of all religious feeling of whatever kind a travesty.

In conclusion, the whole farrago of nonsense reminds us very strongly of one verse of a student's song on the various philosophic systems of the day, which runs somewhat as follows:

We can't assume, so Comte affirms, a first or final cause, sir,
Phenomena are all we know, their order and their laws, sir;
While Hegel's modest formula, a single line to sum in,
Is nothing is, and nothing's not, but every thing's becoming,
With a bow, wow, wow, etc.

THE SOLDIER AND HIS UNIFORM.

A STORY has recently appeared in print to the effect that a pay-officer clad in a uniform of which Admiral Dewey did not approve came on board the *Olympia* in the performance of his official duty. The admiral sent for him, surveyed him for a moment, and then said: "I think you are drunk, sir." The officer protested that he was entirely sober, but the admiral dismissed him from his presence with this remark: "I still think you are drunk, sir, for surely in your sober senses you would never think of appearing on this ship in such a uniform." We know nothing as to the truth of the story, but it is certainly well conceived. Nobody knows better than Admiral Dewey the importance of a neat appearance on the part of officers and men in the service.

As a matter of fact, the sailors of the United States navy are a well-dressed body of men. Even when on leave, they invariably look spruce and tidy. That there is no connection between this very creditable state of things, on the one hand, and their excellent discipline and admirable gunnery, on the other, we must decline to believe. The privates of the volunteer army, on the contrary, are dressed in as ill-looking clothes as the ingenuity of man could well devise, save for the overcoat, which is a handsome garment nearly if not quite identical with the overcoat worn by the Federal volunteer in the civil war. No man decked out in such clothes as the government furnished to the men who volunteered in the war with Spain can possibly make himself look attractive; consequently he is apt to take a humorous view of the situation and make himself as slouchy as he can, perhaps on the theory that it is just as well to be hung for an old sheep as for a lamb. All this has its effect on the soldier's self-esteem, and it leads him to think less of discipline than he otherwise would. Now, military discipline includes minute obedience to certain strict orders relating to the preservation of the soldier's health, and this part of his discipline is the one that the inexperienced soldier is the most likely to regard as superfluous and to be avoided. Thus we may trace a direct connection between an ugly uniform and the occurrence of much preventable sickness among soldiers.

Another phase of the matter—one, however, that does not especially concern a medical journal—is the influence that the uniform has on recruiting. There can be no doubt that the jaunty appearance of a soldier, whether on duty or on leave, makes the service attractive to young men who are thinking of entering it, but who would decline to subject themselves to being stared at by donning such ugly clothes as the American volunteer now has to wear. The probability is that we are soon to have a regular army of at least a hundred thousand men. Most of them will be sent to Cuba, Puerto Rico, the Philippines, and Hawaii, to be gazed at by people who have been accustomed to the sight of handsomely dressed soldiers. Let the government, therefore, devise a uniform which, while comfortable and adapted to the climates of the localities mentioned, shall be of such a character as to make the soldier proud of his appearance, readier to take kindly to discipline, and more careful to conform to sanitary regulations. We have nothing but contempt for "dudishness," but we feel convinced we are not overrating the importance of a smart uniform for the soldier.

MINOR PARAGRAPHS.

MASSAGE OF THE HEART IN CARDIAC SYNCOPE.

M. TUFFIER, according to the *Gazette hebdomadaire de médecine et de chirurgie* for November 10th, recently communicated to the Surgical Society of Paris a very interesting case. A young man of twenty-four years had been operated upon for suppurative inflammation of the appendix. The operation at once relieved the condition, but on the sixth day the patient was seized, during the physician's visit, with an attack of cardiac syncope accompanied by total arrest of the circulation. The ordinary measures completely failing to restore respiration,

M. Tuffier made an incision in the third intercostal space, and, coming to the heart, took hold of the left ventricle with the thumb and index finger, and subjected it to rhythmical compressions. After a few moments circulation reappeared, and the patient breathed for two or three minutes. The pulse again becoming imperceptible, M. Tuffier repeated the manœuvre with the same result. On a third occasion he was unsuccessful and the patient succumbed. An autopsy discovered a clot in the pulmonary artery. The procedure strikes us as original and promising, and in cases of otherwise certain death worthy of trial in the last resort.

PROFESSORSHIPS OF MILITARY MEDICINE.

DR. WILLIAM H. DEVINE, late of the medical corps of the army, writes to the editor of the *Boston Medical and Surgical Journal* in advocacy of the establishment of professorships of military medicine in the medical schools, and expresses the hope that next year Harvard will take the lead in the matter. Some of the larger schools had such chairs in the time of the war of secession, and we think it probable that they will be revived now that we seem to be committed to a policy that will make the maintenance of an enlarged army necessary.

THE *REVUE DES SCIENCES MÉDICALES.*

WE regret to learn that the publication of this old and most valuable quarterly will cease with the current year. Its editors and publishers may take credit to themselves for having contributed materially to the progress of medical literature.

AN ATTACK ON BACTERIOLOGICAL INVESTIGATION.

THE *Gazette médicale de Paris* for November 12th recounts that, as it had foreseen, an attempt has been made in the Austrian legislature to suppress bacteriological laboratories, but the Minister of Public Instruction and the chief of the sanitary department have protested against such suppression in the interest of civilization, maintaining that all that is needed is greater care in the management of the laboratories. The attempt to suppress them is quite on a par with English and American antivivisection legislation. We presume the exciting cause of it was the recent unfortunate occurrence of the plague in Vienna as the result of laboratory work.

CREDÉ'S SILVER OINTMENT IN THE TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

IN the November number of the *New Yorker medicinische Monatsschrift* Dr. Gustav Schirmer, of Chicago, gives brief notes of nine cases in which he employed inunctions of Credé's silver ointment with success. His method was to use nearly an ounce of the ointment in the course of three days, and then about a third of that amount on the occurrence of a remission.

ERYTHEMA NODOSUM AS A COMPLICATION OF INFLUENZA.

PELON (*Nouveau Montpellier médical,* September 25th) remarks that the occurrence of erythema nodosum in connection with influenza is rare, so that most authors cite only the cases observed by Comby. He himself gives the histories of two cases. Both occurred in soldiers who appear to have been in good health when they were suddenly attacked with influenza.

THE ACME OF INDIGNITY TO THE MEDICAL PROFESSION.

THE *Lancet,* according to the *Philadelphia Medical Journal* for November 26th, states that the French Minister of War, wishing to hold out extra inducements to the workmen employed in the military workshops, decreed that they should be entitled to free attendance on their wives and families. In order to meet the need for medical services thus created, notices were posted calling upon medical men and midwives to put in tenders for the appointment, stating what fees they would require, and whether by case or annual subscriptions. It was intimated that the award would be made to the lowest bidder at this degrading auction.

This dastardly outrage was, of course, strongly resented by the French medical press, and it certainly stands unprecedented even among the parsimonious efforts of governments and other large public bodies to drag the physician's calling down to the level of that of a huckster. Let us hope that besides being unprecedented, it will remain unimitated.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 3, 1898:

DISEASES.	Week ending Nov. 26.		Week ending Dec. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	44	28	64	16
Scarlet fever	113	5	115	5
Cerebro-spinal meningitis	0	6	0	2
Measles	146	4	106	2
Diphtheria	163	22	156	24
Croup	10	7	20	11
Tuberculosis	145	136	150	159

The New York Medical League will hold a public meeting at the Academy of Medicine on Friday, December 16th, at 8.30 P. M. The subject for consideration will be Midwives; Their Illegal Practices and their Remedy. Papers will be read by Mr. Elbridge T. Gerry, Mr. W. A. Purrington, and Dr. Theodore K. Tuthill. The subject will be discussed by Dr. George T. Harrison, Dr. M. B. Feeney, Dr. J. S. Peterson, Dr. J. J. Noll, and others.

The Western Surgical and Gynæcological Association will hold its eighth annual meeting in Omaha on Wednesday and Thursday, December 28th and 29th, at the Paxton Hotel. The preliminary programme gives promise of a profitable meeting. It is announced that the final programme will be issued on December 15th.

The Resignation of a Troy Physician from the Volunteer Army.—Dr. Burton S. Booth, major and surgeon of the 203d New York State regiment, informs us that he has resigned and resumed practice in Troy.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 3d inst., the following papers were to be presented for discussion: The

Successful Management of Epilepsy and Epileptoid, by Dr. C. H. Hughes; and The Treatment of Pelvic Suppuration, by Dr. R. M. Funkhouser.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general of the United States Marine-Hospital Service during the week ending December 3, 1898:

Small-pox—United States.

Detroit, Mich	Nov. 12–19	Reported present.	
Ecorse Township, Mich	Nov. 12–19	Reported present.	
New York, N. Y	Nov. 19–26	3 cases,	1 death.
Philadelphia, Pa	Nov. 28	5 "	imported from Norfolk, Va.

Small-pox—Foreign.

Antwerp, Belgium	Oct. 29–Nov. 5	9 cases,	4 deaths.
Rome, Italy	Oct. 1–8		1 death.
Moscow, Russia	Oct. 29–Nov. 5	12 "	2 deaths.
Odessa, Russia	Oct. 29–Nov. 5	3 "	1 death.
Odessa, Russia	Nov. 5–12	5 "	1 "
St. Petersburg, Russia	Oct. 29–Nov. 5	7 "	
Warsaw, Russia	Oct. 29–Nov. 5		2 deaths.

Yellow Fever—Foreign.

Barranquilla, Colombia	Oct. 22–29	2 cases,	2 deaths.
Barranquilla, Colombia	Oct. 29–Nov. 5		"
Vera Cruz, Mexico	Nov. 17		"
Vera Cruz, Mexico	Nov. 17–24		8 "

Cholera—Foreign.

Madras, India	Oct. 15–21		11 deaths.

Plague.

Vienna, Austria	Oct. 22–29		1 death.
Samarcand, Bokhara	Nov. 6	Epidemic.	
Bombay, India	Oct. 18–25		169 deaths.

The United States Consul at Odessa, Russia, reports plague present at several localities in Central Asia, and advises restrictions on shipments of wool to the United States *via* Black and Caspian sea ports.

Columbia University.—It is announced that the university has received a gift of $50,000 from a person whose name is not made public, to be devoted to the maintenance of a children's ward in the Roosevelt Hospital as an increase of the teaching facilities of the medical school (the College of Physicians and Surgeons). It is stated that the ward is to be known as the Abraham Jacobi Clinic. It is also announced that a scholarship has been established in the medical school, to be called the O'Dwyer scholarship, in memory of the late Dr. Joseph O'Dwyer.

Permanent Hospitals for the Army.—A Washington dispatch to the *Sun* tells of preparations for the construction of pavilion hospitals on a large scale in Cuba, also a thousand-bed hospital at Fort Monroe, of another of the same capacity in Savannah, of a five-hundred-bed hospital in San Francisco, and of smaller hospitals in various other localities, bringing the government's total hospital capacity, exclusive of outlying possessions, up to between five and six thousand beds.

The Health-Officership of the Port of New York.—It is commonly thought—and with good reason, we hope—that the governor-elect, the Hon. Theodore Roosevelt, will reappoint the present health officer, Dr. Alvah H. Doty.

A Royal Commissioner on Plague.—We learn from the *Lancet* for November 26th that the Duke of Oldenburg, president of the government commission which has been appointed by the Emperor to devise means for arresting the propagation of the plague, was expected at Samarkand with eighteen doctors and officers of health and fifteen Sisters of Charity, as well as four cooks. It will be the first time that a member of the imperial family has visited Turkestan. At Kischlah, a village of Central Asia, there have been two hundred and twenty-five deaths from plague out of three hundred and fifty inhabitants.

Explosion on Board the Hospital Ship Bay State.—According to the *Journal* for December 7th, an explosion of an ice machine took place on the 6th inst. on board the *Bay State*, killing one man and overcoming twelve others with the fumes of the ammonia.

Arrival of the Transport Puebla at Manila.—We learn that the war department has been advised from Manila of the arrival of the transport *Puebla* with twenty-five officers and six hundred men. No deaths occurred and there was but little illness during the voyage.

Changes of Address.—Dr. L. T. Ashcraft, to Professional Building, No. 1833 Chestnut Street, Philadelphia; Dr. Arthur A. Boyer, to No. 27 West Thirty-fourth Street, New York; Dr. Leopold Harris, to No. 259 Division Street, New York; Dr. S. M. Payne, to No. 542 Fifth Avenue, New York; Dr. Walter L. Pyle, to No. 1806 Chestnut Street, Philadelphia.

Army Surgeons to Study British Military Medical Methods.—According to the *New York Times* for December 6th, Lieutenant-Colonel R. M. O'Reilly, chief surgeon, and Lieutenant Weston will sail shortly on the hospital ship *Bay State* for Kingston, Jamaica, to investigate British military medical methods in tropical climates. At the conclusion of the investigation, Colonel O'Reilly is to proceed to Santiago to land supplies, and thence on to Havana, where he is to hold the office of chief surgeon during the temporary occupation. The *Bay State* will be retained as a hospital ship under Colonel O'Reilly's orders, its light draught fitting it admirably for use in the shallow Cuban waters.

The scope of the investigations is indicated in the following order issued by Surgeon-General Sternberg:

"You are expected to make a careful inquiry with reference to the methods now in use in the island of Jamaica for protecting soldiers of the British army stationed upon that island from fatal infectious diseases and from the deleterious effects of climatic influences. You should ascertain as far as practicable the results attained by improved methods which have been adopted as the result of experience, and full details as regards the housing, clothing, and feeding of British soldiers in semi-tropical and tropical climates, also the methods found most satisfactory for the disposal of excreta and for the protection of troops from infectious diseases, and especially yellow fever, dysentery, camp diarrhœa, and the malarial fevers. The measures of prophylaxis adopted and the results of such measures should be fully investigated.

"Especial attention should be given to the question of rations and clothing which have been found suitable for the climate of Jamaica; also as to the construction of barracks found by experience to be most suitable and conducive to the health of soldiers in garrison; also to everything pertaining to camp equipment and the sanitation of camps as practised and as required by army regulations and orders.

"You are expected to make to the adjutant general of the army a full report upon these subjects."

The hospital ship *Missouri* will proceed to Savannah to take on medical supplies, and sail thence for Havana, where she will serve as a floating hospital and base of supplies for the *Bay State.*

The German Medical Society of the City of New York will hold its anniversary dinner this (Saturday) evening, December 10th, at the Arion.

Typhoid Fever in the Borough of the Bronx.—There seems to be an unusual prevalence of typhoid fever in the borough, and it is announced that the city board of health is making a special investigation as to the source of infection, which is generally thought to be the drinking-water.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Two Weeks ending December 1, 1898:*

Stoner, George W., Surgeon. Granted leave of absence for seven days. November 26, 1898.

Peckham, C. T., Surgeon. Upon being relieved by Surgeon H. R. Carter, to rejoin station at Pittsburgh, Pa. December 1, 1898.

Glennan, A. H., Surgeon. Relieved from duty at St. Louis, Mo., and directed to report at Washington, D. C., preliminary to assignment to duty at San Juan, Puerto Rico. November 26, 1898.

Brooks, S. D., Surgeon. Relieved from duty at Port Townsend (Washington) Quarantine Station, and directed to proceed to Angel Island, Cal., and assume command of the San Francisco Quarantine. November 26, 1898.

Cobb, J. O., Passed Assistant Surgeon. To proceed to Pittston, Pa., for special temporary duty. November 19, 1898. To proceed to Arizona and New Mexico on special temporary duty. November 29, 1898.

Stoner, J. B., Passed Assistant Surgeon. Granted leave of absence for seven days. November 26, 1898.

Perry, J. C., Passed Assistant Surgeon. To assume command of the Port Townsend (Washington) Quarantine Station in addition to other duties. November 26, 1898.

Young, G. B., Passed Assistant Surgeon. To proceed to Philadelphia, Pa., for special temporary duty. November 22, 1898.

Rosenau, M. J., Passed Assistant Surgeon. Upon being relieved from duty at the San Francisco Quarantine, to report at Washington, D. C., preliminary to assignment to duty in Cuba. November 26, 1898.

Nydegger, J. A., Passed Assistant Surgeon. Granted three days' extension of leave of absence. November 29, 1898.

Stewart, W. J. S., Passed Assistant Surgeon. To proceed to Crisfield, Md., and report upon the advisability of establishing a relief station at that port. November 19, 1898.

Cummung, H. S., Assistant Surgeon. Granted leave of absence for seven days. November 28, 1898.

Tabb, S. R., Assistant Surgeon. Granted leave of absence for seven days, to take effect upon being relieved from duty at Vineyard Haven, Mass. November 29, 1898.

Lavinder, C. H., Assistant Surgeon. Granted leave of absence for seven days. November 29, 1898.

Russell, H. C., Assistant Surgeon. Granted leave of absence for seven days from November 16, 1898. November 16, 1898.

Parker, H. B., Assistant Surgeon. Granted leave of absence for two days. November 25, 1898.

Lumsden, L. L., Assistant Surgeon. Relieved from duty at Egmont Key, Fla., and directed to proceed to Washington, D. C., for orders. November 21, 1898. Assigned to duty as sanitary inspector of United States Transport *Manitoba.* November 28, 1898.

Society Meetings for the Coming Week:

Monday, *December 12th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *December 13th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Societies of the Counties of Oswego (semi-annual—Oswego), Rensselaer, and Ulster (quarterly), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *December 14th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Society for Medical Progress, New York; Medical Societies of the Counties of Albany and Montgomery (annual), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

Thursday, *December 15th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Friday, *December 16th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Born.

Couvillion.—In Norma, Louisiana, on Sunday, November 27th, to Dr. and Mrs. Walter F. Couvillion, a son.

Married.

Clark—Holt.—In New York, on Monday, December 5th, Dr. L. Pierce Clark, of Sonyea, N. Y., and Miss Elizabeth Deming Holt.

Jackson—Horton.—In Victor, N. Y., on Wednesday, November 30th, Dr. Cassius O. Jackson and Miss Arabelle Horton.

Smith—Drake.—In Tremont, N. Y., on Saturday, December 3d, Dr. J. Vernon Smith and Miss Josephine C. Drake.

Died.

Archinard.—In New Orleans, on Monday, November 28th, Claire Angele Archinard, infant daughter of Dr. L. D. Archinard.

Baker.—In Brooklyn, on Monday, December 5th, Dr. George W. Baker, in the sixty-first year of his age.

Boagini.—In Opelousas, Louisiana, on Sunday, November 27th, Dr. Vincent Boagini, father of Dr. Charles F. Boagini.

Crosby.—In East Nassau, N. Y., on Wednesday, November 30th, Dr. Clement S. Crosby.

Dupre.—In Dallas, Texas, on Sunday, November 27th, Dr. Daniel Dupre.

McMasters.—In Winnsboro, South Carolina, on Wednesday, November 30th, Dr. R. J. McMasters, in the thirty-eighth year of his age.

Muzzy.—In New York, on Tuesday, December 6th, Mrs. Mary A. Muzzy, mother of Dr. Arthur T. Muzzy.

Wilcox.—In Enfield, Rhode Island, on Sunday, December 4th, Estelle, infant daughter of Dr. William L. Wilcox.

Letters to the Editor.

ELECTRICAL EXECUTION.

Brooklyn, *November 22, 1898.*

To the Editor of the New York Medical Journal:

Sir: An editorial in your issue of October 1, 1898, entitled A Ghastly View of Electrical Execution, has just been brought to my attention, in which certain points are raised to which I feel that I must respectfully take exception.

The article refers to a paper by Dr. Joseph Alan O'Neil, in the *Atlantic Medical Weekly* for September 17th, a paper containing statements that I, also a witness at the execution of Martin Thorn, can not at all confirm. It is true that there was a slight emission of saliva from the mouth and a blowing expiratory sound when the tightly contracted muscles were permitted to relax and the gravitating down of the corpse caused upward pressure upon the diaphragm, but I failed, although standing at Dr. O'Neil's side, to observe any contraction of the pupil of the left eye or any distinct evidence of even momentary persistence of the cremasteric reflex. On the contrary, the pupils were widely dilated and absolutely negative to the action of light, while all the ordinary signs and appearances of death, except, of course, commencing putrefaction, were certainly present.

Without wishing, however, to enter into any discussion with the author of the paper as to the result of the examination of the cadaver, inasmuch as differences of opinion may be due to circumstances, such as different view points that we may have occupied about the body in the chair, and so on, permit me to call your attention and that of Dr. O'Neil to certain admitted matters of fact concerning electrical execution in general as performed in this State, and to express a belief that, after a reasonable consideration of them, all suspicion that death may be possibly consummated upon the autopsy table will be forever banished.

The usual practice in electrical execution is to pass a current of the alternating variety, by means of most perfect conductors and good contact-making electrodes, at an initial pressure of 1,750 volts, an electro-motive force sufficient in the case of Martin Thorn, with his particular resistance, to allow ten ampères of current quantity to be taken by his body.

Now, as the actual amount of electrical energy is always the product of the voltage multiplied by the ampèrage, and is expressed in units called watts, we find that Thorn received 17,500 watts; and, further, as 746 watts are equal to one mechanical horse power, the body in the chair received an instantaneous impact of energy equivalent to 23½ horse power, or an amount of energy capable of raising 771,000 pounds one foot in one second. Does any one think for an instant that any cellular vitality or irritability sufficient to produce reflex manifestations can remain after the application of such a tremendous amount of physical force to every one of them?

A word, in closing, as to the portion of the law requiring an immediate autopsy. That an autopsy should be performed upon those dead by electricity as applied in capital punishment seems consistent and proper, not only that the effects of death-dealing currents upon the human organization may be thus investigated, but that studies along the lines of criminology, degeneration, and the like may be carried on, although it is true that the findings as to the cause of death in these cases have been mostly negative; and that such autopsy should be done while the medical witnesses, many of whom come from a distance, are still present, seems a perfectly justifiable procedure to immediately follow this most humane, most painless, and most absolutely instantaneous and complete method of producing death conceivable.

W. M. Hutchinson, M. D.

MENSTRUATION AND "HEADACHE POWDERS."

Hazelhurst, Wis., *November 21, 1898.*

To the Editor of the New York Medical Journal:

Sir: In your issue of November 5th reference is made to an article by Dr. Greenleaf in the *Boston Medical and Surgical Journal* of October 13th.

This reminds me of two cases which occurred in my own practice recently. In the first, a lady aged thirty-three, of a "nervous" temperament, had an unusually severe headache in July. She had always kept "headache powders" in the house, and usually found one sufficient to give relief. On this occasion she had taken two powders at once, and within a short time she began to feel numb and cold. An hour later I found her prostrated. Cyanosis was extreme, the lips and finger-nails were blue, the extremities were cold and clammy, and the skin of the face was of a deathlike, ashen pallor. The radial pulse was just faintly perceptible and numbering 102 and the heart sounds and impulse were very weak. On attempting to sit up she fell back in a faint. She had vomited once, the matter consisting of coffee and undigested food. Aromatic spirits of ammonia and brandy were alternately administered in small doses, and she gradually recovered. A powder still remaining in the box I found later to contain no less than ten grains of acetanilide.

The second case, that of a lady aged twenty-four, came to my notice in April last, the patient showing the same symptoms as in the case above described, though with less severity and no vomiting. The treatment was the same.

The point of special interest to me in these cases was the fact that both patients were menstruating at the time, the first being in the second day of the period and the other in the last day. While this may have been a mere coincidence, yet the first-mentioned patient assured me she had for some years past taken these or similar powders for headache, often two powders at a dose, but did not remember having before taken one during a menstrual period. Neither patient had ever before experienced these symptoms.

Both women were small, one weighing less than ninety pounds, the other between ninety and a hundred pounds. The case of the latter, whose powders I inspected, was the severer of the two, and it will readily be seen the amount of the drug ingested was entirely out of proportion to the patient's weight.

George H. Williamson, M. D.

POPULAR CREDULITY IN MEDICAL MATTERS.

841 Garden Street, Hoboken, N. J.,
November 26, 1898.

To the Editor of the New York Medical Journal:

Sir: It may be of interest to your readers if I relate the history of a patient illustrative of the credulity of the average person in the patent-medicine venders' advertisements.

Mrs. F., aged thirty, had urethral prolapse and urethral caruncles, which caused much pain and interfered greatly in her household duties.

Before seeking advice she resolved to try self-treatment and dosed herself with no less than sixty-seven bottles of one variety and thirty-four of another much advertised cure-all, with no result.

Finally, becoming discouraged, she applied for treatment, and after removal of the caruncles and treatment of the prolapsed urethra made a rapid and complete recovery.

J. E. Snyder, M. D.

THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

Baltimore, *November 4, 1898.*

To the Editor of the New York Medical Journal:

Sir: Now that we physicians of Baltimore are in the midst of quite a great deal of diphtheria, a recent experience of mine may be of interest to guard against putting too much confidence in an absolute diagnosis being made by bacteriological examination.

In one case in which a prompt recovery had been made in an infant it was desired to get certificates for two brothers to return to school. During the baby's illness one of the boys had had a sore throat and made a quick recovery; the other had not been sick at all. Cultures taken from both throats showed that the boy who had had the sore throat was free, while the case of the one who had not been sick at all was reported to me as being diphtheria. This occurred on October 19th, and up to date the boy has had no symptoms.

Another case was reported to me on the 29th ult. as not being diphtheria; clinically, however, it was the worst case I have ever seen. Two injections of two thousand units of antitoxine each were administered, but gave no relief, and intubation acted simply in prolonging life a few hours.

I am in no way attempting to cast ridicule on the bacteriological examination of cultures to determine a diagnosis. Errors could creep in and mistakes be made. I sent a second culture because of this, and it, too, was returned as negative.

We could be lulled into a sense of false security by a negative report, and such experiences as mine may help any statistics that are being collected on the treatment of this dread disease.

Albert S. Atkinson, M. D.

Book Notices.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M. D., Fellow of the Royal Society, Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician in Chief to the Johns Hopkins Hospital, Baltimore, etc. Third Edition. Entirely revised and enlarged. New York: D. Appleton and Company, 1898. Pp. xvii–1181.

It is a pleasure to find revision so conscientiously done as is the case with the later editions of Dr. Osler's *Practice of Medicine.* It is true, as the author states, that "at the present rate of progress in all departments a text-book six years old needs a very thorough revision," but it is also true that too often the "thorough revision" is to be discovered chiefly upon the title-page. Not content, however, with the careful correction of three years ago (in the second edition), the author, with his usual zeal, has made thorough modification in the edition now before us. In this a large proportion of the chapters have been entirely rewritten, and, moreover, much material has been added. Perhaps the most striking change is to be seen in the rearrangement of the section on diseases of the nervous system, in which the object sought is the grouping of disorders upon the anatomical and physiological bases. The result of this endeavor is highly satisfactory, and can not but conduce to the practical utility of the subject matter.

To speak again of the great value of the book would be trite, for few text-books of medicine are known so well and so highly esteemed. Nevertheless, we may call attention to the enhanced value of the third edition.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XV. Infectious Diseases. New York: William Wood and Company, 1898. Pp. 3 to 658.

The first chapter in this volume is devoted to influenza, and is by Professor Ditmar Finkler, of Bonn University. He reviews the history of the different epidemics of the disease, and concludes with Leichtenstern that "occupation and social position only in so far exert an influence on the frequency of the disease as certain occupations and positions in life lead to more or less contact with travelers." The bacteriology of the disease is described in detail, as are the pathology and symptomatology. He advocates the avoidance of all routine measures in the treatment of the disease.

Dr. Eduardo Licéaga is the author of the section on typhus fever, which is a familiar disease to the Mexican physician, and which is described in a practical fashion that will be of value to those who may have to review their knowledge of this disease, fortunately rare in the United States.

The section on plague is by Dr. S. Kitasato and Dr. A. Nakagawa, and the names of the authors are sufficient guarantee of the thorough and scientific description of this disease.

Dr. Frank S. Billings describes the ætiology, pathology, and symptomatology of glanders. He believes that it is yet to be determined whether mallein has permanent curative properties. This author has written also the chapter on anthrax, which affords a very interesting *résumé* of our latest knowledge of this disease, as well as recounts the valuable investigations of the author.

Foot-and-mouth disease is reviewed by Dr. Ismar Boas, of Berlin, who believes it occurs in man sporadically or epidemically, though it is very exceptional as an epidemic.

Professor Emil Ponfick, of Breslau, describes actinomycosis in a brief but satisfactory article.

Dr. N. G. Kierle is the author of the chapter on rabies, which presents an excellent review of our knowledge of this disease.

The final section in the volume is on pyæmia and septicæmia, and was written by Dr. J. McFadden Gaston and Dr. J. McFadden Gaston, Jr., who present many suggestive ideas in regard to the ætiology and prophylaxis of these diseases.

A Text-book of Materia Medica, Therapeutics, and Pharmacy. By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc. Second Edition, revised. Philadelphia: W. B. Saunders, 1898. Pp. 11 to 860. [Price, $4.]

In the present edition of Dr. Butler's work there appears, replacing the chapter of definitions of the first edition, a chapter dealing with the untoward effects of drugs. The bulk of this chapter is in tabular form and is highly to be commended for purposes of reference. Apart from this, the second edition differs little from the first, save for the moderate revision which an interval of two years has seemed to require. Our opinion of the work is therefore that expressed in our notice of the first edition.

Les hydrocéphalies. Par le Docteur Léon d'Astros, Médecin des hôpitaux de Marseille, etc. Paris: G. Steinheil, 1898. Pp. 336.

This volume is a very fair sample of the work of the French school, always clearly if not concisely written and limited very often to the subject as it appears in the investigations of the medical profession of France, with little attention to the results published in other countries. The first portion is taken up with the general pathology of the disease, then follows a very well written chapter giving the symptoms of the various forms. The section on treatment is also excellent, but shows how little can be done at present for this obscure and fatal disease.

Contributions to Orthopædic Surgery. By A. Sidney Roberts, M. D., Late Surgeon to the Philadelphia Hospital, Orthopædic Surgeon to the Out-patient Department in the University Hospital, etc. With a Brief Biographical Sketch. By James K. Young, M. D., Professor of Orthopædic Surgery, Philadelphia Polyclinic, etc. Philadelphia, 1898. Pp. 3 to 298.

Dr. Sidney Roberts died about two years ago, at the age of forty-one. He was active, energetic, devoted to his profession, and successful in it, a man who seems to have strongly impressed those who knew him well with a sense of his capacity and power. His published writings on orthopædic surgery, his chosen specialty, are here collected by his friend and associate, and, while the contributions are not strikingly novel or suggestive, they are interesting and usually sound, and make a memorial creditable alike to the author and to the editor.

Manual of Physical Diagnosis. For the Use of Students and Physicians. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Physician to the University Hospital, etc. Third Edition, revised and enlarged. With Colored and Other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xii–9 to 278. [Price, $1.50.]

This edition of Dr. Tyson's useful little manual has been carefully brought up to date, and thoroughly represents the latest teachings on the subject. The chapters on the examination of the contents of the stomach and on the blood are especially good, and the book in its new form will no doubt find a wide circle of new friends.

The Hygiene of the Voice. By Thomas F. Rumbold, M. D., Permanent Member of the American Medical Association, etc. With Twenty-seven Illustrations. St. Louis: Witt Publishing Company, 1898. Pp. 8 to 114.

This brochure has been prepared with special reference to the needs of speakers and singers. Medical treatment and vocal gymnastics are omitted, but the structure, use, and abuse of the vocal organs are simply set forth, with directions for the proper management of those organs. The author lays much stress upon the harmful effects of tobacco, and strenuously objects to the wearing of corsets, which he denominates "lung clamps."

The Care of the Baby. A Manual for Mothers and Nurses, containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Second Edition, revised. Philadelphia: W. B. Saunders, 1898. Pp. 16–404 [Price, $1.50.]

The second edition of Dr. Griffith's useful work is in some respects an improvement upon the book as it originally appeared. Much brushing up has been done and a little amplification. Its practical and comprehensible character remains the same, and this, as we have said before, makes it a valuable guide in the nursery. Apart from theory, our practical experience with the book has been most happy. We can but repeat of the second edition what we said of the first, but we also lament that our mention of errors appearing in the former edition must also apply to the latter.

King's American Dispensatory. By Harvey Wickes Felter, M. D., Adjunct Professor of Chemistry, Pharmacy, and Toxicology, and Demonstrator of Anatomy in the Eclectic Medical Institute, Cincinnati, Ohio, etc., and John Uri Lloyd, Ph. M., Ph. D., Professor of Chemistry, Pharmacy, and Toxicology in the Eclectic Medical Institute, Cincinnati, Ohio, etc. Entirely rewritten and enlarged. Eighteenth Edition—Third Revision. In Two Volumes. Volume I. Cincinnati: The Ohio Valley Company, 1898. Pp. x–901.

Comment upon the eighteenth edition of this comprehensive work is uncalled for further than to allude to the careful revision which marks it. It is one of those exhaustive works of which the very construction and compilation are remarkable.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Textbook Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. Simon, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, etc. Sixth Edition, thoroughly revised. With Forty-six Illustrations and Eight Colored Plates, representing Sixty-four Chemical Reactions. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xiii–17 to 536.

The work before us is a revision of one already well known and highly esteemed. We have before this spoken in praise of its predecessors, and no more need be said than to note and to welcome their modernized perpetuation.

BOOKS, ETC., RECEIVED.

The Practitioner's Manual: A Condensed System of Medical Diagnosis and Treatment. By Charles Warrenne Allen, M. D., Consulting Genito-urinary Surgeon to the City (Charity) Hospital, etc. New York: William Wood & Company, 1899. Pp. ix–851. [Price, $6.]

A Text-book of Obstetrics. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. With Six Hundred and Fifty-three Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 14 to 846.

A Handbook of Hygiene and Sanitary Science. By George Wilson, M. A., M. D., LL. D. Edin., F. R. S. Edin., D. P. H. Camb., Fellow of the Sanitary Institute of Great Britain, etc. Eighth Edition. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xxvii–798. [Price, $3.]

On the Origin and Progress of Renal Surgery. With Special Reference to Stone in the Kidney and Ureter, and to the Surgical Treatment of Calculous Anuria. Being the Hunterian Lectures for 1898. Together with a Critical Examination of Subparietal Injuries of the Ureter. By Henry Morris, M. A., M. B. Lond., F. R. C. S., Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England, etc. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–288. [Price, $2.]

Degeneracy: its Causes, Signs, and Results. By Eugene S. Talbot, M. D., D. D. S., Fellow of the Chicago Academy of Medicine, etc. With One Hundred and Twenty Illustrations. London: Walter Scott, 1898. Pp. xvi–372. [Price, 6*s.*]

Leçons cliniques sur les maladies mentales faites à l'Asile clinique (Sainte-Anne). Par V. Magnan, Médecin en chef à l'Asile Sainte-Anne, etc. Recueillies et publiées par le Dr. Pécharman, interne des asiles de la Seine. Deuxième série. Paris: Félix Alcan, 1898. Pp. 250.

Suite de monographies cliniques sur les questions nouvelles en médecine, en chirurgie, en biologie. No. 11. Les paralysies générales progressives. Par le Dr. M. Klippel, Médecin des hôpitaux de Paris. Pp. 25. No. 12. Le myxœdème. Par le Dr. G. Thibierge, Médecin de l'hôpital dé la Pitié. Pp. 32. Paris: Masson et Cie., 1898. [Chaque monographie séparément 1 fr. 25.]

Leitfaden der Electrodiagnostik und Electrotherapie. Für Praktiker und Studirende. Von Dr. Toby Cohn, Nervenarzt in Berlin. Mit 6 Tafeln und 30 Abbildungen im Text. Mit einem Vorwort von Prof. Dr. E. Mendel, in Berlin. Berlin: S. Karger, 1899. Pp. 139.

Die Untersuchung und Begutachtung bei traumatischen Erkrankungen des Nervensystems. Ein Leitfadem für Praktiker. Von Dr. Paul Schuster, Assistent an der Prof. Mendel'schen Klinik in Berlin. Mit einem Vorwort von Prof. Dr. E. Mendel. Berlin: S. Karger, 1899. Pp. 196.

The Ontario Medical Register. Printed and published under the direction of the Council of the College of Physicians and Surgeons of Ontario, in accordance with an act of the Revised Statutes of Ontario, 1897, Chapter 176, entitled An Act respecting the Profession of Medicine and Surgery. By Authority. Toronto: Registration Office, College of Physicians and Surgeons of Ontario, 1898.

Official Register and Directory of Physicians and Surgeons in the State of California. Tenth Edition, revised and published by the Board, January, 1898.

Report of the Government Hospital for the Insane to the Secretary of the Interior. 1897.

Transactions of the Medical Society of the State of West Virginia, held in Martinsburg, May 18, 19, and 20, 1898.

Informes rendidos por los Inspectores Sanitarios de Cuartel y por los Distritos al Consejo Superior de Salubridad. Correspondientes al año de 1897. 1898.

The Pulse: its Diagnostic and Prognostic Value. By T. S. Dabney, M. D., of New Orleans. [Reprinted from the *Journal of the American Medical Association.*]

Chronic Catarrh of the Stomach. By Charles D. Aaron, M. D., of Detroit. [Reprinted from the *Pharmacologist.*]

Intestinal Auto-intoxication. By Charles D. Aaron, M. D. Read before the Detroit Medical and Library Association, October 11, 1897.

Stomach Disturbances caused by Hernia of the Linea Alba in the Epigastrium. By Charles D. Aaron, M. D. [Reprinted from the *Medical Record.*]

Transillumination of the Stomach with Demonstration on the Person. By Charles D. Aaron, M. D. [Reprinted from the *Medical Age.*]

Miscellany.

The Physician's Calling.—Dr. T. Clifford Allbutt (*Maryland Medical Journal*, October 22d), in an address on Medicine in the Nineteenth Century, delivered at the opening of the Johns Hopkins Medical School, gave utterance to the following admirable remarks: But do not let us forget, he said, that our calling derives its honor not from its power of repairing the carnal body; were this its only title to respect it would take a low place in the hierarchy of professions. Those professions which deal with the ends, which alone make life worth preserving—such as that of the law, of religion, philosophy, and of the fine arts—would in such case regard our occupation but as a higher kind of farriery. The glory of our profession, from the hour when Hippocrates, in that oath wherewith like a trumpet, the notes of which reverberate still through the ages, summoned us to take our place in the forefront of the fight, has been that we are concerned not only for mankind, but for men. The ideal side of a physician's life is that he brings healing or solace to his human fellow. The Greek philosopher, like the modern socialist, would sacrifice man to the State; the priest would sacrifice man to the Church; the scientific evolutionist would sacrifice man to the race. Yet, while all these elements of co-operation and of aspiration work together for good, we thankfully see that, after all, the tendency of civil evolution, as of Christian ethics, is to use society as a means for man himself, as a means to purify and to elevate the individual soul. The physician, then, is more than a naturalist; he is the minister not only of humanity at large, but of man himself. Thus it is that the humblest of us, and he who labors in the darkest and most thankless parts of our cities, is never a drudge; in the sight of the angels he is illustrious by the light of his service to men and women. The man of science can tell us delightful things about birds, flowers, and wild life, for all life is various and touching; he can tell us queer and uncomfortable things about our insides, amazingly useful things about steam and electricity, but at bottom, when the marvel is over or the material gain is won, all this grows stale. Ideas concerning the harmony of the spheres, concerning cosmic evolution, concerning the inhabitants of Mars, are prodigious; they may uplift us sometimes with a sense of the greatness of man's inheritance, but alone they are cold and unsatisfying. The child of his age feels that a sonnet of Wordsworth, a flash of Browning's lamp into man's heart, an idyll of Tennyson give us thoughts worth more than all the billions of whirling stones in the universe. In strengthening and cherishing this inner life of his brother and sister, happily, the physician has many fellows, but the physician alone among them all holds sacred the lamp of the personal life for its own individual sake; he alone forgets Church, State, nay, even the human race itself, in his tender care for the suffering man and for the suffering woman who come to him for help.

Determination of Death of a Fœtus.—According to the *West London Medical Journal* for October, Knapp has shown that the death of the fœtus is accompanied by the appearance of acetone in the urine of the mother. This may easily be demonstrated, according to *La Presse médicale*, May 22, 1897, by the fuchsine test of Chautard. A solution of fuchsine, 1 to 2,000, is decolorized by sulphuric acid. To make the test, half an ounce of urine is poured into a test tube, and a few drops of the fuchsine solution added. If acetone be present, the color of the urine becomes violet, the depth of color depending on the amount of acetone. This simple test is within the reach of every practitioner.

The Essentials of a Good Baby Food.—Dr. A. C. Cotton (*Pædiatrics*, November 1st) suggests the following as the test of a satisfactory artificial food for infants: 1. Does the food contain all the constituents in about the same proportions as they are found in mother's milk? 2. Can this food be administered in a form suitable to the physiological requirements of the infant's digestion? 3. Can it be given in quantities adapted to the capacity of the infant's stomach? 4. Does it possess the antiscorbutic property, or has that been destroyed by cooking? 5. Is this food wholly or partly of animal origin? 6. Is it free from pathogenic micro-organisms?

The Action of Alcohol.—Dr. T. D. Crothers (*Journal of the American Medical Association*, November 26th) thus states his conclusions in a paper presented to the Section on State Medicine of the American Medical Association:

Recently alcoholic toxines are beginning to be studied, and the new facts appearing in this field promise some startling discoveries. A grouping of some of these facts may be stated as follows:

1. Alcohol acts primarily on the nerve cells, changing their granular matter, breaking up their nutrition, and changing their dynamic force.
2. This action is followed by contraction of the dendrites, swelling and atrophy of these fibres, also shrinking of cell walls, as in fatigue, and coalescing and disappearance of the granular matter of protoplasm.
3. The special injury from alcohol seems to be on protoplasm and terminal fibres of nerve trunks. The irritation and inflammation of the nerve walls and fibres ending in sclerosis are common.
4. Alcohol acts on the leucocytes of the blood, checking their activity, and destroying their function. These are driven in masses by the increasing rapidity of the heart, and become blocked up in the capillaries, forming centres of obstruction and injury.
5. The use of alcohol is found to be followed by diminution of the carbon dioxide and all waste elimination, with a marked sensorial palsy of the senses, and a slowing up of all the mental operations. These are the results of measurements with instruments of precision, and can not be mistaken.
6. The action of alcohol in the light of modern research differs widely from the theories and current beliefs of the day.

The "Pretubercular" Stage of Phthisis.—Dr. H. P. Loomis (*Boston Medical and Surgical Journal*, November 17th), in a paper presented to the American Climatological Association, likened the pretubercular stage of phthisis to the stage of transient albuminuria found in a case developing nephritis. While a majority of tuberculous patients apparently start with local manifestations, a large number have exhibited for a longer or shorter time well-marked evidences of an antecedent morbid condition of the general system. Dr. Loomis first considered the subject of the relation of the weight of an individual expressed in pounds to his height expressed in feet. This ratio constitutes the "corpulence," a term introduced by French writers, and for men the standard is twenty-six; while for women it is twenty-three. This factor should, however, be taken in connection with the "vital capacity" to be of value. The latter is obtained by taking the thoracic perimeter (the mean of expiration and inspiration) and dividing by the height. For each inch of height of man there should be three inches of vital capacity as measured by the spirometer; and in the case of women 2.6. The thoracic perimeter should never be less than half the height.

The third element in making a diagnosis is the constitutional condition. Dr. Loomis believes that chloro-anæmia is often one of the most pronounced symptoms of the pretubercular stage of phthisis. In tubercular chloro-anæmia the hæmoglobin never falls so low as in true chlorosis. Digestive troubles precede the deposition of tubercles in many cases. Indigestion may be a forerunner of phthisis.

The character of the pulse is a fourth element. It is found that in the very beginning of phthisis a change in position of the patient has very little influence on its beat. Dr. Loomis placed the ordinary variation in healthy men, on change of position, at fifteen beats per minute. The relative feebleness of arterial pressure, as noted by Wells, may be estimated by suitable instruments; it probably puts the organism in a state of microbic receptivity.

Common Errors in Dealing with Pulmonary Tuberculosis.—Dr. Frederick I. Knight (*Boston Medical and Surgical Journal*, November 17th) points out five very common errors made by general practitioners as regards pulmonary tuberculosis. He first calls attention to the failure to make an early diagnosis. The reasons suggested are the tendency of the patient to make light of small ailments and of the physician to avoid making a careful physical examination whenever slight ailments, such as persistent cough or hæmoptysis, present themselves. If the physician is a personal friend as well as the medical adviser, he may shrink from a knowledge of the results of a physical examination. Again, complaints of fever are apt to be put off by a suggestion of a "touch of malaria." 2. Another fault lies in failure to admit the gravity of the situation as soon as discovered. The author quotes Niemeyer as saying that the danger of a consumptive patient is that he become tuberculous. Dr. Knight would amend this, in the light of modern pathology, by saying that the danger of a tuberculous patient is that he become consumptive—*i. e.*, as he explains it, subject to secondary infection. He thinks it better that the patient should be at once informed of the gravity of the situation so as to enlist his thorough cooperation in the efforts at recovery. 3. Dr. Knight criticises the tendency while temporizing to resort to treatment that is not only useless, but at times positively injurious. In this category he stigmatizes the routine use of cough syrups, cod-liver oil, creosote, etc., in the following terms: "Cough syrups, cod-liver oil, and creosote do a large share in hastening the decline of patients. If any sedative is required, it should be given in as simple a form as possible, and without syrup. I do not mean to say that cod-liver oil never does good, for there are patients who can take and assimilate it with ease, and greatly to their benefit, but it is cruel to prescribe it in a routine way without selecting cases and watching effects. Who has not many times seen patients with thickly coated tongues swallowing large doses of oil faithfully three times a day, eructating it all the time, and capable of assimilating neither that nor any other food? Neither do I deny that creosote does good in some cases in modifying the bronchial secretion and improving digestion, but I believe that large doses, as a rule, take away the appetite and do more harm than good. It, like cod-liver oil, should be administered tentatively." He also protests against a routine method of prescribing whisky and other alcoholic stimulants, as tending to depress the vital forces. Patients in a febrile condition are also sometimes ordered to take exercise when they should be compelled to rest. 4. The indiscriminate sending of patients away from home is objected to—*e. g.*, when the time of their stay is necessarily short, or when they are moribund, or when their means are such as to entail less advantages than they could attain at home. Moreover, when a removal is indicated, it should be carefully considered, and clearly located "for reasons." 5. The last error is the omission of sufficient medical supervision. Constant watchfulness is necessary in this disease.

Egg Albumen as a Remedy in Skin Diseases.—S. Lewith (*Archiv für Dermatologie und Syphilis*, Band xliii, 1898: *Treatment*, October 27th) has made trial of white of egg in cases of much irritation of the skin and moderate exudation. It is applied as follows: The hands are thoroughly washed, an egg is opened, and the white is separated from the yolk, and is well stirred up with the finger in a little glass. The affected part is then smeared by means of the finger with a thin layer. It forms a delicate friable membrane, which covers the tissues beneath, and exerts on them a slight pressure. The itchiness is soon diminished or removed, and a pleasant coolness is felt. The treatment certainly has the merit of cheapness, for one egg is almost sufficient for an application to the skin of the whole body.

Removal of Both Internal Jugular Veins.—The Australian correspondent of the *Lancet*, writing in its issue for November 19th, says that in the *Intercolonial Medical Journal* for September, 1898, Dr. R. A. Stirling records a case of recurrent epithelioma of the glands of the neck in which he had removed the whole of the right sterno-mastoid muscle and the internal jugular vein from an inch and a half above its union with the subclavian to just below its emission from the skull with a mass of glands firmly adherent to it. About twelve months later recurrence necessitated a similar operation on the left side, which was successful.

Syphilis Inoculated by Tattooing.—Mr. W. Thelwall Thomas (*British Journal of Dermatology*, November) records four cases of young men who were tattooed at Garston, in England, by a traveling showman. They were the only villagers tattooed, although many sailors also underwent the operation, but being wanderers the results in their cases are unknown. The method employed is described by Mr. Thomas as follows: "The designs pricked in by the operator were various, consisting of very well drawn figures, medallions, sun gods, etc. These he had on transfer papers, which required moistening and applying to the arms, the paper being then removed, leaving the picture on the skin. The pricking in was performed with several needles in a cork. His rough-and-ready method of moistening consisted, most frequently, of salivating on the arm to be marked, distributing the saliva over an area commensurate with the picture intended, pressing the transfer on this area, removing the paper, and then working the needles rapidly. In one of the cases the picture was transferred by moistening *with water*, but the young man required the initials of his goddess underneath; these were drawn below the picture on an area made moist with the operator's saliva. The letters were M. N.; a chancre developed in the M. In one case two chancres developed on the figure of a 'Venus,' one over the neighborhood of the right breast, and one on the right knee. In another case the chancre involved the left eye and facial contour of a 'sun god.' In all cases secondary symptoms have appeared. The fourth case is not reported, having come under the care of a private practitioner."

Suckling as a Cause of Abortion.—Dr. T. M. Callender (*Lancet*, November 5th) records the following case: The patient, a woman, aged about thirty years, who had had five children, was well developed, strong, and healthy, with nothing abnormal in her previous menstrual history. There was no history of endometritis or of specific illness. Her first child was born seven years before and her last twelve months since. All her labors were normal except the last but one, when the child was stillborn. It was a breech presentation and there had been some ante-partum hæmorrhage two months before birth. There were no previous miscarriages. Since the last child was born she had one menstrual period, three months ago; she missed the next period, and at the date when she should have had her third period she began to suffer from uterine pains and hæmorrhage. She had suffered from morning sickness during the last month. Her breasts were large and full of milk, which was watery in consistence. Dr. Callender was sent for on the third day of the hæmorrhage and found abortion to be inevitable. He packed the vagina with iodoform gauze and gave ergot. A two months' abortion came away entire. In trying to discover the probable cause of the abortion he could find none save the fact that the patient was in the habit of putting her baby to the breasts three or four times daily. On making careful inquiry he found that the pains began while the child was at the breast, and that the next time she put the child to the breast the pains increased in severity and were followed by hæmorrhage. On this he remarks that he has no doubt but that in her case the uterine contractions had been set up reflexly through putting the child to the breasts, and that the contractions had been sufficiently powerful to bring about the miscarriage. Playfair, in his *Midwifery*, quoting Tyler Smith, states that suckling as a cause of abortion is not infrequently met with.

Radioscopy of the Lungs.—Dr. Albert Abrams (*Philadelphia Medical Journal*, November 26th) thus formulates his conclusions in a paper on the foregoing subject: 1. Atelectatic zones may be demonstrated in a large number of individuals. 2. These zones throw circumscribed shadows on the fluoroscope which will vary according to the degree and area of the pulmonary atelectasis. 3. The shadows cast by the atelectatic zones can be made to disappear by continuous forced breathing, and they will reappear after a variable period when quiet breathing is resumed. 4. Before deciding whether the shadow cast on the fluoroscope is really due to pulmonary consolidation, the subject should be instructed to make forced inspirations; if the shadow disappears and is supplanted by a bright reflex, it is due to atelectasis; if the shadow persists, pulmonary consolidation may safely be concluded to exist, excluding, of course, other anatomical conditions that would interfere with the transmission of the Röntgen rays to the fluoroscope. 5. Radioscopy of the lungs demonstrates that the opacities on the fluoroscope corresponding to the atelectatic zones greatly exceed the percussional areas of the latter; and, furthermore, that in individuals in whom no zones can be demonstrated, opacities are sometimes present which disappear after forced inspiration. 6. Before and during a radioscopic examination of the lungs, it is always imperative to instruct the patient to practise forced breathing.

The Stages of Basedow's Disease.—Schwerdt (*Münchener medizinische Wochenschrift*, October 18th; *Medical Review of Reviews*, November 25th), in the course of an article on this subject, gives the following stages: I. Neurasthenia, tendency to hypochondria and melancholy—in general, the neurogenous disposition. II. Auto-intoxication. First phase, venous and lymphatic stasis in the abdominal cavity, intestinal atony, dyspepsia, and constipation. Second phase, enteroptosis and its consequences. III. Acute depression of all physical and psychical forces. IV. Relative recovery; comes on very slowly, but may be greatly accelerated by treatment. The enteroptosis and intestinal atony, however, remain in some degree.

Medicine in Abyssinia.—The *Nouveau Montpellier médical* for October 30th, quoting the *Chronique médicale*, gives the following on the authority of *Douze ans en Abyssinie, souvenirs d'un officier*, by Paul de Laubar. The accouchement of the Abyssinian woman is not laborious; she is assisted by an experienced woman who performs the duties of a midwife; moreover, all her female friends surround her, chattering, babbling, and singing to distract the patient, but recourse is never had to medical intervention. The linen and clothing soiled by mother and child are not washed until the seventh day, on which day the mother returns to her customary mode of life, for at that period, in honor of the child and the mother's recovery, the family gives a feast to all friends and acquaintances, and food and drink are not spared. One would scarcely believe that medical science does not exist in Abyssinia, for, according to the legend, when Pandora conceived the unhappy idea of opening her box, doctors and diseases escaped from it together, and the scourge spread over the entire globe. Abyssinia, therefore, ought to have its share with the rest. The individuals who in those parts claim the art of healing are almost exclusively the priests, and the confidence imposed in them rests rather upon superstition than on their knowledge, which is only of the most empirical character. The medicines, few in number, consist of some extracts of herbs, made goodness knows how, and more harmful than useful; but religious fanaticism attributes very great virtue to these drugs, and procures handsome rewards to the practitioners, who practise by no means on philanthropic principles. Patients are less numerous than with us, and organic lesions are exceedingly rare. A physician who lived for a long time among the natives assured the author that phthisis, for example, is almost entirely unknown. Besides the drugs already referred to, the most employed remedies are *cossu* (kousso) for tapeworm, a disease extremely frequent, probably on account of the enormous quantity of meat eaten by the natives; bleeding, always to the fore, for diseases of the eyes and head, for indigestion, and fevers; and the actual cautery for bronchitis, rheumatism, etc. Bleeding is practised as follows: The patient bends his thighs so as to sit on his heels; he places his two hands behind his ears, keeping his elbows closely pressed to the body. With a large pocket handkerchief a ligature is made about the wrists and neck of the patient, which nearly strangles him, and obliges him to lower his head. In consequence of the position and the ligature, the blood flows to the head; then the operator, with a dreadful-looking knife, or with the point of a horn, makes a vertical incision in the middle of the forehead, whence the blood issues. The bleeding is arrested by removing the handkerchief and placing the patient in the recumbent position. The hot iron is applied to the sides, the breast, or over the shoulder blades. The patient is laid on the ground and firmly held in position by at least four persons. Then the operator pitilessly applies the hot iron upon the ailing part, causing it to penetrate the flesh with the most barbaric indifference. This application is usually made in two or three places, until the operator hears a fizzling sound similar to that produced by pressure on an inflated bladder. The unfortunate patient writhes in agony, froths at the mouth, and finally becomes unconscious under this atrocious suffering, whose very recital makes one's hair stand on end; but he does not hesitate to submit anew to the operation if, by the time the wounds are healed, he is not cured of his disease. The operation is a costly one; surgeons in Abyssinia do not operate gratis.

Intravenous Injections of Mercury in Syphilis.—According to the *British Journal of Dermatology* for November, Lindstroem (*Presse médicale,* No. 42, 1898, p. 267) gives the results of his observations in the clinic of the late Professor Stoukowenkoff, of Kiev. Many patients were treated by the Baccelli method. The details of seven cases, selected from the most significant, are given. In his concluding remarks, Lindstroem states that the effects of the introduction of mercury on the composition of the blood are rapidly beneficial. This improvement, however, is not sustained as the number of injections is increased. Minute doses, too small to produce any appreciable therapeutic result, have nevertheless a beneficial effect on the composition of the blood: parallel increase of the red corpuscles and of the hæmoglobin, with diminution of the white corpuscles, or retardation of their multiplication. These phenomena follow the first injection, and are clearly due to the small quantities of mercury introduced into the blood stream, for when the treatment is stopped, the composition of the blood gradually returns to its first condition. If the doses are slowly increased, the improvement in the quality of the blood is accompanied by a rapid effect on the syphilides. Beyond doses of a hundred and forty to a hundred and fifty milligrammes (two grains and a third to two grains and a half) of the perchloride, however, slight toxic effects occur—viz., diminution of the red corpuscles and the oxyhæmoglobin, with an increase of the white corpuscles. If the injections are continued, the toxic effects become more marked, and a mercurial anæmia may be produced, which may persist long after the injections are discontinued. On the other hand, if fairly large quantities of weak mercurial solutions are used (ten to eleven cubic centimetres—a hundred and fifty to a hundred and sixty millimetres), containing ten to eleven milligrammes (a sixth to a fifth of a grain) for each dose, an immediate improvement both in the quality of the blood and in the specific eruption is observed. With regard to benzoate of mercury, toxic effects commence when the dose has reached seventy-seven milligrammes (about a grain and a quarter).

A Race of Immunes to Tuberculosis.—According to the *Medical Sentinel* for November, it has been ascertained by careful medical observations that certain families in St. Ourn, a village in France, enjoy absolute immunity from tuberculosis. They are "autochthonous" gardeners, of excellent habits, who intermarry among themselves, and keep apart from the immigrant laborers. These latter suffer terribly from the disease. It is considered probable that hygienic conditions are not the sole cause of the difference, but that, by a kind of natural selection, a race immune from tuberculosis has been developed.

A Bullet in the Heart for Thirty-seven Years.—Dr. O. B. Beer, writing to the *Cincinnati Lancet-Clinic* for November 19th, says that not long ago Dr. G. O. Brown and himself held an autopsy on an old soldier who had been wounded by "bushwhackers" during 1861. The wound was made by a small rifle ball of the kind used in muzzle-loading rifles. It had entered the thorax posteriorly on the left side, between the second and third ribs, and had ranged downward and inward, passing through the left lung and pericardium, and had imbedded itself in the wall of the heart near the lower part of the left ventricle. There had never been any disturbance of the heart in any way, and it seemed to be perfectly normal. The man had, after recovering from the effects of his wound, served till the close of the war, and had been a farm laborer since. Cancer of the arm was the cause of his death. The doctor has the heart with the ball in it as found.

Oxygen Gas in Suppuration of the Middle Ear.—Dr. T. Rosati writes in the *Archivio italiano di otologia* for November 7th on the use of oxygen in suppurative disease of the middle ear, and concludes his paper by stating that the direct cure by means of oxygen gas is not easy of accomplishment; that the results, even when the treatment is pursued with all possible precision and for a long time, are either negative or illusory; and that the method is not as advantageous or simple as that by dioxide of hydrogen.

Milk as an Extinguisher of Burning Petroleum.—The *Riforma medica* for September 24th states that, according to experiments, while water will not quench the flame of burning petroleum in a limited space, milk accomplishes that object by forming an emulsion with the oil, disturbing its cohesion and thus attenuating the combustible element.

A Case of Quadruplets.—Dr. C. A. Coleman (*British Medical Journal,* November 5th) recorded a case of quadruplets.

On October 17th he was called to Mrs. O., primipara, married thirteen months, and found her in the first stage of labor; the vertex was presenting, and the water oozing away, pains irregular and slight. In about eight hours afterward he delivered her with forceps of a living child. On examining again he found a second child, breech presentation. He left her for an hour, and on his return ruptured the membranes and delivered her of a second child. Again examining, a third was felt, vertex presenting. The patient becoming exhausted, he again ruptured the membranes and delivered with forceps. Again examining, a fourth child could be felt, and on rupturing the membrane this also was delivered with forceps. The children were all females at about the seventh month, and alive. The presentations were: First, vertex; second, breech; and the last two, vertices.

One child died twelve hours afterward, the second forty-eight hours. The remaining two were still living. There were two placentæ: The first was expelled naturally, the second was completely adherent to the upper surface of the uterus; this he carefully detached, and, though there was a good deal of hæmorrhage, by applying extended external pressure the uterus contracted and caused no further trouble. The mother up to date was doing well.

Therapeutics of Podophyllin.—Dr. Hector W. G. Mackenzie and Dr. Walter E. Dixon (*Edinburgh Medical Journal* for November) conclude from their researches that Indian podophyllin is an active purgative and a useful therapeutic agent; that it may be substituted for *P. peltatum;* but it is important that the physician should know which sample he is prescribing, as the Indian variety is nearly twice as physiologically effective as the American.

That the active principles contained in the crude resin are two substances—(*a*) crystalline podophyllotoxine; (*b*) podophyllo-resin—both of which act as excellent laxatives in small doses, without secondary constipation or other objectionable symptoms.

That, although both these substances act very similarly on the alimentary tract, it is only the podophyllo-resin which exerts a true cholagogue effect, which shows itself rather by a large increase of the solids secreted than by an increased quantity.

Both exert their specific activity when injected hypodermically in alcoholic solution, but in man so much irritation is produced as to forbid their employment in this manner.

Gelatin in the Treatment of Aneurysms.—We have several times of late referred to the gelatin treatment for aneurysms. The *Journal of the American Medical Association* for November 26th, quoting the *Bulletin de l'Académie de médecine* for October 25th, calls attention to the fact that this treatment has caused two deaths—one patient dying from fresh tuberculosis a few months later, probably caused by compression of the pulmonary artery by coagulations. The death of the second patient is more directly to be attributed to the treatment, as it produced coagulations in the neck and the rapid ischæmia of encephalus. Huchard, therefore, advises weak concentrations at from eight to ten days intervals and that the patients be kept in absolute repose. "With these precautions, gelatin is a rational and valuable means of assisting Nature in her curative processes."

The Relative Value of the Male and Female Reproductive Organs in their Relation to Operation.—Mr. R. Clement Lucas (*Clinical Review*, November 16th) arrives, as the result of a most exhaustive and interesting paper on this subject, at the following conclusions:

"1. The male and female reproductive organs, originally allied in development, exert a remarkable influence on the development of the individual apart from their procreative function.

"2. Maturity having been obtained, the procreative function outweighs in importance the nutritive influence exerted on the various tissues of the body through these organs.

"3. From a national as well as a domestic standpoint, the procreative function of woman is her richest dowry; so that in a young woman, whenever possible, it should be preserved to her by conservation of an active ovary.

"4. With the approach of middle life the ovaries decrease in value, and may be more freely sacrificed to prolong the life of the individual.

"5. Both ovaries and testes exert throughout life a certain influence on associated organs, and perhaps to a less extent on all the organs of the body.

"6. This influence, formerly attributed to reflex nerve action, by many is now thought to be due to an internal secretion from these organs.

"7. The removal of normal ovaries (Battey's operation) has failed as a cure for neuroses, and can not be too strongly condemned for such cases, especially in young subjects.

"8. The same operation for fibro-myomata of the uterus has often proved of great service in reducing the tumors by hastening the menopause.

"9. Kelly, impressed by the importance of the internal secretion theory, has lately recommended conservation of one or both ovaries when the uterus is removed, which is a reaction into somersault on Battey's operation.

"10. Battey's operation has lately been suggested by Beatson for the cure of inoperable cases of cancer. Remarkable shrinking of the tumors of the breast and glands has been noticed to follow the operation in women who had not reached the menopause, but complete cure seems never to have been obtained.

"11. The prostate has both a generative and a urinary function. Late in life the urinary is increasingly more essential than the generative.

"12. The testes throughout life exert a remarkable influence on the development of the prostate, so that their removal at any period leads to atrophy of the organ.

"13. To make use of this influence for the cure of enlarged prostate was suggested by J. W. White in 1893, and has been performed by many surgeons since. In a large proportion of cases a great amelioration of symptoms follows."

Reopening of the General Hospital at Vienna.—From the *Gazette médicale de Paris* for November 12th we learn that the General Hospital at Vienna, where the first case of plague occurred, and which had consequently been placed in quarantine, has just been reopened to the public, and the various clinical courses have been resumed, indicating that the epidemic is considered as completely at an end.

The Plague in Vienna.—The *Gazette médicale de Paris* for November 12th states that the patient Albine Pecha died of the plague after nine days' illness, while the other patient and the three or four other persons under observation are reported free from bacilli.

Outcry against Bacteriological Laboratories in Vienna.—We learn from the *Gazette médicale de Paris* for November 12th that in the Austrian chamber a violent attack has been made by the Antisemitic party of Vienna, headed by M. Gregorig, on Count Thun and Professor Nothnagel, in consequence of the former's reply to their interpellation on the plague, and that the attack even went so far as to demand the entire suppression of bacteriological laboratories. The minister of public instruction, Count Byland-Rheidt, and the chief of the sanitary department, M. Kusy, have protested vigorously against any such suppression in the name of the highest interests of civilization, affirming that a few improvements in the service of these laboratories are all that is required.

Archivos de la Policlinica.—We are glad to welcome the reappearance of our Havana contemporary after an enforced interruption of five months. Medicine is common ground for all nations of the earth, in which all are cooperators, none antagonists. It is the only truly cosmopolitan profession, seeking the benefit not only of humanity at large, but also of its members individually of whatever race, creed, or political tendencies.

The Rush Medical College.—We learn that Dr. Sanger Brown has resigned from the faculty.

Newspaper Prescribing in France.—M. Marcel Baudouin (*Nouveau Montpellier médical*, October 30th) calls some of the French newspapers to task for prescribing in answer to letters from their readers. He gives some examples of these newspaper replies, namely:

"*Mme. H. C.*—None of these symptoms can lead to the supposition that your fears are well founded; for my part, I do not believe they are.—Simple weakness of nervous origin, frequent in your condition. Kola, cinchona, frictions, moderate exercise, good nourishment, plenty of open air.

"*Bel-Ami.*—A very slight touch of nitrate of silver. —Frequent washing of the mouth with a solution of potassium chlorate (a hundred and fifty grains to a quart of boiled water).

"*Lucy.*—Simple herpes; use lotions of borated water twice a day, or aromatic wine very much diluted, or walnut-leaf water with a slight addition of carbolic acid, then apply powdered talc with a little tannin (1 to 20).

"*L. D.*—Rest, immobility, the limb to be elevated and wrapped in salicylized cotton soaked in borated water and covered with oiled silk; dress with powdered deodorized iodoform."

M. Baudouin estimates that the medical man who writes these answers does not get more than twenty cents apiece for them at the utmost. Nevertheless, he justly remarks, he is keeping patients away from his professional brethren.

The Late Colonel Waring.—Under the heading of Yellow Fever in New York City, the *Lancet* for November 19th says:

"Colonel Waring, one of the best known public men in New York, who made a name for himself and earned the lasting gratitude of his fellow citizens under the *régime* of the late mayor by efficiently and thoroughly cleansing the streets, had been sent by the United States government to Cuba to make a report on the condition, and to suggest plans for the sanitary regeneration, of Havana and Santiago. Colonel Waring, having completed his task, arrived at New York on Tuesday, October 25th. On his arrival he complained of feeling unwell, but thinking that he was suffering from a slight attack of malaria he proceeded to his home to rest for a day or two before going to Washington to report the results of his mission to President McKinley. The family physician was called in and he decided that his patient was suffering from a severe cold, and it was not until the Thursday that suspicions were aroused as to the true nature of the malady. Dr. Doty, the health officer of New York harbor, was summoned in consultation and he quickly came to the conclusion that Colonel Waring had contracted yellow fever. At 1 A. M. on Saturday, October 29th, the dreaded black vomit made its appearance and, becoming weaker and weaker after each recurrence of the vomit, Colonel Waring expired at eight o'clock on Sunday morning. Immediately after death the body was placed in a lead coffin which was hermetically sealed and was conveyed on board the health department boat to the State crematorium on Swinburne Island, where it was burned. Much fear was evinced that the contagion might spread and every sanitary precaution was taken to prevent such an occurrence. It was pointed out, however, by experts that at this time of the year and in a city like New York where the hygienic arrangements were so good there was no cause for alarm. Colonel Waring was an authority on sanitary engineering and he had written many books on the subject. It will be remembered that in 1896 Colonel Waring made a tour of the large towns of the European continent and of Great Britain in order to inspect their different methods of sewerage, draining, and street cleaning, the results of his investigations being set forth in a series of valuable articles."

"Eucaine B" as an Infiltration Anæsthetic.—In the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, cliii, 3 (September 17th), there is a long article by Dr. Paul Heinze, of Dresden, who recounts experiments with a great number of drugs in the employment of Schleich's infiltration anæsthesia. He appears to conclude that "eucaine b" has certain advantages over all the others. A solution of that substance, he finds, has the same distensile effect as a solution of the same strength of cocaine hydrochloride, and is less apt to give rise to specific irritation, so that in solutions of five or six per cent. it is painless in its operation. Moreover, it has the great advantage that a solution of it may be sterilized by boiling without detriment to its chemical constitution or to its physiological action. He recommends the following solution:

℞	"Eucaine b"	1 part;
	Sodium chloride	8 parts;
	Water	1,000 "

M.

Christian Science Consistency.—A remarkable evidence of the want of consistency displayed by the Christian scientists is shown by a lawsuit referred to in the *New York Times* for November 25th. It appears that a man having fallen into an unprotected areaway "believed himself," according to the jargon of these mountebanks, to have sustained certain injuries, and was attended by one of the practitioners of this cult, and "cured" by his ministrations. This beautiful specimen of consistency thereupon brought an action in the district court of Des Moines, Iowa, to recover damages against the owner of the areaway for contributory negligence in the production of something which, according to his own theory, could not possibly ever have existed outside of his own imagination—viz., the injury. This was the view the judiciary took, and the litigant got only derision in place of damages when the verdict assured him that injuries which could be cured by Christian science must have been too trivial to be estimated even in cents.

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Original Communications.

THE RESULTS OF OPEN OPERATION IN THE TREATMENT OF RECENT FRACTURE OF THE PATELLA.*

By CHARLES PHELPS, M. D.

The treatment of fractured patella still provokes discussion; and varied opinions as to the advisability of resort to operative methods are still held with remarkable tenacity. At a meeting of the American Surgical Association, held in New Orleans in April of the present year, a paper was read by Dr. Charles A. Powers, of Colorado, in which an effort was made to reflect in some degree the present sentiment of the surgical profession upon this subject. Although the field of inquiry was limited, the method of procedure adopted by Dr. Powers, of obtaining the unpublished opinions of individual surgeons, probably affords a fairly representative view of the present state of surgical feeling as to operation in general. It would seem that a majority of surgeons now favor some form of operative interference; and this deductive conclusion is confirmed by the drift of the discussion which followed. Ninety surgeons who had been addressed by Dr. Powers responded, of whom nineteen declined an expression of opinion on the ground of want of experience in this department of surgery. Of those remaining, nine would operate in all cases in which no contraindication existed, forty-one would operate under specified conditions, and twenty-one in no instance. Of the twenty-one who would operate under no circumstances whatever, eight assign no reason, four in general terms consider the results of non-operative treatment sufficiently good, four prefer the use of Malgaigne's hooks, one prefers massage, one is satisfied with adhesive plaster, and three fear the danger of septic arthritis and resulting death or deformity. It is probable that a majority of the very considerable number of surgeons who operate, but only in exceptional cases, as well as of those who assign no reason for their preference for a non-operative method of treatment, are deterred by their fear of arthritic inflammation.

The merits and demerits of operation for the cure of fractured patella have doubtless been exhaustively discussed, but there are reasons why I should desire to add to one phase of a discussion which is likely to continue while differences of opinion still exist. In 1890, at a meeting of the Bellevue Alumni Association, I incidentally read the histories in brief of forty-two cases in which I had resorted to a single form of operation, and at the same time exhibited twenty-two of their subjects in all of whom osseous union was demonstrable, after varying intervals, extending from two months to five years. I at that time so fully presented the argument in favor of the form of procedure which the history of those cases seemed to have warranted, that it would be a work of supererogation on my part to recur to the general history of a subject upon which subsequent and still larger experience has left my views unchanged. Since that time, however, the number of cases in which I have operated has been increased to a hundred and five, and to these I may add twelve others which have been done under my supervision by Dr. T. A. Smith, Dr. W. S. Terriberry, and Dr. W. B. Power, recent house surgeons at Bellevue Hospital. This series of operations, involving the free incision of the knee joint to permit a radical cure of the patellar fracture, is so large that it demands a more formal record than the bare mention it has received in the summary of cases and opinions prepared by Dr. Powers. It is so large, in fact, that the results it has afforded are not likely to be varied in any further multiplication of cases occurring in the practice of the same surgeon; nor can the conclusions which they necessitate be impugned upon merely theoretical grounds or upon deductions made from limited observation and with imperfect apprehension of conditions and methods.

The determination of the advisability of the treatment of fractured patella by operative measures rests entirely upon the answers which may be given to two questions:

I. Do such measures afford better results than a non-operative treatment?

II. Do such measures necessarily involve danger to the life or limb of the patient?

These questions ought each to be susceptible of definite answer.

It is quite certain that the results of non-operative treatment usually leave much to be desired; the fragments remain widely separated, the limb is more or less deficient in strength, and the liability to rupture of the ligamentous or membranous bond of union, or of the opposite patella, is great. In very exceptional instances osseous union is obtained, or it happens that even with wide separation of the osseous fragments the use of the limb is scarcely impaired; but such an issue is not to be expected, and its possibility is not to be taken into account in an estimate of the probable termination of any individual case in which reliance is placed upon the use of simple approximating and retentive apparatus. It will doubtless be conceded that ligamentous union, or non-union, is almost inevitable in cases treated by plaster of Paris, Malgaigne's hooks, massage, or similar devices. The reason for this almost constant fact is obvious to every surgeon who by incision of the knee joint has in any considerable number of cases been enabled to make direct inspection of the parts in recent patellar fracture. The interposition of the anterior aponeurotic fibres between the osseous fragments is even more nearly constant than the retraction of the upper fragment by the action of the quadriceps extensor muscle. In the one hundred and eighteen cases in which I have exposed the line of fracture in the open operation the absence of this intrusion of the capsular fibres has been exceptional. Nothing short of operation can effect their removal, and the insurmountable obstacle to osseous union afforded by the presence of soft tissues between the fragments is a recognized fact in the general history of fractures. Other circumstances are doubtless contributive to lack of satisfactory union: the contraction of the quadriceps extensor muscle may be too obstinate to furnish even approximate coaptation of the fragments without some sort of operative interference; the angular displacement of either fragment may be irremediable without similar resort; and hæmarthrosis with firm coagula may be irremovable before their organization is effected; but the intrusion of the capsular fibres is even then a direct and sufficient cause of failure of osseous union. The shortening of the ligamentum patellæ is in old cases often an insuperable obstacle to coaptation, but in recent fracture it is inappreciable in extent or effect. The ascription of a failure of osseous union to a deficient vascular supply is without reason. The opportunity afforded by the disclosure of the osseous surfaces in the open operation has not only made evident the exceeding vascularity of the patella, but in the one hundred and eighteen cases which afford the basis of the present argument has seemed to indicate the fractured surfaces, rather than the synovial lacerations, as the source of the usual abundant interarticular hæmorrhage. The improvement in the use of the limb which in greater or less degree follows a fracture of the patella treated only by manipulation and apparatus is therefore not only generally recognized, but is demonstrably a necessary result of conditions which can be obviated only by the aid of operative measures. They who profess themselves content with such results are certainly contented with less than the best.

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* Read before the New York State Medical Association October 19, 1898.

The exact results obtained by operation can not be learned from the data afforded by the 711 cases collected by Dr. Powers, as set forth in his tabulation. The termination of 94.9 per cent. + is recorded as having been "satisfactory," of 3.7 + in more or less complete ankylosis, and of 1.4 in death. The term "satisfactory" in each instance expresses the comparatively optimistic mental state of the operator, or the opinion of the tabulator, and is too vague for the purpose of comparison intended. As it is to be inferred that operation was done in all these instances by reason of dissatisfaction with the usual results of non-operative treatment, it may be fair to assume that "satisfactory" meant to the operator something better at least than he obtained without it. The seventy-five cases in Dennis's series, which were of earlier date, and in which the percentage of deaths and accident is somewhat larger, is also deficient in exactness of detail. In order to learn more definitely what really have been the results of operation, I have made specific inquiry of those surgeons in New York who have operated for this injury most frequently, and the results of their cases I have tabulated with my own, which include the forty-two originally published in 1890. This table is as nearly complete as the time at my disposal has permitted.

Table of Results of Open Arthrotomy for Recent Fracture of the Patella.

Name of Surgeon.	Number of cases.	Apparent osseous union.	Superficial suppuration with ankylosis.	Deaths from concurrent disease.
Dr. Charles Phelps	118	118	5	
Dr. L. A. Stimson.	80	80		
Dr. G. R. Fowler.	38	30	7	1, carbolic-acid poisoning.
Dr. W. F. Fluhrer	30	30		
Dr. Stephen Smith	30	30	1	
Dr. F. S. Dennis. .	30	29	. . .	1, delirium tremens and Bright's disease.
Dr. F. Hartley. . . .	27	27	4	
Dr. J. D. Bryant .	19	18	2	1, delirium tremens.
Dr. L. Pilcher . . .	15	15		
Dr. H. M. Silver. .	9	9		
Dr. B. Gallaudet .	7	7	1	
Dr. F. Lange.	6	6	1	
Dr. G. B. Stewart	6	6		
Dr. A. J. McCosh.	5	5		

These cases were all of recent injury. In three, death resulted from intercurrent disease before union of any kind could be effected; and in seven, reported by Fowler, in which suppuration was followed by ankylosis, the nature of union was not stated. In every other instance, even in those in which superficial suppuration occurred and was followed by some notable limitation in the movements of the joint, union was solid, without appreciable separation of the fragments, and, so far as practicable tests could determine, was by bone. I have characterized it as "apparently osseous," since differences of opinion exist as to the measure of proof demanded. Stephen Smith, Fluhrer, Dennis, Fowler, Silver, Gallaudet, Lange, Stewart, and Phelps regard the evidences of osseous union which are accepted in the case of fractures generally as being adequate in this particular instance. Stimson and others, while believing it to be real, do not feel justified in making their conviction absolute without the opportunity, post mortem or otherwise, in each case of direct inspection and examination.

My own reasons for believing in the reality of osseous union may be briefly stated. The essential conditions for attaining this result in fractures generally are: Osseous contact, absolute immobility, and adequate nutrition of the fragments; freedom from septic infection, and the absence of constitutional taint. If all these conditions are fulfilled, osseous union can scarcely fail; and if, after subsidence of the swelling of the soft parts, and an interval of one or two months' use of the limb, no mobility at the line of fracture can be detected, it is not usually if ever questioned. The abundant vascularity of both fragments of a fractured patella is demonstrated in every open operation; osseous contact is readily obtained in recent fractures after the removal of intervening fibrous tissues; absolute immobility is insured by suture and the subsequent application of proper retentive apparatus; septic infection is preventible by the surgeon experienced in aseptic work; and recognized constitutional taint, as of syphilis or cancer, would be an admitted contraindication for operation in the exceptional cases in which it might be discovered. The superficial situation of the patella and its free mobility in ordinary cases which have progressed without accident, and when care has been taken to begin lateral movement early, render its thorough examination after fracture easy and satisfactory beyond that of other bones. I see no reason why different or more cumulative evidence should be demanded to prove osseous union here than elsewhere; nor why in this form of fracture, of all others, the evidence of the senses should be discarded. I am convinced, therefore, that in all cases in which osseous contact is assured, sepsis avoided, and immobility maintained, osseous union will be effected; and I am equally convinced that this is demonstrable by subsequent physical examination if its results are estimated as they would be in any other fracture occurring in an accessible region. I speak now entirely from the observation of my own cases, in none of which has there been reason to suppose that the apparent ossific union was not real. These cases were all subjected to careful examination, with a view to determining the character of the union which had been effected, after the patient had gained considerable flexion of the knee joint and was able to walk without the assistance of a cane. A very large number were reexamined after the lapse of several months or several years, though I believe that, after the patella has become freely movable, and moderate flexion of the joint can be made, the result of this examination is no more certain after the lengthened interval. In a certain number of cases ossific union was verified by subsequent accident. Two deaths occurred after recovery, in each of which the patient was still under observation and opportunity was afforded for post-mortem inspection. In the first instance, the patient, a man eighty-three years of age, died one month after operation, from an acute bronchitis; in the second, the patient died nearly seven months after operation, from cerebral disease; in both ossific union was unquestionable. In several other instances I have seen in morgue and dissecting-room subjects, without history, old fractures of the patella united by bone with the silver wire still *in situ.* In four instances in which refracture occurred after intervals of three months, four months, six months, and three years, ossific union of the primary fracture was discovered by the secondary operation. In three instances in which refracture was produced by forcible flexion in cases in which early lateral movement of the bone had been neglected, and functional progress in the second month was unsatisfactory, the snap made by the osseous rent was distinctly audible and unmistakable, though, as such cases do not require secondary operation, ocular inspection was not afforded. In several early cases, when I felt less sure of the nature of the union obtained, unsuccessful effort was made to pass a fine needle into the line of fracture; this failure and the nature of the resistance encountered seemed in some degree to indicate that the obstacle was bone.

The lack of absolute confidence so generally manifested in the ossific character of the union obtained by operation in this fracture probably depends largely upon the fact that in a few instances so-called bony union has been found to be fibrous. None of these instances, so far as I know, have been recent, and there is no evidence that the essential conditions of the more perfect union were realized. The erroneous belief that fibrous union was really bone may have been unavoidable error, or possibly the result of limited experience in the examination of this special form of injury. I may at some time have been similarly mistaken in my judgment, but I can scarce yield my convictions, founded upon general principles, not less than upon what I believe to be careful observation, for no better reason than that somebody else has blundered.

It will be conceded that bony union and contact of the fragments is better than the non-union or fibrous union at long range which usually results from non-operative methods of treatment. If the medium of union be not ossific, it certainly has the qualities of bone. It is strong and unyielding, rarely breaks, and never stretches; while connecting fibrous tissue lengthens, attenuates, and correspondingly weakens. In two cases out of four of refracture the bone gave way outside the original line of fracture, the new formation being actually stronger than the old. Instances of refracture are consequently less frequent if the treatment has been operative, and I have seen no instance of subsequent fracture of the opposite patella. The percentage of my one hundred and eighteen cases in which a fibrous union of former fracture existed upon the opposite side is very considerable.

The functional result, aside from the greater strength of the joint assured, in cases treated by operation in comparison with that of non-operative cases has been somewhat diversely estimated as being much better and as no better at all. I believe it to depend in some degree upon the care given to after-treatment, or to the want of it. I again rely upon the record of my own cases. In those reported in 1890, thirty-six patients out of forty-two were reexamined after an interval extending from four months to five years, and of these, thirty had perfect use of the joint. Two others had declined further treatment after flexion had been carried a little past ninety degrees, on the ground that they were content and further trouble was therefore useless; two received no treatment after the first month; one had sustained a previous fracture of the bone, still ununited at the time of operation, from the effects of which the movements of the joint were already impaired; and one was the subject of fracture of nearly two years' standing in which the fragments could not be coapted, and in which ankylosis was favored. In six cases the patients were removed from observation in from one to three months after operation; in one the movements of the joint were already perfect, and in the others flexion had progressed to a certain degree with every prospect of perfect restoration of the joint if massage and passive movements were continued.

In the seventy-five cases occurring since that report was published, I have not so carefully investigated late results. In all, with the exception of the five reported as more or less ankylosed as a result of extensive superficial suppuration, flexion had been made to from ninety degrees to a hundred and thirty-five degrees at the time of their discharge from the hospital. I have recently ascertained the condition of twenty after a lapse of time varying from six months to eight years, and in every one bony union seemed to be unquestionable, and the function of the joint was perfectly restored.

The power of *complete* extension after suture of the fragments is invariably restored, whatever may be the degree of flexion attained. If the movements of the joint are eventually in any way limited, it will be in extreme flexion, as at a hundred and thirty-five degrees or beyond. In non-operative cases extension is rarely if ever perfect. The comparative functional value of these two opposing movements has been noted by Fluhrer.* In his words: "Motion in the joint has not the same value throughout the whole range of flexion and extension; these movements of the leg from the line of complete extension are vastly more important through the first forty-five degrees than from that angle onward. This is understood when we reflect that in locomotion the limb with some motion at the joint becomes an uncertain means of support unless the leg can be so extended as to bring the line of support near or anterior to the axis of motion in the joint, thus, as it were, locking it while the limb bears the weight of the body."

A further advantage of operative treatment, of less importance only than the more perfect union and the more perfect restoration of function it affords, is the more rapid recovery which ensues. In my own cases, in all of which coaptation of the fragments was made by direct suture of silver wire, I have usually removed all retentive apparatus, began flexion, and permitted the patient to walk with the aid of a cane on the twenty-eighth day. The cane is discarded a few days later. After the beginning of flexion and the restoration of the ability to walk without support, the operative cure may be considered complete. The entire restoration of function in these cases depends upon the patient himself much more than it does in those treated without operation. In general, he may return with absolute safety and without protective appliance to the most laborious occupation within the second month. Refracture will only occur from such extreme violence as might have produced the original injury. The estimate of the period of disability after non-operative treatment so greatly varies as to make comparison impossible, if all opinions are to be accorded equal value. Bull recommends the beginning of flexion at the end of the third month, with the use of the posterior splint up to that time. Stimson advises the beginning of flexion during the third month with removal of the posterior splint at night. Wyeth would carefully guard the joint for eighteen months. Some of the surgeons whose opinion was sought by Dr. Powers place the period of return to work at one year, some at six months, some, constituting the larger number, at three months, some at two months, and two at three and six weeks respectively. Two or three of them even believe the period of detention from work to be longer in operative cases than in others. It is probable that the most sanguine have had the least experience. It seems scarcely possible that with the usual somewhat elongated and still soft and extensible ligament of union patients should be deemed fit for active mechanical employment without protective appliance. Such a belief would require detailed statistical information for its justification, which is yet wanting. The fact that in a majority of instances patients who have been treated by operation are able to resume laborious occupations in the second month, without mechanical support, is established not only by the record of my own large number of cases, but by that of other operators whose cases I have tabulated.

The better results obtained by open operation in the treatment of fractured patella I believe to have been generally recognized from the first; but the fear of possibly fatal accident has been widespread. At the time my original series of cases was published I believe I was the only surgeon in this city who unreservedly advocated this method. I was conscious that my alleged results of bony union were distrusted, and that my surgical discretion was seriously questioned, though the operation was not then new and was already practised by eminent surgeons at home and abroad. Its absolute safety under prescribed conditions was as demonstrable then as now, and accumulated experience was not wanting. Increasing familiarity with the comparative results of operative and non-operative treatment, a more realizing conviction of the universality of application of the general principles of surgery, and a more perfect confidence in the practicability of absolute asepsis have wrought the change in professional opinion and practice disclosed in Dr. Powers's investigation.

It should be clearly understood that certain accidents common to all surgical operations are not to be rated as condemnatory of this special procedure, unless it be conceded that all operative interference is unjustifiable except when made imperative as the only resort which can afford a chance of preserving life. The possible fatality of anæsthetic shock or urinary suppression, the occurrence of tetanus, or supervention of pneumonia or delirium tremens, is no more to be held an argument against this particular operation than against the radical cure of hernia, the correction of facial deformities, or the removal of the appendix vermiformis in recurrent appendicitis. Such an admission would involve a reconstitution of the ethics of surgical operation.

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* *Medical Record*, 1890, vol. xxxvi, p. 645.

Septic arthritis, septicæmia, death, amputation, and destruction of the joint were counted reasonable possibilities in this operation long after they had ceased to be justifiable accidents, and are even to-day inferentially suggested by some of its opponents. It is scarcely necessary to insist upon the subservience of this operation to the laws of aseptic procedure, or of the dependence of its results upon their observance or neglect. Sepsis is the sole source of danger, and with the current operative technique is unquestionably preventible. The enormous percentage of septic inflammations and deaths in the earlier tabulations of cases, when the theory was far in advance of the practice of aseptic surgery, has no logical relation to present prognosis. The unfortunate experiences of some of the operators of that period, however, may have made it difficult for them to become reconciled to operative methods, even under the changed conditions which now exist.

Reason and later experience concur in sustaining the contention that, with proper aseptic precautions, operative treatment is entirely devoid of danger to life. In the accompanying table of cases occurring in New York, comprising all those done by operators of the largest experience and such others as have been readily accessible, death followed operation in but three instances: twice from delirium tremens and once from carbolic-acid poisoning. Delirium tremens is a complication of fracture, rather than a result of its treatment; the carbolic-acid poisoning could have been a cause of death only from its internal administration; these four hundred and twenty operations may be said, therefore, to have involved no fatality.

There was never a drop of pus in the joint cavity in any one of my own cases, nor, so far as I can learn, with a single exception, in any of the other cases which I have collected. It has followed that necessity for amputation of the limb has never arisen.

The only accidents reported have been superficial suppurations and ankylosis, which were twenty-one in number. Five of these should be eliminated; one of ankylosis in my own series, accidentally included in a former report, occurring in a case of long standing in which coaptation could not be effected; and four in Hartley's series, also in complete ankylosis (at forty-five degrees), without suppuration, following fractures which were compound. The remaining sixteen were cases of superficial suppuration followed by ankylosis more or less complete. My own five cases were all prolonged and extensive suppurations extending along the intermuscular planes, and apparently terminating in nearly complete fixation of the joint. I trust that possibly in the course of time some useful degree of motion, if not perfect function, may have been restored. In two instances the patient was infected during operation, and in two subsequently; in the fifth I did not see the patient for a time and was unable to determine the period of infection. In one, at least, the buried suture was at fault, though the joint escaped contamination. It is scarcely worth the saying that all these were avoidable accidents, and should be charged to the account of the operator and not of the operation. In a large and exacting hospital service, with its multiplication of nurses and assistants, it may be sometimes difficult for the surgeon to be assured that all his material is beyond suspicion, and that all the hands about him are immaculate, but in operations of so serious a character as those involving a serous cavity, whether of a joint or of the abdomen, he can plead no division of responsibility as an excuse for failure in asepsis.

The inability to realize aseptic conditions with moral certainty is the only contraindication for a resort to operative treatment which requires special mention. Unsuitable surroundings in private practice, unsatisfactory hospital conditions, or questionable dressings and appliances, if such defaults are irremediable, would render operation unjustifiable, just as it would in any other case in which the danger of serious accident is not outweighed by the greater danger to life from abstention. If, notwithstanding the utmost care, superficial suppuration does occur, it will be trivial, or at the worst will remain extra-articular and occasion only some impairment of the movement of the joint, and even then will be in no wise comparable with the functional disability so much more frequent as a result of non-operative treatment.

Certain depraved constitutional conditions, morbid diatheses, or organic diseases will contraindicate this operation precisely as they would any other of equal gravity. An advanced age of the patient has not prejudiced or prevented osseous union. The fact of coincident fracture of both patellæ, or the loss of the opposite limb, I have held to be a special reason for operation. The alcoholic habit characterizes a large proportion of the people who suffer this injury; but I have not found the intercurrence of mania to be frequent; its preliminary indications would at least suggest delay in resorting to any operative procedure.

I have adhered to the form of operation which I have practised from the beginning, and which I described in 1890: free lateral incision, ablution of the joint by irrigation, and, after removal of the interposed fibrous tissues, coaptation of the fragments by silver wire, and closure of the joint cavity by soft sutures through its fibrous covering. It is also the operation done by Fluhrer, Dennis, and others. It has been modified by making the incision vertical, and in Stimson's cases still further by omitting the suture of the fragments and depending upon suture of the periosteal or fibrous structure for coaptation and retention. It is unnecessary, and apart from the present study of the results of open operation as a general method of treatment, to institute any comparison of the merits of different forms of procedure. It is sufficient for me to mention my own reasons for preferring a particular one.

A free lateral incision, if the fragments are to be sutured, permits the more thorough ablution of the joint cavity, the easier and more perfect coaptation of the fragments, and the more accurate insertion of the protective sutures; it also facilitates operation and diminishes the possibilities of infection. It is unobjectionable, since the chances of primary union are quite as good with a long as with a short incision; and the superficial cicatrix soon becomes movable, and within a year or two is practically obliterated. Direct suture of the fragments insures their firmer contact, and adds to the strength of union at an early period—at a time while comparatively weak it is yet necessarily subjected to the strain of passive movement. The use of silver wire in place of a soft suture not only adds to the strength of union while still immature, but, if the wire has been passed through flame at the time of operation, removes the last possibility of deep infection. If the twisted wire, after having been cut short, is turned down and thoroughly hammered into the osseous groove of the line of fracture, and afterward covered in by the deep sutures, it never requires subsequent removal; it causes no superficial irritation, and may be found post mortem after the lapse of years unchanged and incorporated in the new bone. The deep or protective sutures are essential to the safety of the joint if by any chance the superficial wound becomes infected. The complete removal of blood and clots from the cavity of the joint is important, since, if permitted to remain, blood-clots organize and seriously hamper its future movements, or, at least, greatly increase the labors of the surgeon in their restoration. As the removal of the fibrous tissues and coagula from the osseous surfaces exposed by fracture excites fresh hæmorrhage, which continues after the wound is closed, temporary drainage of the joint is of great service. I drain from its outer and inferior angle and remove the tube in twenty-four hours or less. During one year in which I discontinued this precaution, I had such unusual difficulty in reestablishing articular movement that I reverted to my former practice.

The secondary or after treatment I regard as absolutely essential to the attainment of the best results of the operative method of treatment, and its neglect, I am certain, is responsible for its comparative failures in the hands of some operators. Movement of the joint should be begun early, and the case kept under observation until flexion has been carried beyond ninety degrees, as, left to his own devices, the patient is not unlikely to be content with just sufficient motion for easy locomotion. Lateral movement of the patella should begin at the end of the third week; if neglected, the bone may become fixed to the femoral condyles, and be liable to refracture in the effort at flexion. I usually begin the joint movement on the twenty-eighth day—Stephen Smith, one week earlier. In both lateral movement and in flexion firm support should be given to the upper and lower borders of the bone. The time required for perfect reestablishment of these movements varies greatly, and is dependent upon the assiduity of the surgeon, the intelligent cooperation of the patient, and accidental conditions presented by the joint itself. In general, it may be estimated at from one to two months after the beginning of flexion. Early neglect, the indifference of the patient, complicating arthritis from concurrent injury of the joint, the retention and organization of blood-clots, or much inflammatory thickening of the extra-articular tissues may extend this period. If the case proves obstinate, recovery may be expedited by the use of massage and other manipulation by a skilled masseur, or even by forcible flexion and stretching of adhesions under the influence of an anæsthetic. If extensive suppuration has not occurred, the function of the joint can always be entirely restored by sufficient and well-directed effort.

The time predicted by Dennis has already arrived when the "final verdict" may be safely rendered. The number of cases which have been subjected to operation is quite sufficient to satisfy the reasonable minds of surgeons that it is neither "an unsafe nor an unjustifiable procedure." There certainly is "evidence," which in 1890 Bull conceived to be wanting, "that the ultimate results have been better than those of non-operative methods." Experience has amply confirmed the logical deductions from positively established premises. The last word may yet remain to be spoken. Operation may be bettered in its details; results may be made more perfect; but nothing can be added to perfect an argument already complete, and no further multiplication of cases can more absolutely demonstrate that which is already irrefragably proved.

NOTE.—In three cases subjected to operation in October last, I began flexion of the joint at the end of the third week, as suggested by Dr. Stephen Smith. I think the restoration of function was a little more easily and rapidly accomplished by this earlier interference.

New Method of Extracting Foreign Bodies from the Nasal Fossæ in Children.—M. Felizet (*Journal des praticiens*, November 19th) related to the Surgical Society a method of extracting foreign bodies from the nose in children, which he has used with satisfactory results for five years. He injects through the sound nostril a current of warm salt water at a moderate pressure which, returning by the posterior nares of the occluded nostril, forces the foreign body out, or at least allows of its being seized with forceps.

NEURALGIA OF THE ANO-RECTAL REGION:

ITS PECULIAR CHARACTERISTICS, SYMPTOMATOLOGY, ÆTIOLOGY, AND DIAGNOSIS.

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The writer will on the present occasion make some observations upon the important subject of neuralgia as a form of neurosis of the inferior portion of the rectum, including its terminal outlet, the anus, a subject which all admit is more or less obscure, doubtful, and perplexing; he will therefore in a few introductory remarks truly say of this neuralgic affliction that it is perhaps the most protean malady of the ano-rectal region; sometimes manifesting itself by the most painful symptoms, without any visible pathological change whatever in the suffering part, being, as it were, a spontaneous or a primary disease, seated in the nerves of the part itself and independent of any other. At other times, instead of being a primary, it is a secondary functional affection, depending upon some other disease in its vicinity, or in some distant part, and presenting itself, like the primary affection, in equally painful symptoms, without any perceptible organic lesion in the painful part itself to account for the suffering, being of a purely sympathetic or reflex origin; for instance, the pain and the irritation of a diseased organ of the genito-urinary system may be communicated to the rectum or anus through reflex nerve action and sensation; the same pain and irritation may also be imparted to the nervous, the respiratory, and the circulatory systems by the same nerve factor. Now, to differentiate between the true primary affection and the false secondary one is a most difficult task, if ever correctly accomplished; for both are apparently destitute of any visible pathological change or of any indication for rational treatment. Hence, it can well be imagined how difficult it sometimes is to detect under such diversified forms and characteristics a Proteus so fertile of metamorphosis; indeed, under all these varied and perplexing circumstances it might sometimes deceive the most skillful observer, without in the least calling in question his sagacity or skill. The writer therefore approaches this subject, in which so much obscurity and doubt prevail, with much diffidence and hesitancy, fearing lest he himself will fail in making the obscurity any less obscure, or the doubt any less doubtful; especially when he considers, too, that it has heretofore engaged the minds and the pens of able and distinguished neurologists. The writer, however, can not be expected in a brief discourse to do much more toward elucidating it than to present it fully and fairly in all its parts for future consideration.

Name.—The term *neuralgia* (Greek, *νεῦρον*, nerve, and *ἄλγος*, pain) signifies *nerve pain*, and is essentially a nervous disease, of which the principal or leading symptom is agonizing pain—pain emphatically—occurring at intervals in paroxysms, in the trunk, in the branch, or in the terminal filament of a nerve, and is therefore evidently seated in the nerve. It is, however, even doubted by some authors whether the nerves of the rectum or anus are ever the seat of neuralgia, or whether the severe pain experienced sometimes in those parts is really and essentially neuralgic in its character. There is, however, no good reason why true neuralgia may not just as well be primarily seated in the nerves of the rectum or anus as in those of any other part of the body, and why it may not be precisely similar in its character to trigeminal neuralgia, or to that of the limbs, etc.

Division.—The writer considers it important, for the convenience and the better understanding of this subject, to divide the neuralgias of the ano-rectal region into spontaneous, idiopathic, sympathetic, and reflex; or into primary and secondary, for all sympathetic or reflected symptoms and irritations of disease must be considered secondary and functional.

When the neuralgia is either spontaneous or idiopathic, it is a primary or a substantive disease, existing, of course, independently of any other; for, as an evidence of this fact which can not be denied, it is well known that the rectum or anus is sometimes the seat of a morbid exaltation of nervous sensibility independently of any perceptible inflammatory action, or any appreciable organic alteration, sympathetic influence, or reflex action, to account for the extreme pain felt. Now, such a case, after having failed by an exhaustive exploration of the pelvic viscera to detect any local cause elsewhere, the writer would consider true neuralgia, although its pathology might be obscure or undetected, for there can be no effect without a cause. The writer has seen but few cases which he believed to be the true primary neuralgia of the inferior portion of the rectum, and never saw one such in which a very slight congestion of the arterial and the venous capillaries of the painful part did not exist. Now, whether this slight congestion was the cause of the agonizing pain or the effect of it, is the question. Could so slight a congestion produce so intense suffering? In these cases each organ of the pelvis was subjected to a severe test of interrogation, without eliciting anything of a morbid or an abnormal character. The writer was of the opinion that the congestion in these cases was the effect or the result of the neuralgia. When the neuralgia is either sympathetic or reflex, it is of secondary origin, depending upon other diseases in its immediate vicinity or in distant parts, and which are the cause or the elements of serious functional disturbances in other organs.

As regards the theory of sympathy, as used in this connection, it is a well-established canon in pathology, and has always been, that a mutual relation exists as sympathy between contiguous organs or parts, as is manifested in the transfer of the pain, irritation, or inflammation of a diseased organ or part to a sound or a healthy one; indeed, sympathy, as a direct sequence, always requires an intimate and close relationship. Now, neuralgia of the ano-rectal region is often consecutive to disease in some of the urinary and reproductive organs, as will be abundantly shown hereafter; for it is of great importance to consider this circumstance well. We all know that the rectum in its course through the pelvis lies in close relation with the prostate gland, vesiculæ seminales, bladder, and urethra in the male; and with the uterus and the vagina in the female. The association of this organ with so many important viscera of the pelvis is so close, both in consequence of their proximity, their intimate relation with the nerve, the arterial and the venous connections, and their combined action in the performance of certain functions, that any unusual pain, excitement, irritation, or inflammation of any of the latter organs is exceedingly prone to extend itself by sympathy to the former. Then, how varied and how great must the sympathies and influences be which result from this multiplied relation of contiguity!

The writer would remark here that the theory of sympathy, which has always been recognized as such in former times, has in these latter days been almost entirely ignored and substituted by that of reflex; for while he upholds both theories as highly essential and important, he nevertheless would confine each within its legitimate sphere. For it can be plainly shown that in many instances reflex nerve action has been made to account for certain phenomena which can be demonstrated as purely sympathetic; for example, in females it sometimes occurs that the pain, the irritation, or the inflammation of a hæmorrhoidal tumor located on the anterior wall of the rectum communicates itself directly through sympathy to the vagina, especially exalting the sensibility of the rectovaginal sæptum to such a degree that coitus can not be consummated, or can not be without intense suffering. Such a case has been classed as reflex, which is, however, plainly sympathetic. Now, the theory of reflex nerve action differs most widely from that of sympathy by not necessarily requiring a close relationship with its sequence, and especially by its being obviously of a very intricate and complex nature. Hence, the true bearings of its varied phenomena are still to a great extent beyond our knowledge; indeed, in the opinion of the writer, the theory of reflex nerve action is yet, as it were, only in its swaddling band, but it bids fair never to be relegated into oblivion, as some most devoutly wish it. It may be said, however, that it is these reflex influences and disturbances which give to the uterus, the rectum, and other organs of the pelvis their importance as ætiological factors in the production of various secondary functional disorders, even in distant parts of the body, and it is through the reflex function of the spinal cord that most of the effects produced by these affections are brought about. It is highly important to know also that sometimes both the spinal cord and the brain are involved in these reflex nerve phenomena. Such, then, is the importance of rectal or uterine reflexes that disease in either may even be the primary cause of insanity, without necessarily locating the brain in either the rectum or the uterus. For the uterus, like the rectum, is equally a focus or a point of origin for numerous, various, and marvelous reflex nerve phenomena. Many morbid conditions of the rectum arise reflexly from uterine disease, or from some other diseased organ of the pelvis, and may, as already observed, result in hysteria or in madness; indeed, there is scarcely any organ in the body that is beyond the sphere of their reflex influence, and that does not sometimes suffer more or less in their derangements. Painful and important as the diseases of the uterus, the rectum, etc., are, it is very doubtful whether the reflex or secondary affections which follow in their train, and to which they give rise, are not equally if not more painful, and of greater import.

Symptomatology.—From what has already been said upon the subject of the primary and secondary origin of ano-rectal neuralgia, the study of its symptoms may now be approached with a more reasonable hope of our being better able to comprehend and appreciate the significance of its symptomatology. Like neuralgia of any other part of the body, that of the rectum or anus begins with an undefined sensation of pain in the affected organ or part; sometimes the pain is sharp, lancinating, and paroxysmal; at other times it is dull and aching; but in whatever manner it manifests or displays itself, it rarely is confined to the rectum or anus alone, as at first, but sooner or later the pain extends itself to the perinæum, the urethra, the vagina, the bladder, or to the sacral or lumbar regions. The pain often comes on at a certain hour, and gradually increases in violence to a certain period, and then declines in intensity for a period of time, varying from two to six hours, and leaves behind it a very distressing sensation of soreness in the rectum or anus. When the pain is either sympathetic or reflex, it is, as a rule, not so agonizing and so intolerable as when it is the result of the true primary affection.

Ætiology.—It is exceedingly difficult sometimes to trace the cause or the causes of some diseases and their *modus operandi*, but it will be admitted by all that it is more particularly and extremely so with regard to the cause of the primary or true neuralgia of the rectum or anus. Indeed, we are told by some of the most eminent authorities that its cause is unknown and past finding out, and to which may with propriety be added, "*Causa latet, vis est notissima.*" Instead of our finding a clear and an accurate local pathology in these instances we too often fail to detect any, or at best a more or less obscure one. This same difficulty or obscurity, however, is met with when seeking for the true cause of this painful affection when occurring in other parts of the body. Hence, it would indeed really seem that in the majority of cases the cause might be sought for in vain. "The memory of the patient's suffering," says a beautiful writer, "is the evidence of the disease; the pain has left no trace behind it, no guide for the future, no explanation of the past."

What has just been said of the cause has reference only to the primary neuralgia, not to that of the secondary or reflected one, for primary and secondary neuralgias are ætiologically different. Now, a somewhat similar difficulty obtains in our efforts to discover the source and the cause of the morbid sensibility and pain when of secondary origin, and the result of sympathy or of reflex nerve action, consequent upon the disease of some one of the genito-urinary organs, for the writer here has reference only to that class of sympathies or reflexes which originate in the disease of some of those organs; for pain which is experienced elsewhere than at the diseased organ itself may be the result of a lesion in some more or less distant organ reflected through a weak nerve centre. How important it then is in all such cases to seek most diligently elsewhere first for the cause than in the suffering organ itself! For even the primary affection can only be positively determined as such after having failed by a thorough exploration of the pelvis to detect any disease in any of its organs.

Now, if it is found impossible to discover the legitimate cause of the severe symptoms, our treatment of such a case would, of course, be palliative, by treating the symptoms merely, but it would be proper and justifiable under the circumstance; for we treat cancer, the cause of which has never been discovered; hence our treatment of it is purely palliative, although often of the most radical kind, yet it greatly mitigates and alleviates the severe suffering of this fearful and dreaded disease, and it prolongs life. In former times some of the following causes of neuralgia in general, as well as in the rectum or anus in particular, were given by some authors: Anxiety and distress of mind may have a powerful influence in confirming and aggravating the symptoms of anal and rectal neuralgia, and may not improbably also occasion its commencement. It may be caused by exposure to cold and damp, especially sitting on cold, wet seats; it is doubtless often induced by the influence of malaria. Atmospheric changes may cause neuralgia, as well as exert a bad influence upon it.

Differential Diagnosis.—The diagnosis of anal or rectal neuralgia, either in its primary or secondary form, is most difficult to establish correctly. The difficulty in its secondary form is owing to the fact that there is no connection or relation visible, or that can be readily traced, between the really diseased organ and its resultant affection. As regards the symptoms of the true and the false neuralgias, they are so much alike that it is most difficult sometimes to differentiate between them and their causes, as has already been fully discussed under the head ætiology.

The writer will now give an example of a disease of the anus and anal canal which may be confounded with anal or rectal neuralgia—namely, anal fissure. Now, neuralgia of the anus or rectum is very readily distinguished from anal fissure by the absence of any lesion or breach of surface or any other pathological change of the mucous membrane of the rectum; by the entire want of connection between the pain and the alvine evacuation; and by the continued pain or suffering. In neuralgia the pain caused by pressure with the finger in ano is not confined to one particular spot, as it is in anal fissure, but all the parts around the anus are equally tender. In neuralgia the sensory nerves only are affected, not the motor; for, while sensation in the highest degree is present, there is no involuntary spasmodic contraction of the anal sphincters, as in anal fissure, in which both the sensory and the motor nerves are affected; for in anal fissure the motor nerves act independently of volition by an excitation, the result of impressions made upon the sensory nerves, as is so very evident in the spasmodic and arbitrary contraction of the anal sphincters in that painful disease. Regarding the pain alone of neuralgia, it is very severe indeed, but quite independent of contact.

It is true that the morbid sensibility and pain of the rectum or anus caused by neuralgia are often so similar in character to those of anal fissure that it is no easy matter to distinguish between them by the pain alone; nothing but the detection itself of the lesion in fissure will clear the diagnosis in this respect.

The writer must not omit to mention here that although he firmly believes, as already stated, that in anal or rectal neuralgia, as a rule, there is neither contraction nor relaxation of the muscular fibres, this, at least, is his decided experience; yet exceptional and extraordinary cases might occur in which this muscular action might be present. Such cases seem to have occurred in the practice of M. Velpeau, who, in a very able article on true anal neuralgia, when speaking of some of its symptoms, says: "In some persons the anus appears to undergo momentary and forcible contractions, followed by speedy relaxations; in others, on the contrary, it is seen to expand to such an extent that involuntary discharges take place." (*Dictionnaire des sciences médicales*, tome iii, p. 282, 8vo.) M. Velpeau declared that the cause of anal neuralgia is unknown.

The Subjects most Obnoxious to Neuralgia.—Persons of a nervous and irritable temperament, and who are subject to neuralgia in other parts of the body, are most liable to rectal or anal neuralgia. Those who have been debilitated by accidental or other losses of blood, by diseases of a depressing nature, or by excesses and irregular habits, are prone to the disease. Neuralgia of the rectum or anus will sometimes be found in hysterical or in nervous, susceptible women, who are habitually on the *qui vive* to magnify and to intensify every sensation; it will also sometimes be found in weak and hypochondriacal men. The writer will here mention a very interesting and curious case of a hypochondriacally afflicted man as it was investigated in court. A number of years ago the writer was summoned as an expert to appear in the supreme court of New York, the Hon. Judge Spear presiding. The case, so far as the writer now recollects, was as follows: Mr. M. had his life insured in two companies amounting to fifty thousand dollars. In his application for insurance he failed to state that he had any disease of the rectum. After his death these companies learned from his physician, and from some of his friends and acquaintances, that before he was insured, whenever he met any of them, he always referred them to his continued pain and suffering in his fundament, from which he said he could get no relief. From this information these companies refused to pay the insurance, hence the suit was brought to compel them. Among the numerous questions asked the writer by the lawyers and the judge, the following curiously pointed one, he thinks, was asked by the eminent lawyer Mr. Daniel Lord: Said he, "Doctor, what would you think of a man who, whenever he met any of his relatives, friends, or acquaintances at any time or place, would at once commence harping upon his pains, his aches, his suffering, and his troubles in his fundament?" The answer was, "I should think that such a man was fundamentally deranged."

In New York, in 1871, the writer was called in consultation to see Mrs. M., a very intellectual but highly nervous and excitable lady, aged thirty years, who for several months suffered from frequent paroxysms of severe neuralgic pains in the lower portion of the rectum. The patient was much emaciated and seemed to be almost in despair, and on the border, as it were, of insanity. She was treated by two eminent gynæcologists, who failed to discover any visible cause for the painful symptoms, and who, after having exhausted every known remedy in vain, excised the coccyx, thinking, perhaps, that her suffering might be caused by the so-called coccygodynia, but without any relief. After making a careful examination of the patient, the writer could not suggest any remedy or measure that had not been previously employed, except the excision of the inferior third of the rectum, which in the exhausted and excitable condition of the patient would be of too serious a nature to think of; especially, too, upon the mere supposition that it might perhaps remove the cause. The writer could scarcely refrain from advising the medical attendant to pass his patient over to some one member of our profession whose specialty it is to "administer to a mind diseased."

The writer will take this occasion to say that no apparently healthy organ should ever be removed for the purpose of effecting the cure of the anal or rectal neuralgia, upon the mere presumption of a reflex symptom, unless it can be plainly demonstrated that such an organ is capable itself of producing the reflex action in question.

Cases.—The writer will now give two interesting cases of neuralgia of the rectum which he treated successfully:

Mr. J. L., a sugar planter of Terrebonne Parish, Louisiana, aged fifty-five years, visited and consulted the writer at New Orleans in the winter of 1858. Mr. L. stated that for two years he had suffered from frequent severe painful attacks of neuralgia of the rectum; that his general health was good, but his nervous system was completely racked; that no thorough examination of the rectum was ever made or proposed by his physicians; that his treatment consisted only of anodynes and external applications, which afforded but temporary relief; and that during his illness he had taken more than a gallon of laudanum, and that he had been scarified, cupped, and blistered along the spine until the skin had become as thick and as rough as an alligator's.

In short, after the patient was properly prepared, by completely evacuating the rectum with a relaxing enema, he was then brought under profound anæsthesia by Dr. W. Wetzel, of New Orleans. The writer, in making the exploration, discovered a fibroid polypus, the size and shape of an almond, attached by a slender pedicle to the posterior wall of the rectum near the coccyx. Through the open blades of the speculum the pedicle was seized with a forceps and the tumor wrenched off. Nothing else abnormal was discovered in the rectum. That this growth was the sole cause of the neuralgia was evident, for the patient was entirely relieved by its removal, and continued so.

The second case was that of Mrs. A. M., aged fifty years, who visited the writer at New Rochelle, N. Y., in November, 1892, for the purpose of consultation and treatment. Mrs. M. was a very nervous lady, having been a victim of rectal neuralgia for a long time. She said that only a partial examination of the rectum had been made, and no positive cause was given for her suffering, and the only remedies employed were different kinds of narcotics, which afforded but partial relief. Some thought it to be coccygodynia, as she referred much of her suffering to the coccygeal region, both internal and external, hence the removal of the coccyx was advised; others thought it was neurasthenia, owing to a bad condition of the general system, and advised a course of strong alteratives and tonics. She had even consulted a practitioner of the school of "orificial" surgery, who proposed to relieve her of an inch or more of the mucous tissue of the lower part of the rectum. The lady, being timid, was averse to any radical treatment, unless some assurance was given that the result of such treatment would be favorable and not injurious. Mrs. M. entreated to be examined without being etherized, which was reluctantly granted. After preparing her properly some cocaine was injected per rectum, and afterward the speculum was gradually insinuated into the organ and the blades slowly expanded, when a small pyriform growth was brought into view, attached to the rectal wall just at the tip or lower extremity of the coccyx. The tumor, being saturated with cocaine, was then removed by the forceps with but little pain but considerable hæmorrhage. It proved to be a fibroid, about the size of a grape, and unusually firm and hard. The removal of the tumor entirely relieved Mrs. M., and she remains cured at the present day, now six years.

The writer has seen and treated many cases of polypoid tumors of the rectum, but never before saw or heard of a polypus of that organ which was the cause of neuralgic pains; he can not account for the manner in which such unusual effects were produced by the tumors in the instances just related.

Physical Exploration.—The writer will now conclude by remarking that, if in any case of suspected or ambiguous neuralgia of the rectum or anus there is the slightest reason to suppose that the pain is either primary or reflex, a most scrutinizing examination of each organ of the pelvis should at once be made, under profound anæsthesia, to determine it. Now, the numerous and the various facilities of the present day in improved instruments and methods of exploration are so ample for this purpose that no expert ought to fail in any case to make a correct diagnosis, and upon it to lay the basis of a rational and an effectual treatment.

November 13, 1898.

FURTHER RESULTS OF OPERATIVE TREATMENT OF CHRONIC FRONTAL SINUSITIS.*

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THE difficulties that are met with in the treatment of chronic suppurating frontal sinusitis are so great that I feel that any information regarding the progress made in its treatment will have the effect of still further improving our operative methods, and it is with this object in view that I desire to call your attention to some further operative experience in the treatment of this obstinate disease, illustrated with the report of two cases:

CASE I.—*Chronic Suppurating Frontal Sinusitis; Caries of the Fronto-ethmoidal Cells; Orbital Abscess; Fistulous Opening at the Inner Angle of the Orbit.*—I saw this patient, a young man eighteen years of age, for the first time September 10, 1897, in consultation with Dr. Belt, to whom I am indebted for the following history of the case: In the early part of April of the present year the patient suffered from a sharp attack of influenza which was accompanied by severe frontal headaches. May 2d he consulted Dr. Belt for a severe pain in the left eye. At this time the left upper and lower lids were red and swollen, and there was also considerable chemosis of the conjunctiva. The eyeball was immovable, owing to the great swelling of the orbital tissues. The swelling of the upper lid increasing, an incision was made at the inner canthus and a large quantity of pus evacuated; and on introducing a probe into the wound it was found to pass into the frontal sinus through a small opening at the inner angle of the orbit. The wound was cleansed with a two-per-cent. formalin solution and packed with iodoform gauze. Owing to the very anæmic condition of the patient, further operative measures were not deemed advisable until his general health improved. He was accordingly put on a course of tonics, and the wound cleansed daily with hydrogen dioxide and a boric-acid solution.

When I saw the patient, September 10th, there was a small fistulous opening at the inner angle of the left orbit through which pus in considerable quantities was discharging. There was a slight drooping of the upper lid, but there was no swelling of the skin over the frontal sinus and no pain on pressure.

Examination of the nose showed the left middle turbinate slightly enlarged, but no secretion was observed to pass from either nostril.

September 17th, the patient was admitted to the Episcopal Eye, Ear, and Throat Hospital, when, after shaving the eyebrow and thoroughly cleansing the parts, an incision was made along the eyebrow, commencing at a point just within the supraorbital notch and extending to the nasal boss. After elevating the skin and periosteum a small opening in the orbital plate of the frontal bone, at its inner angle and just under the supraorbital ridge, was found, communicating with the frontal sinus. This opening was enlarged by means of the gouge and rongeur sufficiently to admit of a thorough examination of the cavity, which was found filled with granulation tissue, and it was also the seat of caries at its juncture with the fronto-ethmoid cells. The sinus was thoroughly curetted, removing all granulation and carious tissue, and an attempt was then made to pass a probe through the fronto-nasal duct, but, owing to the complete obliteration of this canal, a passage had to be made by passing a trocar through the sinus into the nose. The cavity was then irrigated with a solution of bichloride of mercury, 1 to 3,000, a self-retaining drainage tube passed into the nose, and the wound closed and hermetically sealed with iodoform and collodion. The subsequent treatment consisted in the daily irrigation of the sinus through the drainage tube with a saturated solution of boric acid. At the end of a week the patient was discharged from the hospital, the external wound having healed, and at the end of ten days, there being no secretions from the frontal sinus, the drainage tube was removed.

This patient made an unusually rapid recovery and has had no further trouble up to the present date, May 10, 1898. The scar from the operation is not visible, being entirely concealed by the hair of the brow, but there remains a small pit just under the inner angle of the orbit, resulting from a contraction of the tissues at the seat of the fistula, caused by the orbital abscess. This is noticeable only on close inspection, and is somewhat annoying to the patient on account of the difficulty in keeping it clean.

CASE II. *Chronic Suppurating Frontal Sinusitis; Caries of the Ethmoid Cells and Middle Turbinate Bone.*—Miss X., aged twenty-one years, an anæmic young woman, came under my observation December 23, 1897, giving the following history: Her health had been excellent up to three years ago, when she contracted a severe head cold which was accompanied by frontal headaches of considerable severity. These headaches have been increasing in intensity until now they are almost unbearable. The nasal secretions have also been increasing in quantity and have recently become fœtid. Examination of the left side of the nose shows a profuse purulent secretion in the nasal chamber coming through a cleft in a very much enlarged middle turbinate bone, which is found adherent to the lateral wall of the nose, thus completely obliterating the middle meatus. The probe revealed considerable caries of the middle turbinate, and I was able to pass it some distance through this body into the anterior ethmoid cells, showing them also to be in an advanced stage of caries. The right nasal cavity was found to be normal. There is no swelling of the skin of the frontal region, but slight pressure above and below the left supraorbital ridge is attended with severe pain. The movements of the eye are not interfered with, but she complains of intense pain back of the eyeball. The general condition of the patient was not at all good. She complained of lassitude, indigestion, morning nausea, and she found great difficulty in attending to her household duties.

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* Read before the American Laryngological Association at its twentieth annual congress.

An external operation was advised as the only means of completely relieving the patient of her serious condition, but she was very much averse to submitting to this method of relief at this time. I therefore contented myself with removing by means of the curette, at various intervals, as much of the carious ethmoid cells and middle turbinate body as could be safely done through the nose. Her condition was not at all improved by these measures, but it grew gradually worse. On March 25th she reported that a profuse purulent secretion, mixed with a large quantity of blood, was blown from the right nostril, thus showing the sæptum between the sinuses had broken down and the right cavity had become involved. The headaches increasing in severity, the seriousness of her condition was again pointed out to her, and a radical operation insisted upon. To this she acceded, and she was admitted to the Episcopal Eye, Ear, and Throat Hospital, April 10, 1898.

April 11th, after shaving the eyebrow and thoroughly cleansing the field for operation, an incision was made through the eyebrow, commencing at a point just within the supraorbital notch and continuing over the nasal boss; the flap thus formed, composed of skin and periosteum, was raised to a sufficient extent to admit of the removal of a centimetre of bone by means of a small crown trephine applied just above the supraorbital ridge and about two or three lines from the median line. On exposing the cavity it was found filled with thick, fœtid pus and granulation tissue. After the removal of all secretion and granulations from the sinus its posterior wall was found to be carious in several places, the frontal sæptum broken down, the fronto-ethmoidal and the ethmoidal cells in an advanced state of caries. With a sharp spoon all caries of the walls of the cavity was scraped away, the sæptum was completely removed, as was also all diseased bone between the sinus and the nose, thus leaving a large communication between them. After thoroughly irrigating the parts with a solution of bichloride of mercury, 1 to 3,000, the lining membrane of the sinus was touched with a twenty-per-cent. solution of the chloride of zinc, and the cavity packed with iodoform gauze, the free end of which was brought out through the nose. The periosteum was brought down over the opening and carefully secured with catgut sutures, and then the external wound was closed by means of interrupted sutures and hermetically sealed with iodoform and collodion.

April 12th.—The patient has reacted well from the operation; the temperature is normal, and she expresses herself as being free from pain for the first time in three years.

14th.—There being some odor from the nose, the gauze was removed, but there was very little secretion following an irrigation with a saturated boric-acid solution.

17th.—The cavity has been irrigated daily with a boric-acid solution, and, while the secretions have slightly increased, there has been no pain and no rise of temperature. To-day the stitches in the eyebrow were removed, the wound having healed.

20th.—There was a slight breaking down of the wound and a slight discharge of pus from its inner extremity caused by the retention of an overlooked suture. This small fistula was cleansed with a bichloride solution and packed with iodoform gauze. The sinus was irrigated daily with a saturated solution of boric acid through a cannula passed through the nose.

30th.—The secretions from the fistula in the eyebrow and also from the sinus had diminished to such an extent that the patient was discharged from the hospital, to return daily for treatment.

May 4th.—The condition of the patient to-day was not so favorable. She suffered during the night with severe headache, slight chilly sensations, and a decided increase in the secretions from the nose. On examination the whole frontal region was observed to be greatly swollen and sensitive to pressure. The temperature at 2 P. M. was 101°. A probe passed into the sinus through the nose showed the opening perfectly free, showing that it was not the cause of any retention of pus; but on passing the probe through the fistulous opening at the inner angle of the orbit it was found to enter readily the opening in the frontal bone, and on its withdrawal considerable pus followed, showing a subperiosteal abscess had formed around the margins of the opening in the bone. After freely evacuating the pus, the wound was cleansed with a bichloride-of-mercury solution and packed with iodoform gauze. 7 P.M., temperature, 100°; the headache was entirely relieved, and the swelling very much reduced.

5th.—The condition of the patient to-day is markedly improved, there being less secretion from the nose and from the external opening; the swelling is still further reduced; no pain; the temperature is normal and has remained so up to the present date.

9th.—To-day there is no swelling in the frontal region and, while the quantity of secretion is very much reduced, there is still some pus coming through the external opening, as well as from the nose. The daily irrigations and the introduction of a gauze wick in the external opening are still continued.

I have gone somewhat into detail in relating the histories of these two cases, because they illustrate two different phases of this affection, and I have endeavored to show that no matter how carefully the technique of these operations is followed out, infection occasionally follows; for it must be remembered that we are exposing an aseptic wound to an infection with a most virulent secretion when the sinus is opened, and notwithstanding the careful antisepsis employed it is not possible in every instance to completely destroy the highly infectious character of this pus.

Case I illustrates very well that variety of abscess of the frontal sinus which is so frequently complicated with orbital abscess, and consequently is met with more frequently by the ophthalmologist than by the rhinologist. Case II is the variety that we, as rhinologists, see most frequently. The clinical history of these cases is probably the same up to a certain stage, and that is the complete occlusion of the fronto-nasal duct, when the pent-up pus makes a vent for itself at the thinnest part of the sinus, which is the inner part of the floor, and we then have an orbital abscess resulting, which so frequently results in loss of vision.

In my last communication on this subject, read at the meeting of the association in Washington, I stated my preference for the external method of operating upon these cases, believing that the intranasal methods were dangerous and failed to give complete relief in those chronic cases which were complicated with caries to any extent, and I advocated the operation as originally devised by Ogston and later practised by Luc—that is, the median operation with drainage through the nose by means of a drainage tube. While this is the method that has found the greatest favor with operators during the past eighteen months, I believe the method which I have described will be found to possess many advantages over the Ogston-Luc operation. In the first place, it does away with the median incision, which in many instances leaves a scar which is to a greater or lesser degree visible; while the incision through the eyebrow affords just as wide a field for the operation, and the resulting scar is completely hidden by the hair of the eyebrow. In the second place, the drainage tube, which in itself is frequently a source of great irritation, can be dispensed with. This, I think, is a great step in advance in the treatment of these cases, for the gauze for the first few days acts as a drain, and after its removal the opening between the nose and the frontal cavity being of sufficient size permits of a free and constant drainage from the sinus into the nose.

The opening through the ethmoid bone should be large and sufficiently free to permit a complete removal of all caries of the ethmoid cells, which in my experience nearly always complicates chronic abscess of the frontal sinus. After the removal of the drainage tube the opening through which it passes has a tendency to contract, and if an occasion should arise after its removal for a continuance of the local applications to the sinus, the passage is frequently difficult to find, and the passage of instruments through it very painful. Such occasions arise frequently long after the patient has been discharged cured, as many of you who have had much experience with the treatment of abscesses in the accessory sinuses can testify to the readiness with which inflammations in these cavities are reexcited by a simple rhinitis.

A CASE OF
DISEASE OF THE ANTRUM AND THE FRONTAL AND ETHMOIDAL SINUSES.*

By JOHN W. FARLOW, M. D.,
BOSTON.

R. M., twenty-seven years of age, gave me the following facts in regard to his previous history:

In 1887 he had a severe attack of scarlatina, which left a swelling in the corner of his left eye. The attending physician thought it had better be lanced, but his incision gave exit to a little watery fluid only and the lump gradually grew larger. In 1895 he consulted two oculists, to see if something could be done to improve his looks, the eye protruding somewhat forward and to the left. They advised letting the eye alone unless it troubled him more. In November, 1897, he caught a severe cold, which caused the eye to close and the lump to swell beyond the level of the nose, and the eye was pushed far to the left, forward and downward. The deformity was so great that while walking in the street people used to stop and stare at him. He was then seen by two oculists, who advised an operation under ether and an incision under the eyebrow and down the nose. One of them suggested the removal of the eye. They were of the opinion that a tumor was the cause of the ocular displacement. Vision was not impaired, except that the red, swollen, and œdematous lids were nearly closed. There had been an overflow of tears for some time, and there was more or less pain in the head since the recent swelling began.

I saw him first at this time, and found the nearly closed left eye projecting forward beyond the bridge of the nose and displaced outward and downward. At the inner side of the orbit, just under the eyebrow, was a painful, sharp, bony projection, as if pressure from the inside had forced the bones out. There was considerable thickening of the bones below the eye, the superior maxilla and part of the malar. The condition was growing rapidly worse. There was no history of nasal discharge at any time. Examination of the interior of the nose showed entire absence of secretion other than a little healthy mucus; no pus in the middle meatus, and none appeared after wiping out the nose and using cocaine to retract the tissues. The middle turbinated bone was somewhat enlarged in its anterior portion and pressed against the sæptum. The teeth were all sound in the upper jaw, and transillumination showed both sides of the face dark and was of no positive value. I made no exploratory puncture of the antrum until later.

The increasing severity of the symptoms made immediate action necessary. The existence of marked displacement of the eye, with entire absence of discharge from the nose, had naturally enough led to the conclusion that a tumor, most accessible by an external operation, was the cause of the symptoms. It seemed to me, however, that the want of an exit into the nose had caused retention of secretion in the frontal and ethmoidal sinuses, and that in so acute a case we might hope for relief by establishing drainage into the nose.

With a cold-wire snare I removed the anterior end of the middle turbinate, and there immediately appeared a profuse discharge of yellowish, tenacious fluid, which now and then ballooned out so as to resemble a large polyp. When this was gently wiped away more took its place, and at times it was clear like water, but always tenacious. Those who saw the operation were astonished at the amount of the discharge, which was estimated at three or four ounces. Pressure on the swelling at the angle of the eye hastened the flow somewhat. With a punch I enlarged the opening I had made and washed out the cavity. The symptoms were immediately relieved, the eye began to return to its normal position, and the projection at the corner of the eye receded very much.

The fluid contained much mucus, a few fatty degenerated cells, fairly numerous desquamated cylindrical epithelial cells lined with many cilia, occasional leucocytes, and a little blood. Examination for organisms was negative. Diagnosis: A chronic catarrhal process.

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* Read before the American Laryngological Association at its twentieth annual congress.

Subsequent treatment has consisted in removing more of the middle turbinate, curetting and cutting the ethmoidal cells to secure free drainage, and washing out the cavity with mild cleansing solutions. The discharge gradually diminished and was always odorless, and the patient expressed himself as much relieved.

Having in mind the frequent association of antral disease with affections of the frontal and ethmoidal sinuses, I made an exploratory puncture through the inferior meatus, where the bone proved to be much thicker than usual, and washed out a large amount of flocculent secretion. I repeated the puncture several times, and always with the evacuation of considerable odorless discharge.

The amount of secretion from the nose is now but very little. After extraction of the first molar tooth I drilled through his very thick alveolar process into the antrum a few days ago, and he is now washing out the cavity twice a day with a cleansing solution.

The case is of interest from its previous history, apparently following scarlatina, the absence of symptoms other than deformity for a number of years, the thickening of the superior maxilla, and particularly from the absence of discharge in the nose. I did not think an incision through the frontal bone was advisable, because there seemed good reason to hope that establishment of drainage into the nose might be sufficient. If a frontal opening were made, it might be difficult to make an opening down into the nose in the usual way on account of the long-standing deformity, and the ethmoidal disease would require treatment by the nose in addition.

The opening into the ethmoidal cells by removing the anterior end of the middle turbinate proved much easier than I had expected, for I had supposed that this would be only a step toward giving access to the natural openings of the accessory cavities, which would require to be probed and enlarged before the discharge was reached. The pushing of the eye outward, downward, and forward, together with the large amount of discharge at the time of the first operation, indicate an implication of the frontal sinus as well as the ethmoidal cells, and it is very possible that the antrum was involved secondarily. The fact that the middle meatus was free from polypi and other obstructions made the absence of pus in that region seem very strange, when we consider how large an amount of secretion there was in the cavities which drain directly into this meatus.

THE TREATMENT OF TETANUS BY MEANS OF INTRACEREBRAL INJECTIONS OF ANTITOXINE,

WITH A RÉSUMÉ OF REPORTS OF CASES, AND A FEW REMARKS ON THE TECHNIQUE OF THE INJECTION.

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A few months ago E. Roux and A. Borrel published the results of very interesting experiments which they made at the Pasteur Institute, in Paris.* Taking a portion of the brain substance of a guinea-pig, they crushed it with some tetanic toxine and centrifugalized the mixture; this separates two layers: the upper layer is an opalescent fluid, the lower is the nervous substance. The upper layer is found to contain very little toxine, or none at all, while the nervous substance holds the tetanic poison.

Thus, that which takes place in the experiment is exactly what occurs in the organism: the tetanic toxine is taken up by the nerve cells. According to Marie, the poison reaches the nervous centres by two routes: a part follows the course of the nerves and is fixed by the cells of the spinal cord; it is for this reason that in animals the contractions always begin in the region in which the injection has been made, and in man generally in the wounded part; another portion of the poison enters the blood, whence it is extracted by the nervous cells; thus, the cells of the cerebrum can be affected by the toxine brought to them through the circulation.

Furthermore, Roux and Borrel found that when the toxine was injected directly into the brain of guinea-pigs, the dose required to cause tetanus was much smaller than when a subcutaneous injection was made. "*Cerebral tetanus*" results from the former, owing to the nearly immediate fixation of the tetanic poison, and the symptoms are excitement, intermittent convulsive attacks, motor disturbances, and polyuria.

Rabbits immunized against tetanus and resisting the hypodermic injection of a several times mortal dose of toxine succumbed after having received in the brain a dose which, if introduced into the thigh of a fresh rabbit would not even have caused local symptoms. On the other hand, a dose of toxine capable of giving cerebral tetanus failed to cause it in a fresh rabbit after one drop of blood of one of the immunized rabbits, taken at the time of the intracerebral injection, was added to it; the immunized animal itself died as the result of the intracerebral injection of toxine.

The authors concluded from these experiments that "*the tetanic antitoxine, when injected into animals, remains in the blood, whereas the toxine is extracted from it and fixed by the nerve cells. The antidote does not come in contact with the poison, and the two substances, though so near each other, fail to meet. The serum is efficacious against the toxine which is placed under the skin because the greater part of it enters the blood, but it proves powerless against the poison that has already reached the nervous elements.*" This is why in man, as well as in animals, the subcutaneous and intravenous injections so often fail. When they are resorted to, the nervous system has already fixed a smaller or greater quantity of toxine, and, while the antitoxine thus administered neutralizes the toxine circulating in the blood and limits the poisoning, it does not reach that which is attached to the spinal or cerebral cells. When the intoxication has advanced too far, the toxine diffuses from one nerve cell to the next, protected from the antidote, and the disease runs its course.

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* *Annales de l'Institut Pasteur*, April, 1898.

So, Roux and Borrel concluded that, in order to bring about a cure in a case of tetanus, the antitoxine must be placed where the toxine is acting in order to preserve the vital portions of the cord before they are affected.

Accordingly, they treated with intracerebral injections of antitoxine forty-five tetanized guinea-pigs; thirty-five of them recovered. Seventeen others were treated with subcutaneous injections; only two of them survived. Seventeen check guinea-pigs, not treated with the serum, all died. Theory and experimentation agreed. Antitoxine introduced into the brain protects the upper part of the cord when the lower portion is already affected by the poison; but it does not cure the lesions that have already taken place; the contractions existing at the time of intervention persist for some time; and Roux and Borrel state that if the medulla is already poisoned (shown by impaired deglutition, and possibly respiratory disturbances) death can not be prevented.

After the excellent results obtained in animals, it remained to try the treatment in man. It might be objected that the risks incurred are numerous; but, since it is the only chance the patient has, he should receive the benefit of it.

However, after some consideration, it can be seen that the risks are really trivial. If the intracerebral injection is made in a neutral area, such as the fore part of the frontal lobes, the results of the trauma are minimized; the injury caused by the fine hypodermic needle is trifling, the quantity of serum injected is small, and, being introduced slowly, no undue compression is caused; hæmorrhage from the dura and pia is easily avoided; the button of bone removed being preferably small, healing of bone takes place rapidly, and no subsequent adhesions, leading to compression, are likely to occur.

It must be added that, notwithstanding the intracerebral injection, it is necessary, for obvious reasons, easily deduced from what I have said, to continue to give antitoxine intravenously or subcutaneously for a few days; the toxine in circulation with the blood, together with that which continues to be secreted at the site of injury, is thereby neutralized and can not affect the nervous centres.

The feasibility of the procedure was demonstrated soon after Roux and Borrel had given out the results of their researches. The first case was successfully treated about two months later.

The following is a *résumé* of the cases which, to my knowledge, have thus far been treated abroad:

Case I.—Reported by Chauffard and Quénu (*Presse médicale*, June 18, 1898; *New York Medical Journal*, July 9, 1898). Boy, aged sixteen years, gardener. Injury: Greenhouse sash falling on his hand and crushing the tips of the index and ring fingers on April 8th.

First symptoms, April 22d.

On April 25th subcutaneous injection of twenty cubic centimetres of antitetanic serum.

April 26th.—Trismus, sardonic grin, well-marked tetanus of the trunk. Operation by Quénu. Injection by Roux of four cubic centimetres of serum, concentrated one half (ten parts dried and then redissolved in five parts).

April 29th.—Twenty cubic centimetres of serum subcutaneously.

May 1st.—Twenty cubic centimetres of serum subcutaneously.

2d.—Ten cubic centimetres of serum subcutaneously.

3d.—Twenty cubic centimetres of serum subcutaneously.

Decided improvement noticed on May 8th. Sat up on May 18th. Recovery. Patient presented some cerebral excitement with subdelirium and insomnia, which disappeared promptly.

Case II.—Bacaloglu's (*Gazette des hôpitaux*, June 21, 1898). M., aged thirty-eight years, gardener. No apparent wound or skin abrasion.

First symptoms, June 8th.

June 9th.—Subcutaneous injection of ten cubic centimetres of serum.

10th.—Sardonic grin, trismus, opisthotonos, frequent paroxysms of clonic spasms. Thirty cubic centimetres of serum subcutaneously at 3.30 P. M.

Operation.—Injection by Borrel of five cubic centimetres of concentrated serum. *Contractions of neck and thoracic muscles persist during anæsthesia.*

Death on June 11th at 7 A. M. by asphyxia.

Case III.—Du Hamel (*Médecine moderne*, August 10, 1898). Boy, aged fifteen years, son of a stableman. Injury: About June 20th was accidentally shot in the left hand.

First symptoms, July 2d: Trismus, contractions of muscles of neck and back.

July 3d, Operation.—Intracerebral injection by Borrel of six cubic centimetres of concentrated serum. Then twenty cubic centimetres subcutaneously. Gradual recovery. Left hospital on the twenty-second day following the operation.

Case IV.—Garnier's (*Presse médicale*, August 24, 1898). M., aged fifty-three years, driver. No injury, but two varicose ulcers on left leg.

First symptoms, June 1st.

June 6th.—Intravenous injection, ten cubic centimetres of serum.

8th.—Intravenous injection, twenty cubic centimetres of serum.

9th.—Subcutaneous injection, twenty cubic centimetres of serum.

Operation.—At time of operation, temperature, 38.2° C. (100.2° F.); pulse, 100; respiration, 44, and wholly diaphragmatic; frequent paroxysms of clonic spasms; opisthotonos; tonic contraction of thoracic muscles. Intracerebral injection by Borrel of six cubic centimetres of concentrated serum (three cubic centimetres in each hemisphere).

On following days about sixty cubic centimetres of serum were injected subcutaneously and intravenously. Improvement noted on June 11th. Cerebral symptoms (subdelirium, transitory illusions) from June 21st till about July 1st. Patient up on July 1st. Discharged from hospital on July 15th. Seen again on July 31st: Perfectly well, no signs of psychical disturbances.

CASE V.—Robert's (*Presse médicale*, August 31st). M., aged fifty-six years; works in a glue factory among animal *débris*. Wounded his right hand with a piece of bone on or about July 26th.

First symptoms, August 8th.

On August 9th, generalized contractions.

Operation by Sébileau at 7 P. M. Injection by Borrel of seven cubic centimetres of concentrated serum. *Trismus persists during anæsthesia.* During the night pharyngeal contraction appears, making swallowing of milk impossible. Death on August 10th, at 11 A. M., two days after first appearance of symptoms, and fifteen hours after operation.

CASE VI.—Ombrédanne's (*Presse médicale,* September 3, 1898). Boy, aged eleven years. Fell in the street on July 16th and cut his left knee on the edge of the muddy curbstone.

First symptoms, July 25th.

Operation on July 30th. Injection by Borrel of six cubic centimetres of concentrated serum. Subsequent subcutaneous injections of serum (? cubic centimetres).

Improvement on August 2d. Up on August 9th, though abdominal muscles are still somewhat contracted, and legs and arms a little stiff. Discharged from hospital on August 25th. No psychical disturbances.

CASE VII. — Heckel and Reynès's, of Marseilles (*Presse médicale,* September 7, 1898). Boy, aged eighteen years, stableman. Shows numerous skin abrasions.

First symptoms, August 15th.

Operation, August 17th. Death in syncope on August 18th, forty-one hours after operation, and eighty-one hours after appearance of first symptoms.

CASE VIII.—Delmas's (*Presse médicale,* September 17, 1898. Boy, aged fourteen years. On August 15th, fall—compound fracture of right forearm.

First symptoms, August 21st. On August 22d, severe trismus.

Operation, August 23d, 6 P. M. Death on August 24th, thirteen hours after operation, about seventy-two hours after first appearance of symptoms.

CASE IX.—Hue, of Rouen (*Journal des praticiens,* November 19, 1898). Boy, aged eleven years. Injury: Fall, causing compound fracture of radius; followed by suppuration and septicæmic œdema of arm.

First symptoms six days after accident.

Operation on Seventh Day.—Intracerebral injection of six cubic centimetres of concentrated serum and twenty cubic centimetres of ordinary serum subcutaneously.

Death on evening of same day.

It may be seen from these reports that in all the fatal cases the course of the disease was extremely rapid and severe, the infecting germs were in every case very virulent, and the nervous centres became rapidly involved. In three cases death occurred within fifteen hours following the operation—that is, before the serum could have had time to take effect. In the third fatal case (Case VII) death occurred forty-one hours after the operation; but in that case the infection had taken place through many small wounds, and was caused by a germ living in horse manure.

However, large doses of antitoxine, given intravenously, might have proved beneficial.

In Delmas's case (Case VIII) a septic vibrio was found in abundance in the wound, together with the tetanic bacillus.

In every case autopsy showed that the cerebral lesions caused by the injections were trifling, and could in no way have been the source of serious cerebral symptoms.

In the *Lyon médical* for November 6, 1898, is reported, by Martin, the case of a young man, eighteen years of age, who was seized with tetanic symptoms eight days after having stepped on a nail, and died rapidly. The cicatrix of the wound was excised, Quincke's lumbar puncture was made, and ten cubic centimetres of antitetanic serum injected under the arachnoid, but without success.

Another French case is said to have been treated successfully, but I have not found any report of it.

At a recent meeting of the *Société de chirurgie* (Paris, November 6, 1898), Lucas-Championnière reported two cases of tetanus following laparotomy, which were treated after the new method, but without success; in both cases the intracerebral injection was made within twenty-four hours after the onset of symptoms.

In this country, so far as I know, three cases have been treated.

The first case was treated in Passaic, N. J., and a full report of it is published by Dr. Charles A. Church in this issue of the *Journal.*

The *second case* occurred in Brooklyn. As it will be reported at length in the near future, by Dr. N. Robinson, of Brooklyn, I will only give a few salient points concerning it.

The patient was a woman, forty-three years of age, in whom the first symptoms appeared on November 5th, ten days after a laparotomy. I call attention to the fact that the *first symptom* to appear was *difficulty in swallowing* and pain referred to the pharynx. Then trismus soon followed, and, in order, tonic contraction of the muscles of the neck, paroxysms of clonic contractions of the jaws, and the *risus sardonicus.*

On November 5th the patient received twenty-five cubic centimetres of antitetanic serum subcutaneously.

On November 6th, fifty cubic centimetres in median cephalic vein.

On November 7th, no improvement having followed the injections of antitoxine, and the patient rapidly getting worse, I suggested the intracerebral method. However, I informed Dr. Robinson that the case being, as the symptoms indicated, one of the *bulbar* type of the disease, the prognosis, according to Roux and Borrel's teaching, was bad. Nevertheless, the operation was performed on November 7th at 9 P. M.; six cubic centimetres of slightly concentrated serum were injected into the cerebrum, and fifty cubic centimetres subcutaneously. (See Remarks.)

Some pus was taken from the abdominal wound and was subsequently found to contain the tetanus bacillus, a large septic bacillus, and streptococci.

On the following day the sardonic grin had disappeared. Subcutaneous injections of serum were regularly given to prevent any further infection from the germs contained in the laparotomy wound. In all, seven hundred and fifty cubic centimetres were thus injected.

The patient gradually improved; the muscles of the neck relaxed, swallowing became possible and easier each day. The trismus steadily diminished.

On November 19th all tetanic symptoms had absolutely disappeared; patient could take plenty of nourishment, and did not complain of any pain.

On November 16th the patient's abdomen was greatly distended with gas, and enormous amounts of foul-smelling flatus were continually expelled. Then symptoms of acute nephritis (without the cerebral symptoms) were observed. It was thought that this nephritis was of toxic origin and due to the absorption of toxines from the abdominal wound, and also from the intestines, in which there was active decomposition. At the same time the patient was profoundly anæmic; she had been in that condition for several weeks, having lost large quantities of blood, owing to a uterine fibroma for which the laparotomy was performed. Finally, she died on November 30th, eleven days after the total disappearance of tetanic manifestations. At no time were there any cerebral symptoms, not even headache. Autopsy was refused by relatives.

This case is especially of interest on account of the complications mentioned, and also owing to the origin of the tetanic infection. Borrel recently stated that tetanus of abdominal origin was particularly difficult to cure, so much so that at the Pasteur Institute, in Paris, they did not wish to treat such cases, saying that they were all fatal. As I quoted before, Lucas-Championnière reported lately two such cases treated unsuccessfully.

I attribute the subsidence of the tetanic symptoms in our patient to the fact that the operation was performed relatively early, and also to the repeated doses of antitoxine which were given subcutaneously. Unfortunately, the anæmia, the nephritis, and the septic condition of the bowels could not be mastered as successfully.

The *third case,* which occurred in Dr. F. L. Johnson's practice in Corona, L. I., proved to be fatal.

The patient, a man aged sixty-seven years, cut off the end of his left thumb while chopping wood in his cellar, on November 15th.

On Tuesday evening, November 22d (seven days later), the first symptoms of tetanus appeared.

On Wednesday he experienced some difficulty in mastication.

On Thursday, the 24th, he was attacked with general contractions. In the afternoon he was in opisthotonos, and paroxysms of clonic spasms were frequent. When I saw him, at 9 P. M., I was told that he had been semi-unconscious for several hours. He was at times in orthotonos and clonic spasms, shaking the whole body and causing intense pain, were repeated at intervals of a few seconds. (The tip of the injured thumb was suppurating, and the bone was exposed). During the chloroform anæsthesia the legs relaxed somewhat, but the muscles of the back remained partly contracted, and those of the left arm entirely so. The operation was performed without difficulty, and as soon as the patient recovered from the effects of the anæsthetic he could answer my questions very well. However, he was immediately seized again with clonic spasms; he spent a relatively comfortable night; the spasms were not so frequent, which fact, I think, must be attributed to the effects of the chloroform, for on the following day, about 11 A. M., the patient died asphyxiated (twelve hours after the operation, and about sixty-five hours after the onset of the symptoms).

It must be remarked that in this case *the contractions did not disappear during anæsthesia,* and death took place before the antitoxine could have produced any effect.

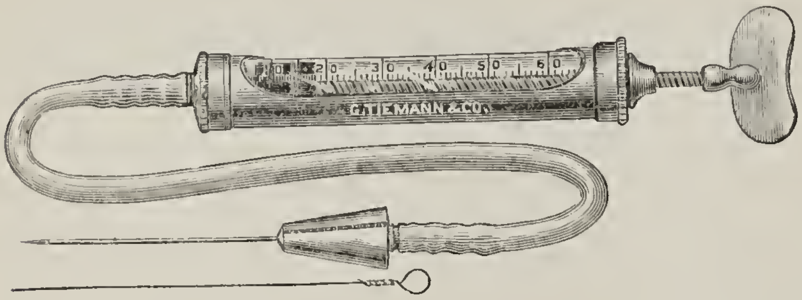
Remarks.—The injection is undoubtedly the most delicate part of the operation, and care should be taken, before attempting to make it, to ascertain that the syringe which is to be used works very smoothly, and is absolutely aseptic.

In the first operation (for which I was not prepared) I used an ordinary antitoxine syringe, with a rubber piston, on which was screwed a fine aspirating needle, 6.5 centimetres long (about two inches and a half). This was found to be very inconvenient, for, the injection having to be made drop by drop, it is well-nigh impossible to push the piston of the syringe steadily and with sufficient slowness for about ten minutes, and at the same time to prevent any motion of the needle. However, three persons held the syringe while the injection was being made, and, although the patient moved his head from side to side twice or thrice during the process, the operation was ended with much fear, it is true, that there might have been caused some unnecessary trauma. Fortunately, as the report shows, our fears subsequently proved to be groundless.

Nevertheless, I thought that the primitive appliance used in our operation could be improved upon. In Paris a syringe was used of which the piston rod was threaded so as to fit a thread inside of the cap; in this wise, the piston moves in the barrel by a screwing motion of the thumb piece. Furthermore, a piece of rubber tubing was used to connect the needle with the syringe. This arrangement does away with the difficulty in pushing the fluid steadily drop by drop, but it does not remove entirely the danger of tearing cerebral tissue in case of motion of the patient's head, or on the part of the operator.

To obviate this danger, I directed Messrs. George Tiemann & Co. to make for me, besides a syringe three cubic centimetres in capacity, provided with a piston rod and cap, as described above, a needle, the head of which is intended to fit the trephine hole made in the skull. As may be seen in the accompanying cut, the head of the needle is conical in shape and is provided with a groove. The dimensions of the cone were calculated to correspond with the size of my trephine (diameter of crown, seven millimetres—about a quarter of an inch), and are such that it can be safely introduced in the trephine hole and fixed firmly therein. With this needle and the flexible rubber tube connection, it is obvious that there is no possible risk of the needle moving after it has been properly inserted. It becomes, so to speak, a part of the patient's head, and one operator alone can, with ease and comfort, take charge of the injection, which is conveniently made in fróm ten to twelve minutes. The object of the groove is to afford a passage of escape to any fluid which might otherwise cause compression.

The advantages of this device were greatly appreciated by the author, who had occasion to use it in the last two cases mentioned. In the second case (Brooklyn) both injections, in either hemisphere, were made with perfect ease, the one in eleven minutes, the other in twelve minutes, and, although the patient turned her head twice, the needle did not move at all. In the third case (Corona) the injections were also made with perfect safety.



It is gratifying that in the first two cases treated successfully in America no cerebral symptoms whatever were observed.

I am glad to have this opportunity to express my sincere thanks to Professor R. F. Weir for kindness and advice, to Dr. Paul Gibier for valuable suggestions, to Dr. A. Létevé, of the New York Pasteur Institute, who kindly concentrated for me the serum used for the intracerebral injections made in the three cases treated here, and to my friend Mr. A. S. Kelly, who assisted me in the preparation of this article.

313 WEST TWENTY-THIRD STREET.

TETANUS:

TREATMENT BY TREPHINING AND THE INTRACEREBRAL INJECTION OF ANTITETANIC SERUM.

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THE case the report of which forms the basis of this paper has had a wide notoriety through the newspaper press, both in this country and in Europe, and has excited considerable popular interest. But the newspaper reports have contained so many misstatements, and the subject is of so much importance to the profession (as shown by the many letters of inquiry regarding it received from physicians), that an effort will be here made to present a plain statement of the facts of this case which, so far as known, was the first to be treated by this method in this country.

The operation was first suggested to me by Dr. G. E. Rambaud, of the Pasteur Institute of New York. He also gave me the theories and experiments upon which the practice is based, and the results in the Paris hospitals. These he will give to the profession in a separate paper.

I shall only report the progress and result of the treatment in my case.

CASE.—A. M. H., a man, aged twenty-seven, on the night of September 18th fell from a veranda at Delaware Water Gap and, putting his foot and leg through the glass of a window in the room below, had the calf of his leg cut almost entirely away. The wound was about fifteen inches long and from two inches and a half to five inches broad, with the flap of integument containing the belly of the gastrocnemius muscle attached only by a pedicle (two inches and a half broad by a half to three quarters of an inch thick) at the bottom of the wound, a short distance above the ankle joint, leaving the whole mass to be nourished alone by return circulation through this narrow pedicle.

He lay for two hours bleeding profusely before a physician could be found to dress the wound. In the morning he took the first train for home, which proved to be an express and would not stop for him; therefore he was obliged to get off at Paterson and wait for an ambulance to bring him to Passaic.

When he was admitted to the Passaic Hospital at 11 A. M., September 19th, he had a temperature of 98.6° F.; pulse, 100; respiration, 24.

Some additional stitches were taken in the wound; he was given a bath and put in bed. Through the day he was very restless, complained of pain in the leg, vomited large quantities of water and some brown liquid, was very thirsty, and in the evening became delirious.

Temperature, 102.8° F.; pulse, 140, irregular; respiration, 32.

Strychnine sulphate, a sixtieth of a grain, was given every four hours, and a fracture of a rib, which had been overlooked, was dressed with strips of adhesive plaster.

On the morning of the 20th he complained of great weakness, and pain in the leg. Discharge offensive. Pulse, 154. Morphine and stimulants. In the evening the flap was found to be gangrenous. He was taken to the operating room, anæsthetized, the flap was amputated, and the wound dressed with an ointment of zinc oxide, one part; cosmoline, six parts.

On the morning of the 21st, temperature, 100.4° F.; pulse, 98; respiration, 20; comfortable, sleeping, and taking nourishment.

From September 22d to September 28th temperature varied between normal and 100° F.; pulse between 80 and 100; patient ate well and slept well.

On the 29th, at 2 P. M., temperature was found to be 102°; pulse, 102; respiration, 26.

At 6 P. M., temperature, 102.4° F.; pulse, 108; respiration, 30.

September 30th, 8 A. M.—Temperature, 102.4° F.; pulse, 100; respiration, 26.

1 P. M.—Complained of stiffness of jaws and difficulty in eating; otherwise comfortable, up in chair, smoking cigar, eating clam bouillon, oatmeal, and egg on toast. Temperature, 100.4° F.; pulse, 100; respiration, 20.

Patient's father notified of the danger of tetanus and a consultation called.

There was some doubt in the minds of the consulting physicians whether it was tetanus. His general condition was good, and it was ascertained that about six months previous a friend of his had died of lockjaw, from an injury of the leg, and this patient was with him and helped to take care of him. Then the possibility that he had taken cold, or been strained at the time of his accident, was considered, and it was decided to give hypericum and echinacea in alternation, to use hot fomentations to the face and neck, and await results.

Under this treatment there was steady improvement; he could open his mouth wider, eat easier. Temperature between October 1st and 4th, 99° to 99.6°; pulse, 75 to 85; but face still sore and stiff.

On October 4th the stiffness of the jaw increased, and extended to the back of the neck, with slight tendency to opisthotonus, some difficulty in breathing, and rather profuse perspiration. Another consultation was held and the remedy changed to rhus toxicodendron; hot fomentations to face and neck used more actively and constantly.

At my visit on the morning of October 6th I found there had developed general tonic spasms; not, however, of very long duration, but frequent; patient very restless, could not eat, breath offensive, moaning with pain. Temperature, 100.8° F.; pulse variable, sometimes 132, very weak, sometimes so rapid that it could not be counted.

As soon as it could be obtained, twenty-five cubic centimetres (about an ounce) of antitetanic serum (Gibier's) was administered subcutaneously, and repeated eight hours later. At night, chloral hydrate, thirty grains, was given per rectum.

He rested a little through the night, slept about two hours, and on the morning of the 7th of October seemed a little better; spasms less violent and less frequent; perspiration very free.

This improvement was, however, only temporary, and by 10 A. M. he was worse than ever. It was then decided to trephine and inject the serum into the brain substance.

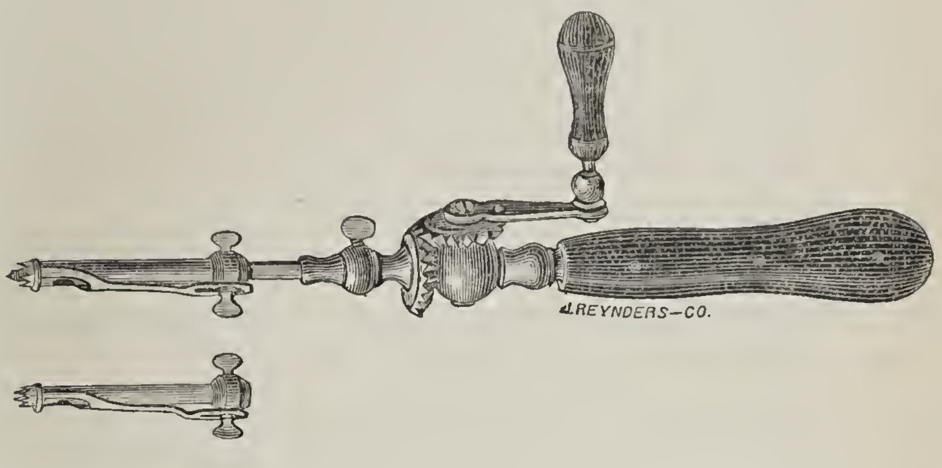
The patient was anæsthetized in his bed and then taken to the operating room for operation.

Operation.—The scalp was shaved, rendered aseptic, and the point of selection measured off and marked.

The aim was to reach the second or middle convolution of the frontal lobe, thereby avoiding the motor centres. The following measurements were used for this purpose: A point six centimetres and a half (about two inches and a half) above the external angular process of the orbit and four centimetres (about an inch and three quarters) from the median line (or four centimetres above the frontal eminence and four centimetres from the median line).

A "horseshoe" incision, about three fourths of an inch broad, was made around the point marked, with the base posteriorly; hæmorrhage was stopped, the periosteum scraped back, and a small drill trephine (similar to the one pictured in the accompanying cut), about a quarter of an inch in diameter, with a guard to prevent injury to the dura mater, was used cautiously until the button of bone, a little less than a quarter of an inch in diameter, was loosened and removed.

A long, fine hypodermic needle, attached to the syringe containing the serum specially prepared for intracerebral injection, was pushed into the brain through this opening, at right angles to the surface of the skull at that point, along the axis in which the trephine was used, to the depth of four and a half to five centimetres (two to two and a third inches), and about sixty minims slowly injected, drop by drop, taking from ten to twelve minutes for the process. The needle was then withdrawn, the scalp carefully adjusted, stitched with fine catgut, and powdered with boric acid. The same operation was repeated on the opposite side. The wounds were then covered with bichloride gauze held with a roller bandage.



The leg was dressed while under the anæsthetic, and, because of the large suppurating surface, twenty-five cubic centimetres of antistreptococcus serum (Gibier's) was given subcutaneously, and twenty-five cubic centimetres of antitetanic serum injected into the veins. The patient returned to bed at 6.30 P. M.; pulse, 100.

Scraps of History.—While under the anæsthetic there were no spasms, but, as the effect of the anæsthetic wore off, the spasms returned, some of them very severe and lasting from two to three minutes; patient very restless; intensely thirsty; constantly calling for drink.

9.30 P. M.—Temperature, 102.4° F.; pulse, 112; respiration, 38.

October 8th.—Three injections of serum, twenty-five cubic centimetres each, were given, eight hours apart. In the afternoon the spasms became less severe, patient more quiet. Temperature, 102° F.; pulse, 100 to 120; but in the evening he became more restless again; had some severe spasms though not so frequent. Twenty grains of chloral hydrate were given at 11.30 P. M., and repeated at 1.30 A. M. Slept most of the time until morning; awakened occasionally by spasms. At 4.40 A. M. had large movement of bowels.

On the 9th, at 2 P. M., again anæsthetized, leg dressed, serum injected; chloral, twenty grains per rectum, administered, so that it would take effect as the general anæsthesia passed off. Chloral repeated at midnight, and eight minims of Magendie's solution hypodermically at 3.30 A. M. on the 10th.

At 7 A. M., October 10th, temperature, 98.4° F.; pulse, 87. Decided improvement. Patient is comfortable; takes milk, cocoa, lemonade, ice cream, clam bouillon, orange juice.

From this time on he was anæsthetized daily, his leg washed with Lugol's solution, and dressed with cotton wrapped in gauze and soaked in boric-acid solution; the antitetanic serum was given intravenously twice, and then once a day (each dose, twenty-five cubic centimetres). In all, about three hundred and seventy-five cubic centimetres of serum were injected.

On the 11th an urticaria appeared, covering the entire body, but soon passed off as the injections of serum were given less frequently.

Some pus taken from the wound in the leg on October 16th was examined at the New York Pasteur Institute, and the bacilli of tetanus found. Injected into the leg of two guinea-pigs, it produced spasms limited to the legs injected, but recovery eventually followed. The virulence of the germs had evidently been greatly lessened by the intravenous injection of serum, by the local application of Lugol's solution, and also by the antitoxine undoubtedly contained in the secretions from the raw surface of the wound. The spasms had about disappeared on the 25th of October, when the patient was again taken to the operating room; twenty-four small skin grafts taken from his brother's arm were placed upon the wound in his leg, held with rubber tissue, and the leg dressed as usual. Many of these "took." On November 1st he was out of doors, in a wheel chair; on the 3d, walked about the hospital on crutches, and on the 7th went to his home, where his leg has been dressed with the zinc ointment and a flannel bandage until the wound is entirely healed. On the 1st of December the patient, having good use of his leg, is able to walk about the house without limping very noticeably; can go up and down stairs, one foot after the other, in a natural way. Cheeks rosy, eyes bright, complexion clear, mind active. Is well. Says he feels stronger, weighs more, and is in better condition than he had been for a long time before the accident.

Therapeutical Notes.

Suppositories for Vaginismus.—In the *Gazette hebdomadaire de médecine et de chirurgie* for October 2d the following formulæ, each for one suppository, are attributed to Labadie Lagrave and Legueu:

℞ Cocaine hydrochloride .... ¾ to 1½ grain;
Cacao butter .... 75 grains;
M.

℞ Powdered opium, } each... ½ grain;
Extract of belladonna, }
Cacao butter .... 75 grains.
M.

℞ Morphine hydrochloride... ⅓ to 1 grain;
Cacao butter .... 75 grains.
M.

℞ Iodoform .... 8 to 15 grains;
Cacao butter .... 75 "
M.

Lutaud's Vaginal Suppositories.—The formula is given as follows in the *Journal de médecine de Paris* for October 23d:

℞ Oil of eucalyptus .... 180 grains;
White wax, } each .... 1,350 "
Cacao butter, }

M. Divide into four vaginal suppositories shaped like a bougie.

They are used in acute inflammation of the vagina and in vaginismus.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 17, 1898.

INTRACEREBRAL INJECTIONS OF ANTITOXINE IN THE TREATMENT OF TRAUMATIC TETANUS.

In our issue for July 9th we remarked at some length upon Roux and Borrel's plan of treating certain grave cases of traumatic tetanus by injecting the tetanus antitoxine into the brain. At that time the report of only one case had come to our knowledge, the one published by Chauffard and Quénu. That case had turned out favorably, and we ventured to say that it seemed to us that Roux and Borrel had made a substantial advance in the serum treatment.

Several other cases have since been reported, and they are summarized by Mr. Rambaud in this number of the *Journal,* in that portion of his article which precedes his mention of three American cases of recent occurrence, one of which is reported more fully in our present issue by Dr. Church, of Passaic, in whose practice it occurred. In all, Mr. Rambaud deals with twelve cases, of which five ended in recovery and seven terminated fatally. It is to be noted that in one of the two American cases in which death followed we may fairly say that the tetanus was overcome, but the patient died in a septicæmic condition complicated with symptoms of grave renal disturbance and with profound anæmia from metrorrhagia of considerable duration, and that in the other one the fatal result seems to Mr. Rambaud to have taken place before the antitoxine could have produced any effect.

It seems to us that this is a very encouraging showing for a procedure undertaken for the purpose of overcoming a diseased condition that in all probability would end fatally if treated in any other way. It is to be borne in mind that it is only for the graver cases, those in which the *materies morbi* has actually gained access to the vital parts of the central nervous system, that the intracerebral employment of the antitoxine is intended. If the proportion of recoveries from such a condition thus far shown—five recoveries out of twelve cases, and truly it might be set down as six out of twelve—can be maintained, we think it must be admitted that the procedure offers more ground for hope than many another one that is resorted to without any hesitation in various conditions of grave disease.

The fact that in but very few of the favorable cases reported was there any physical disturbance attributable to the puncture of the brain and the injection of fluid into its substance tends to show that the operation does not perceptibly damage the patient's chances of survival even in the instances in which it does not save him. Nevertheless, it is not one to be resorted to indiscriminately in cases of tetanus or without due reflection in the graver ones.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The report of the surgeon-general of the navy will be read with unmixed pleasure. It is complete, exhaustive, and in every way satisfactory. Naturally, the chief interest centres upon that portion of it which relates to the recent war, which is first dealt with. The other subjects engaging the surgeon-general's attention are the naval hospital fund, the estimates, general repairs at naval hospitals, special and contemplated improvements and repairs at naval hospitals, cemeteries at naval hospitals, navy yards, naval stations, receiving ships, navy pensions, medical associations, the United States Naval Museum of Hygiene, the outbreak of the yellow fever at Key West, and the medical corps of the navy.

The report begins with a well-deserved tribute to Surgeon-General Tryon, "whose good judgment and foresight in putting in order and equipping the several naval hospitals was of incalculable service to the bureau in enabling it to properly care for the sick or wounded of the navy during the late war."

The death of Surgeon-General Bates seventeen days after his appointment to fill the vacancy occasioned by the retirement at term of Surgeon-General Tryon was followed by the appointment of the present surgeon-general, who has fully established his capacity for the responsible office. Especial commendation is called for on the promptitude with which preparations were made for possible emergencies immediately on the blowing up of the *Maine*. "The naval hospitals were equipped to their full capacity; plans were prepared for building pavilion wards on the hospital grounds to give accommodation to any number of sick or wounded that the bureau might be called upon to care for. The director of the naval laboratory prepared to furnish medical and surgical supplies in any quantity, at any place, and immediately." The possibility of an auxiliary navy was foreseen and provided for, and the surgeon-general may well be pardoned the pride with which he says: "There has not been an instance during the war of any vessel having had to wait for her medical stores."

Medical boards of examiners for appointments of candidates as assistant surgeon received applications from over two thousand applicants; but only a few of these were examined, and but forty-two were appointed on the outbreak of the war. Reference is made to the fate of one of them, Dr. John Blair Gibbs, as the only medical officer killed during the war.

The work of the department in the inauguration of a system of hospital relief ships, which the United States has the honor of being the first country to carry into execution, thereby setting an example which will doubtless be followed by other civilized nations, is fully detailed. A reference to the fact that the *Solace* on her outward trips invariably carried stores and supplies for all vessels in Cuban and Puerto Rican waters leads us, of course, to the supposition that the stores and supplies were purely medical, though it is not so stated; for otherwise a hospital relief ship would forfeit the protection of the Geneva Convention, if it were shown to be bringing other aid of whatever kind to a belligerent.

A well-deserved tribute is paid to the women supplied by various societies, and to the efficient service rendered by the officers of the naval reserves.

The reception of the Spanish prisoners was a large order, but it was promptly and efficiently met, and the duties imposed by it were carried out with the same success as in the case of all other duties imposed by the war.

The surgeon-general closes this part of his report as follows: "The medical officers of the *Solace* have the honor of inaugurating the first complete system of antiseptic surgery at sea. They have adapted means to ends, have improvised apparatus, have been fertile in expedients, and have the satisfaction of having demonstrated that with skill and intelligence the percentage of mortality among the patients on a well-equipped ambulance ship will be no greater than in the hospitals on shore."

We have not space to deal with the other sections of the report, but they all show the same keen foresight, the same definiteness of purpose, and the same capacity of administrative power as was displayed in matters of warfare, and the impression left behind by this report is that in the medical department, as in all others of its navy, the American people may well take an honest pride. Now that the country is taking its proper place among the nations of the earth, let them see to it that they do not in the future hamper its efficiency by any want of reasonable support, financial or otherwise.

MINOR PARAGRAPHS.

THE SOLDIER'S UNIFORM.

APROPOS of our article on this subject in the *Journal* for December 10th our attention has been called to a passage in General Lord Wolseley's *Soldier's Pocket Book.* He says (page 4): "The soldier is a peculiar animal that can alone be brought to the highest efficiency by inducing him to believe that he belongs to a regiment which is infinitely superior to the others around him. In their endeavors to foster this spirit, colonels are greatly aided by being able to point to some peculiarity in dress or title, and for this reason it is most unwise to take from a regiment any device or peculiarity of any sort in which the men take a pride. The spirit of general assimilation that has for some years past found such favor with our clothing department was borrowed from abroad; but in carrying it out we have gone into extremes, as is our wont. An attempt to change the dress of the Madras army led to the mutiny of Vellore. The Duke of Wellington said of his officers in Spain, that many of his best men were the greatest dandies. The better you dress a soldier the more highly he will be thought of by women, and consequently by himself. Dress isof much more consequence than civil ministers imagine. Before the Crimean war our dress regulations, which were opposed to all comfort and all common sense, had been carried out so strictly to the letter of the law, that there was a rebound as soon as men got free from the surveillance of town majors. This feeling was fostered, among the younger officers especially, by the spirit of the public press, which went toward inculcating the idea that everything old was bad. Many men before Sebastopol seemed to pride themselves upon looking as little like soldiers as possible. To be unshaven and to be dirty was supposed by some to be the sure sign of a good officer. Such views and ideas run like wildfire through an army, to its serious injury. Whatever the officers think fine, the men will think so too." It is gratifying to us to find that in the expression of views which are perhaps novel in this country, but of the importance of the bearing of which upon discipline in all respects, and consequently especially in a sanitary respect, we have no doubt, we have the support of a general of worldwide renown and extensive practical experience, and we therefore all the more boldly press our views upon the notice and consideration of the authorities.

A NEW SPANISH GYNÆCOLOGICAL JOURNAL.

WE have received the first number of *La Gynecologia Catalana,* for August, 1898. It is edited under the direction of Professor J. Queraltó, and published monthly in Barcelona, in the Catalan dialect. The first issue consists of thirty-two large octavo pages of reading matter. Following an editorial salutatory, which closes with the sentiment "*Per la Ciencia forta! Per la Patria lliure!*" we find an article on Recent Progress in Vaginal Hysterectomy, by the editor in chief, and one on Thymol and Ichthyol in the Treatment of Metritis, by Professor Fontbona. Then comes an extract from the proceedings of the recent Congress of Alienists and Neurologists of France and French-speaking countries. The journal is not strictly confined to gynæcology, for it has a *Secció polylogica* in which is presented a translation of an article of Maragliano's on the serum treatment of pulmonary tuberculosis. The number concludes with several abstracts of articles published in other journals. Our young Barcelona contemporary will doubtless prove very valuable to a large *clientèle,* and we wish it the greatest success, although we wish it had been printed in Castilian.

THE SURGEON'S RESPONSIBILITIES.

THE responsibilities which in these days have to be borne by the surgeon are heavy enough. To attempt to saddle him with the responsibility for septicæmia, unless it is clearly shown to be due to some serious negligence on his part, is altogether unreasonable; yet, according to the *Journal of the American Medical Association* for November 26th, this is what happened in Lyons, France, where a woman's husband sued for damages in consequence of the death of his wife from sepsis after an operation. We learn that the court decreed that it "would be excessive to hold the surgeon responsible for the unforeseen, extraordinary, sometimes even improbable complications that may occur in any surgical intervention, even the most inoffensive. Such responsibilities would render the practice of medicine impossible in many cases." The plaintiff was condemned to pay the surgeon's fee of two hundred francs and the costs of the suit, as the "death was merely a much-to-be-regretted misfortune, escaping all the previsions of science, as occurs at times, in spite of all the precautions suggested by human wisdom." It is well that even courts possess common sense—sometimes.

THE SPERMINE OF GUINEA-PIGS IN CANCER.

AT the Congress of Gynæcology, Obstetrics, and Pædiatry recently held at Marseilles, M. Platon (*Progrès médical,* November 19th) reported the results of treatment tentatively made in the Hôtel-Dieu at Marseilles. They showed that injections of the spermine of guinea-pigs made in cases of cancer unsuitable for operation and insusceptible of any but palliative treatment produced an augmentation of weight, an amelioration of the general condition, and an increase of appetite. The author thinks that possibly the results would be even better if made with ovarian extract after Spillmann's method, who lauds these extracts highly in the chloroanæmia of young girls.

SAWDUST URINALS.

IN our issue for October 1st we quoted from the *Lancet* for September 6th a portion of a letter advocating sawdust urinals. The *British Medical Journal* for November 19th comments on a letter in its columns from Lieutenant-Colonel Mayne, of the Indian Medical Staff, as follows: "The opportunities afforded of testing an arrangement of this kind in an Indian military camp enable Colonel Mayne to speak with some authority. Excellent filters for the lines seem to have been made of half barrels. A paraffin tin was placed under each of these tubs, and the liquid which filtered through the sawdust in the barrel fell into the tin and was removed. It was odorless and inoffensive. The upper layer of sawdust is better removed from time to time. One great advantage of the sawdust conservancy system is the lessening of the fly nuisance. The working expense is also fortunately slight. In providing in this country for the large number of ladies brought together lately at a great musical festival lasting over several days, temporary conveniences were run up of an exceedingly simple character in an easily accessible, open, but walled-in portion of the premises. A few wooden partitions were curtained off. In each cabinet an ordinary seat, similar to those of pedestal closets, rested on brackets, and beneath was placed a small portable pail filled with sawdust. These pails were changed as soon as the audience had quitted the building. During the whole time, notwithstanding the close, muggy weather which prevailed, every cabinet is said to have been perfectly sweet." Such a method commends itself at once as a valuable addition to the sanitary measures needed in our camps, and we think that its adoption would be a wise move.

THE UNACKNOWLEDGED CLIPPING HABIT INCREASING.

We have been amused by seeing some clever verses on the Triumphs of Modern Surgery, which we quoted from and accredited to their proper source, requoted from ourselves without acknowledgment by several papers, notably by one of our local contemporaries. How do we know that it was quoted from our journal and not directly from the original? Very simply. For metrical reasons we took the liberty of changing the word "except," with which the last line of the original commences, into "excepting." Moreover, in one instance our introductory note to the verses is "lifted" verbatim. We rarely insert a clipping without some alteration, so we shall soon be able to collect quite a catalogue of medical journals that are afflicted with the unacknowledged clipping habit. We may add that we have lately dropped several publications from our exchange list in consequence of their frequent indulgence in this habit, and we intend to continue that course more rigorously in the future.

TYPHOID FEVER IN HONOLULU.

The *Pacific Commercial Advertiser*, published in Honolulu, gives, in its issue for November 22d, a report of a meeting of Honolulu physicians at which statements which had appeared in one of the medical journals of New York in regard to the prevalence of typhoid fever in the city were resented and characterized as inaccurate and misleading. It would seem from this report that the disease is rare in the city proper, and that what there is of it in the camps has sprung from persons affected with it and taken in the transports from our Pacific coast.

THE DEATH OF SIR WILLIAM JENNER.

The death of Sir William Jenner is announced to have taken place on December 12th. Ripe in years as he was, being eighty-three years old, the medical profession of the world was far from feeling able to spare him, although he had retired from practice. His was a most genial personality, and it made itself felt in an uncommon degree in his writings. To say anything of his attainments in medicine or of the value of his contributions to our literature would be superfluous.

ITEMS.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 13th inst., the following papers were presented for discussion: The Treatment of Pulmonary Tuberculosis in Patients who can not leave Home, by Dr. DeLancey, of Rochester; and Abnormities of the Blood and the Ætiology of Asthma, by Dr. George N. Jack, of Depew, N. Y.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 10, 1898:

DISEASES.	Week ending Dec. 3.		Week ending Dec. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	64	16	33	15
Scarlet fever	115	5	134	6
Cerebro-spinal meningitis	0	2	0	2
Measles	106	2	117	3
Diphtheria	156	24	151	35
Croup	20	11	15	7
Tuberculosis	150	159	162	157

The St. Louis Medical Society.—At the last meeting, on Saturday evening, the 10th inst., the following papers were to be read: The Treatment of Pelvic Suppuration, by Dr. R. M. Funkhouser; A Large Tumor of the Brain producing chiefly Ocular Symptoms, by Dr. James Moores Ball; and Fat Metabolism, by Dr. T. C. Witherspoon.

The Chicago Society of Internal Medicine.—At the next regular meeting, on Thursday evening, the 22d inst., the following papers will be read: The Cardiac Area in Children between the Ages of Five and Twelve, and its Relative Value in the Diagnosis of Lesions of the Heart, by Dr. William J. Butler; A Report of a Case of Heart Disease, by Dr. Robert H. Babcock; and The Early Diagnosis of Pulmonary Tuberculosis, by Dr. Edward F. Wells.

The Sanatory Club of Buffalo.—At the meeting of Wednesday evening, December 14th, the subject of hygienic camps was discussed.

The Late Dr. Richard C. M. Page.—The following resolutions were recently passed by the Northwestern Medical and Surgical Society:

Whereas, The Northwestern Medical and Surgical Society of the City of New York has been officially informed of the death of Dr. Richard Channing Moore Page, be it

Resolved, That by his death the Northwestern Medical and Surgical Society loses one of its best-esteemed and beloved members. A member of our society for over sixteen years, his great medical and literary ability, combined with an indescribable charm of manner, endeared him to all who knew him.

Resolved, That in his death the society has suffered an irreparable loss.

Resolved, That these resolutions be engrossed in the archives of the Northwestern Medical and Surgical Society, and that a copy be transmitted to the widow and to the weekly medical journals for publication.

[Signed.] Palmer C. Cole,
Edward S. Peck,
J. Henry Fruitnight.

The Eastern Medical Society of the City of New York.—At the annual meeting of the society, held on Friday evening, December 9th, the following officers were elected for the ensuing year: President, Dr. William S. Gottheil; first and second vice-presidents, Dr. A. E. Isaacs and Dr. E. K. Browd, respectively. Secretary, Dr. R. Abrahams; treasurer, Dr. Joseph Barsky; chairman of the Ways and Means Committee, Dr. Louis Fischer; trustees, Dr. Abram Brothers, Dr. Henry J. Garrigues, and Dr. M. Cisin.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague have been reported to the supervising surgeon-general of the United States Marine-Hospital Service during the week ending December 10, 1898:

Small-pox—United States.

Mobile, Ala.	Nov. 26	1 case.	
Denver, Col	Nov. 26	2 cases.	
Fort Collins, Larimer County, Col.	Nov. 26	3 “	
Trinidad, Las Animas County, Col.	Nov. 26	1 case.	
	Origin of the disease in the localities named is New Mexico.		
Jasper County, Ga.	Jan. 14–Nov. 26	2 cases.	
Jones County, Ga.	Jan. 14–Nov. 26	300 “	estimated, 4 deaths.
Hamburg, Fremont County, Iowa	Nov. 26	2 “	
Lacona, Warren County, Iowa	Nov. 26	2 “	
Detroit, Mich.	Dec. 3	Reported present.	
Ecorse Township, Mich.	Dec. 3	Reported present.	
Cincinnati, Ohio	Dec. 2	1 case.	
Laredo, Texas	Dec. 6		1 death.
Laredo, Texas	Dec. 7	4 cases.	
Norfolk, Va.	Nov. 30	5 “	
Norfolk, Va.	Dec. 5	4 “	
Norfolk, Va.	Dec. 6	2 “	
Norfolk, Va.	Dec. 7	2 “	

Small-pox—Foreign.

Lorenzo Marques, Africa	Sept. 1–30	3 cases,	3 deaths.
Antwerp, Belgium	Nov. 5–12	3 “	6 “
Brussels, Belgium	Nov. 12–19		1 death.
Rio de Janeiro, Brazil	Oct. 15–21	13 “	3 deaths.
Guayaquil, Ecuador	Nov. 5–12		1 death.
Liverpool, England	Nov. 12–19	2 “	
Southampton, England	Nov. 5–12	1 case.	
Moscow, Russia	Nov. 5–12	17 cases,	5 deaths.
Odessa, Russia	Nov. 12–19	1 case,	1 death.
St. Petersburg, Russia	Nov. 5–12	4 cases,	2 deaths.
Constantinople, Turkey	Oct. 17–Nov. 7		55 “
	Small-pox is reported as raging fiercely in Constantinople. Vaccination does not appear to be a protection. Persons vaccinated only fifteen months previously are attacked. The authorities are doing their utmost to check the epidemic.		

Yellow Fever—Foreign.

Mexico City, Mexico		1 case.	

Cholera—Foreign.

Bombay, India	Nov. 1–8		1 death.
Calcutta, India	Oct. 8–22		5 deaths.
Madras, India	Oct. 22–28		5 “
Madras, India	Oct. 28–Nov. 4		14 “

Plague.

Vienna, Austria	Oct. 29–Nov. 5		1 death.
Bombay, India	Nov. 1–8		63 deaths.
Tamative, Madagascar	Nov. 30	Present.	

On November 26th plague was reported present in San Francisco, Cal., in the Chinese population. The report has been officially denied.

The Rubaiyat of Doc. Sifers gets a kindly and appreciative notice in the *Indian Medical Gazette* for November.

Another Score for Schenk.—The Duchess of Aosta has now emulated the Archduchess Frederick of Austria and the Countess of Warwick in the production of a son after following Dr. Schenk's treatment. He appears to have struck an *écart* in his favor. If it lasts long enough he will have proved his case.

Society Meetings for the Coming Week:

MONDAY, *December 19th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *December 20th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chautauqua (semiannual), Kings, Lewis (semiannual), and Onondaga (semiannual—Syracuse, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, *December 21st:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Cortland (semiannual) and Tompkins (semiannual—Ithaca), N. Y.; New Jersey Academy of Medicine.

THURSDAY, *December 22d:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, *December 23d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *December 24th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

FERGUSON.—In New York, on Thursday, December 8th, to Dr. and Mrs. Farquhar Ferguson, a daughter.

Married.

CERESOLE—WILDER.—In Madison, N. J., on Thursday, December 8th, Dr. Jean Edouard Ceresole, of Vevay, Switzerland, and Miss Nella Vinal Wilder.

HUNTER—MELVILLE.—In New Orleans, on Wednesday, December 7th, Dr. Josiah T. Hunter and Miss Lucille Melville.

Died.

BARNWILL.—In Adams Run, South Carolina, on Wednesday, December 7th, Dr. T. O. Barnwill, in the sixtieth year of his age.

COTTEN.—In Birmingham, Alabama, on Monday, December 5th, Mrs. R. Cotten, wife of Dr. Robert Cotten.

HALL.—In New York, on Saturday, December 10th, Dr. Edwards Hall, in the eighty-first year of his age.

KING.—In Yonkers, N. Y., on Sunday, December 11th, Dr. Nathan Sherwood King, in the seventy-fourth year of his age.

OSTROM.—In Sodus, N. Y., on Friday, December 9th, Dr. Henry H. Ostrom, of Alton, N. Y., in the seventy-fifth year of his age.

SMITH.—In New York, on Thursday, December 8th, Dr. Gouverneur Smith.

Letters to the Editor.

FEES FOR REFERRING PATIENTS TO CONSULTANTS.

150 LOWRY ARCADE, ST. PAUL, MINN., *November 9, 1898.*

To the Editor of the New York Medical Journal:

SIR: Since writing the letter published in your issue for October 29th I have received a letter from Dr. Melville Black, of Denver, Colorado, inclosing a reprint of the original paper which formed the basis of the editorial contained in your issue of October 8th. Dr. Black expressly disclaims any intention of advocating the payment of fees for reference of cases, save in exceptional instances where a certain amount of service has been rendered by the general practitioner prior to the reference of the case, it being assumed, quite wrongly I think, that otherwise the family physician would not be able to collect the fee for his services.

In justice to Dr. Black I would ask you to publish my reply to him under date of November 7th. I am glad to learn that the doctor's position is very nearly in line with the general sentiment of the profession, but I am very glad indeed that my original letter was written, because I have since learned that this payment and collection of commissions is far more general than I had formerly believed. It is not carried on openly, but wholly in a subterranean way. It seems to depend upon the curious belief that the physician has a property interest in any patient who comes to his office for advice. I sincerely hope that the *New York Medical Journal* will use its great influence to wipe out this stain upon our profession. Now that the matter has been brought to light and is in danger of being brought to the attention of the laity, there can be little question as to its ultimate fate. CHARLES LYMAN GREENE, M. D.

[DR. BLACK TO DR. GREENE.]

Dr. Charles Lyman Greene, St. Paul, Minnesota:

DEAR DOCTOR: Please find inclosed a reprint of the article you so kindly criticised in a recent number of the *New York Medical Journal.* I feel sure that you have not read the article, or your remarks would not be so unjust. You have evidently based your letter upon the editorial in the *Journal* of a few weeks ago. I am inclined to think that if you will read that editorial again, and more carefully, you will find that it did not altogether disapprove of my position. I fully agree with you in all your letter contains relative to paying physicians commissions for referring cases. It was not my intention to make such distinctions as individual cases warranted. I believe that I made that point plain in my paper. This paper was copied almost entirely in the *Medical Record,* with a very favorable editorial comment. I am sorry you did not see that editorial, as it would have given you a better idea of my position. I trust you may see that you have been somewhat hasty in your comment, and that you will take appropriate steps accordingly. Very sincerely yours,

MELVILLE BLACK, M. D.

[DR. GREENE TO DR. BLACK.]

Dr. Melville Black, Denver, Colorado:

DEAR DOCTOR: I beg to acknowledge, with thanks, receipt of your reprint and hasten to acquit you of the major portion of my original charge.

I feel very strongly, however, that your position is unsound, and that its adoption even along the lines indicated would serve to open the way to a very dangerous form of professional competition.

The doctor should certainly be paid for all material services rendered his patients, and I am very sure that he can and generally does collect from them for any service of the sort mentioned by you.

If he does not, I hardly see how he can expect any one else to make his loss good. Certainly the man receiving the case can not safely do so, for the practice of medicine must, like Cæsar's wife, be above suspicion.

I think the matter will be very thoroughly ventilated in the near future, for I have learned, much to my astonishment, that the actual buying and selling of cases has already come to be far from uncommon, even in high places.

It gives me great pleasure to learn that our views are in accord upon the major proposition at least, and I trust you will see the danger and impropriety of any action which might in the smallest degree infringe that rule of conduct which should govern the consultant in his relations with the general practitioner or his fellow specialists. Yours very truly,

CHARLES LYMAN GREENE, M. D.

THE TREATMENT OF COCAINE POISONING.

7 WEST FIFTY-EIGHTH STREET,
NEW YORK, *November 22, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the *New York Medical Journal* for November 19th appears an article in which the author desires to impress upon the medical profession his discovery in the treatment of cocaine poisoning. I do not doubt that Dr. Brennan's patient experienced the toxic effect of cocaine, for I have known four drops of a four-per-cent. solution to cause alarming symptoms. But it is incomprehensible to me how Dr. Brennan could lure himself into the belief that the extreme dangerous symptoms which arose and continued for the three days of treatment (in which the patient was injected with morphine every few hours until four grains and five eighths had been given) were not the result of the morphine instead of the cocaine. It would seem a very fortunate thing that heart and respiratory stimulants were so freely given, without which the patient would probably have died of morphine poisoning, for such a load of morphine is difficult to recover from. As a rule, the young graduate takes for gospel truth all he reads in the medical journals, and this treatment would be a bad suggestion for him to adopt. What surprises me is that Dr. Brennan establishes his belief in morphine as an antidote to cocaine on this one experience, and what still more surprises me is that he did not use volasem, the recognized antidote to cocaine, before he administered the cocaine or when he noticed its toxic effects.

G. LENOX CURTIS, M. D.

251 WEST ONE HUNDRED AND TWENTY-SECOND STREET,
November 24, 1898.

To the Editor of the New York Medical Journal:

SIR: In your issue of November 19th appeared an article entitled A Contribution to the Treatment of Cocaine Poisoning, by Edward F. Brennan, M. D. The writer relates that he injected into the urethra of his patient two drachms of a ten-per-cent. solution of cocaine. The not unnatural result of this liberal medication was the manifestation of "dysphagia, marked swelling and cyanosis of the face, neck, and extremities, dilatation of the pupils, inability to breathe unless tongue was held protruded by tongue forceps, respirations spasmodic, loss of articulation, but no loss of consciousness." Neither the respiration nor pulse rate is given. Perhaps the writer deemed these to be of no importance alongside of the dysphagia, although he says later on in his article that he believed this dysphagia to be of an hysterical nature. The treatment consisted, along with other measures, of hypodermic injections of morphine sulphate in doses of one sixth to one half a grain, administered at intervals of two to three hours and a half, so that in twenty-three hours three grains and a sixth were given.

The patient then had "pharyngeal paralysis, dysphagia, marked difficulty in breathing, was deeply cyanosed, with cold and clammy skin." Again, neither the respiration nor pulse rate is given.

Let us consider the symptoms. The paralysis of the pharynx may be attributed solely to the cocaine, the dysphagia I have already spoken of, and, as for the others, does not morphine in large or toxic doses cause deep cyanosis, a cold and clammy skin, and in some cases struggling for breath? "Many cases," says H. C. Wood in his *Therapeutics*, "have been reported in which the ingestion of even so small an amount of morphine as one quarter of a grain has been followed by syncope and great struggling for breath."

Now, in this case as large a dose as one half of a grain was given and the patient received in twenty-three hours three and one sixth grains, anything but a trifling quantity. Therefore it is not unreasonable to suppose that the morphine, instead of counteracting the cocaine as the writer thinks, added to its effects, and that the man was now suffering from a combination of cocaine and morphine poisoning in a mild degree of course.

Granting that the morphine did the patient no harm, how can the exclusive credit for the man's recovery be given to the morphine when it is remembered that the patient received other treatment as well?

He was put to bed, though not until he had walked a distance of twenty feet (a rather dangerous proceeding, to say the least), and he received repeated doses of aromatic spirits of ammonia and of nitroglycerin. Is it not more reasonable to attribute the man's recovery from his state of depression to these stimulants rather than to the morphine, itself a depressant? Taking all these facts into consideration, it seems to me that the man recovered, not on account of the morphine, but in spite of it.

The writer concludes his article with the statement that morphine is "an extreme opposite (to cocaine) in physiological action upon the organs involved in poisoning," and to prove this, appends a parallel table in which occurs the statement that "cocaine increases the strength and frequency of the pulse." He fails to give his authority for this statement. It certainly conflicts with the views of Professor Reichert (*American Lancet*, May, 1891), who says: "Very small doses (of cocaine) decrease the pulse rate, small to moderate doses increase it, large doses cause a transient decrease followed by a rise or permanent decrease."

Other points of exception might be taken to his table, such as his stating the final action of morphine on the spinal cord, whereas the statement of the final action of cocaine on the cord is omitted. It requires no deep or abstruse knowledge of therapeutics to convince one that, although cocaine and morphine differ somewhat in their physiological action, they are anything but "extreme opposites."

Arthur S. Tenner, M. D.

A POINT IN THE HISTORY OF CINCHONA.

204 East Congress Street,
Detroit, Mich., *November 24, 1898.*

To the Editor of the New York Medical Journal:

Sir: In Foster's *Practical Therapeutics* Dr. Samuel M. Brickner has an article on quinine. In giving a history of quinine he makes the following assertion:

"Although the bark of the cinchona trees was introduced into Europe early in the seventeenth century by the Countess of Chinchon, who had been cured of an intermittent fever by its use in Peru, the influence of the church was sufficiently strong to prevent its general use. And it was not until the Jesuit missionaries later brought quantities of the bark to the Continent that its use, dictated by popular demand, because of the cures produced, overcame priestly prejudice."

Prior to 1638 the medicinal virtues of cinchona bark were known to the natives of Peru. The natives attributed the curative properties of the bark to the waters of a certain stream into which the bark had fallen, though unaware of the source whence the waters derived their therapeutic power. In 1638 the Countess de Chinchon, while in Lima, contracted fever, and on the advice of her confessor drank of the Peruvian waters. On her recovery, the Jesuit missionaries investigated the matter and found that the curative properties of the waters were due to the Peruvian bark. The missionaries ground the bark into powder and sent it to Europe, where it became widely known as *Pulvis jesuiticus*. Cardinal del Lugo introduced the powder into Rome and exhorted the people to use it for the cure of Roman fever. Sir Robert Talbor, an Englishman, used the drug in England, but kept a knowledge of its source and properties a secret. I regret that matter of a religious nature should appear in a work devoted to therapeutics, more especially when the false statement is made that priestly prejudice delayed the general use of quinine.

E. T. Millegan, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. Thomas R. French, of Brooklyn, in the Chair.

(*Continued from page 712.*)

Laryngeal Œdema.—Dr. Rice read a paper on this subject. (See page 814.)

Dr. Delavan: Some years ago I reported a number of cases of acute inflammation of the larynx accompanied with œdema, which were apparently of an erysipelatous nature. I would like to place on record the history of a case in which a lady of advanced years suffered from an attack similar to those referred to by Dr. Rice, the prominent symptom of which was a violent laryngitis accompanied with œdema. She recovered, but two years later had a second attack, in the course of which she died.

Dr. THRASHER: I have had a case of laryngeal œdema complicating pregnancy, coming on without any warning. In a woman's second pregnancy the œdema recurred and the symptoms were alarming, requiring careful local treatment, and they did not subside entirely until after the birth of the child.

Dr. MULHALL: Was there a condition of uræmia in that case?

Dr. THRASHER: The attending physician said there was no albumin in the urine. I do not think that there was uræmia.

Accessory Sinuses.—Dr. BRYAN and Dr. FARLOW read papers on this subject. (See pages 881 and 883.)

Dr. WATSON: I should like to refer to a case of my own, which afterward turned out to be sarcoma, that of a man about forty years of age, who had a smooth, elastic swelling at either side of the root of the nose, with headache, protrusion of the eyeballs, and other symptoms of pressure in the sinuses. Examination of the nasal cavities did not show any disease whatever. He had a history of occasional discharge of blood and mucus from the nose, which he thought at the time relieved his headache. On account of the headache, mainly, I made an incision, under ether, into both swellings. Nothing followed but bloody mucus. The probe passed directly into the anterior ethmoid cells. The incision was simply through the skin. An opening through into the nose was made and a drainage-tube inserted, which was kept in position for several days. The inflammation subsided and the eyes were restored to their normal position. Some months afterward he began to have recurrence of headache with some swelling over the eye. This was incised and gave vent to some pus, and afterward this was followed by the same bloody mucous discharge. By trephining the bone I was able to wash out the frontal sinuses and the fluids returned through the nose. This was followed by relief, but I had several times occasion to open the wound. I subsequently saw the case and found that the swellings had disappeared. We never got anything out of the accessory cavities but blood. About a year before the patient came to me he had been skating and had fallen upon the ice. The fall was followed by lameness, supposed to be sciatica. The pain gradually increased and was found to be caused by a growth on the sacrum, which was removed by a surgeon and pronounced a sarcoma. After the removal of the growth the swellings on his face recurred and increased rapidly in size, assuming a brawny hardness. He also had tumors in the axillæ. The patient finally became comatose and died. This seems to me somewhat similar to the case of Dr. Farlow.

Dr. MULHALL: I have found a very excellent wash for purulent sinusitis in a solution of chloral hydrate. I use about a fourth per cent. in warm water and gradually increase the strength of the solution. It is an excellent stimulant and antiseptic.

Dr. WAGNER: Dr. Bryan's results have been very satisfactory, and I hope that Dr. Farlow's case will also prove successful. However, in some cases of this kind under my treatment I have been dissatisfied with the results—dissatisfied, as I was not able at once to eradicate the carious tissue entirely, either on account of severe hæmorrhage or fearing the close proximity of the brain.

I therefore should like to call your attention to an agent, which I have found of late to work satisfactorily in these cases. It is heated air of 112° to 120° F., where the current of this hot air is directed for a minute or two to the place where, after scraping with a sharp spoon, still more carious tissue is suspected to exist. After this a dry gauze treatment is instituted, and when necessary this simple procedure can be repeated. I have observed, though, in a few cases a slight secondary inflammation setting in, and have tried to avoid this by using a spray of heated fluid vaseline.

(*To be concluded.*)

Book Notices.

Guide to the Clinical Examination and Treatment of Sick Children. By JOHN THOMSON, M. D., F. R. C. P. Ed., Extra Physician to the Royal Hospital for Sick Children, etc. With Fifty-two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xvi–336.

Medical Diseases of Infancy and Childhood. By DAWSON WILLIAMS, M. D. Lond., Fellow of the Royal College of Physicians of London, and of University College, London, etc. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xiv–634.

BOTH these English books may conveniently be considered together. It is rather striking that of the half dozen books on pædiatrics which have in recent years appeared in Great Britain, all have been like those under consideration, in the form of manuals, or small handbooks, and not a single complete treatise. In this country, on the other hand, the works have been almost without exception in the form of large, generous volumes, each one aiming to be a complete treatise. It appears to be thought on the other side of the Atlantic that all that is essential for a practitioner of medicine to know about children may be told within the limits of a single brief volume. The two volumes before us are nearly of the same size, although that of Williams contains nearly twice as much printed matter as the other does. The books differ somewhat in their scope.

Thomson's volume, in the words of its author, "is essentially supplementary, and is intended to supply the practitioner and senior students information which, taken along with that contained in a text-book on the practice of medicine, will help them in the study and treatment of sick children."

All in all, this is an admirable little volume and is filled with important practical points in which the author has closely followed his purpose as stated above. The methods of examination and the general principles of diagnosis as modified by infancy and childhood are fully given. Infant feeding is considered at length, and in the discussion of the diseases of the different organs no attempt is made at an elaborate or complete description of the disease as a whole, but the peculiar phases and variations of disease seen in early life are carefully pointed out. As an introductory volume to larger and more elaborate works, this book is sure to fill an important place.

In Dawson Williams's book, the author has attempted to discuss all the diseases which occur in infancy and childhood. The general result has been that, since so much is attempted in so small a space, the book is on many subjects little more than a quiz manual, giving only what is contained in almost every text-book of general medicine and often not giving it so well. It is possible for a book of this kind to be condensed and yet be fairly complete, but such condensation has not been successfully accomplished in the one before us. This does not mean that the book has not its points of excellence. Many of the articles are of the highest order, and subjects are treated in a way that shows the author to be thoroughly conversant with the best thought of the profession in this department; those, for instance, on diphtheria, scarlet fever, tuberculosis, syphilis, rickets, and some others are accurate and "up to date." The omissions, however, are very many, and some relate to matters of the utmost importance. Thus, we have a chapter twenty pages long on food, but no directions regarding infant feeding; a discussion of antitoxine in diphtheria, covering five pages, yet no mention of its use as an immunizing agent; in the complications of influenza there is no mention of otitis; in the diagnosis of typhoid fever, nothing is said of the Widal reaction; in cerebro-spinal meningitis, nothing of the *Diplococcus intracellularis.*

The weak points of the book throughout seem to us to be those in which it should be strongest, considering the class of physicians for whom it is intended. Those points are diagnosis and treatment, the former lacking fullness and the latter definiteness. On the whole, the work can not be said to add anything important to pædiatric literature; and young practitioners, at least those in America, will hardly find it to be a satisfactory guide.

A Manual of the Practice of Medicine. By Frederick Taylor, M. D., F. R. C. P., Physician to and Lecturer on Medicine at Guy's Hospital, etc. Fifth Edition. London: J. and A. Churchill. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. xvi–1002. [Price, $4.]

Although Dr. Taylor's work is probably not so well known in this country as many another upon the same subjects, it is not to our advantage that this is so. True, we have so many excellent works upon the practice of medicine the wonder is that more (save revisions) should be written; but this can not detract from the evident value of a work, whether that work is popular beyond its author's own country or not.

In Dr. Taylor's work we have all that inclusiveness which should pertain to the subject, without, however, the exhaustiveness which is possible only in the "system." The value of the book lies chiefly in its clearness and its force, and when the accuracy and the sufficiency of the text are assured no qualities can be so necessary. The result of the combination, therefore, is a volume of no great bulk wherein the student may find satisfaction, but wherein generalization and theory and moot points will be sought in vain.

The revision which marks this edition is ample and excellent, and among the works referred to in its preparation, to which special indebtedness is expressed, it is pleasant to observe the name of an American system of recent appearance.

Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen. Für praetische Aerzte. Von Dr. Hans Herz. Berlin: S. Karger, 1898. Pp. xviii–543.

One wonders at the patient industry and application necessary to complete a work of over five hundred pages, on each of which is furnished evidence of careful reading and often of personal research and observation. The book is an enormous cross-index between the diseases of the digestive tract on the one hand and practically all of medicine on the other, and thus furnishes a most valuable reference work in which can quickly be found facts collected from very different sources. We may select as an example the subject of movable kidney. Under this heading we find five pages devoted to the discussion of, first, the various causes, congenital and acquired, the purely mechanical changes in the position of the abdominal viscera in consequence of the prolapse of the kidney, the nervous symptoms which may follow, and, finally, the changes and their symptoms which occur in the digestive tract, with a discussion of the results of operative methods. It is unnecessary to multiply examples; the book will be useful to every practitioner of medicine.

The Gospel according to Darwin. By Woods Hutchinson, A. M., M. D. Chicago: The Open Court Publishing Company, 1898. Pp. vii–241.

It has been said by a recent philosophical writer that what a man really believes of the fundamental truths of this world, as well as of the world that so many hope is to come, he never cares to tell. We hope this is true of our author. Perhaps he, too, has kept back the best of his beliefs and given us only the ones which make the best showing. For what is written in this "Gospel" is entertaining reading, but the appeal is too passionate, the plea too anxious, and a second reading inclines one to dispute many a point. We can imagine Darwin's doubtful smile if he were to be told that this was Darwinism, that he was the father of such airy science, such bold generalizations. The time is hardly ripe for our youthful science to leave the patient collection of facts and to try to give the world a new "Gospel." That is a problem for age and maturity, and not for youth. Yet, to those who do not look for a guide to life, but to the enjoyment of an hour, we recommend this book.

A Clinical Text-book of Medical Diagnosis for Physicians and Students. Based on the most Recent Methods of Examination. By Oswald Vierordt, M. D., Professor of Medicine at the University of Heidelberg, etc. Authorized Translation with Additions by Francis H. Stuart, A. M., M. D., Member of the Medical Society of the County of Kings, New York, etc. Fourth American Edition, from the Fifth German. Revised and enlarged. With One Hundred and Ninety-four Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 9 to 603. [Price, $4.]

A work so well and so favorably known as this may well do without comment from us, and the mere announcement that the fourth American edition has appeared is an all-sufficient notice. The revision which the work has undergone, while ample, especially in what concerns gastric digestion and the nervous system, has not materially altered the book. To say that this volume represents much that is ablest and best in the field of medical diagnosis is no more than to do it justice.

Lectures on Tumors. By John B. Hamilton, M. D., LL. D., Professor of Surgery, Rush Medical College and Chicago Polyclinic, etc. Third Edition. Twenty-one Illustrations. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. x–9 to 143. [Price, $1.25.]

A thorough and modern treatise on tumors remains to be written. The great work of Virchow, brought out many years ago, is still quoted and referred to in a way which gives rise to a justifiable suspicion that it has never been supplanted as a great storehouse of pathological knowledge, and such is the fact. Books have been written which showed great acquaintance with the superficial observations of the clinic, and they have been written from the standpoint of the pathologist, chiefly interested in cells, but a contribution in which each side has furnished its quota is still missing from medical literature. These lectures on tumors are almost wholly clinical, and are prefaced by a rather archaic introduction on the methods used in preparing tumors for microscopical examination. We notice several points which are not in accord with modern knowledge; for instance, the explanation of the formation of ganglia near a joint by hernial protrusion of the synovial sheath. This has long since been shown to be erroneous, and the formation is known to take place in the circumarticular tissues by a process of cystic degeneration. The pangenetic theory of ovarian and testicular dermoids is by no means absolutely proved, though the work of Wilms on the subject has cleared up many obscure points, and yet our author concludes that the congenital tumors arising in these two localities have different origins. The book is excellently got up and contains a number of illustrations, the best of which are derived from the author's own cases.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M. D., LL. D., Professor of Clinical Medicine at the Chicago Post-graduate Medical School, etc. Fourth Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xvi–365.

It is a pleasure to call attention again to this excellent work, the popularity of which is amply attested by its having passed through three large editions in as many years. The esteem with which the book is held, however, is no more than is warranted, for a more careful handling of the subject it would be difficult to imagine. Dr. Purdy clearly has no light sense of his obligation and responsibility as a teacher, and the care with which the present edition has been revised is evidence of that fact. Too often the "thoroughly revised" of later editions is what might inelegantly be called a mere "bluff," and the conscientious labor to be seen in Dr. Purdy's revision is in agreeable contrast to such a practice. From this it need not be inferred that the work has been revolutionized, it certainly needed no such handling, but it has been conscientiously freshened, especially in the domain of urinary chemistry, so that the ultimate result is a work which is complete and in accord with the most recent uranalytic knowledge.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. Third Edition, revised and enlarged. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Illustrated with Two Hundred and Four Engravings and Thirteen Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xii–17 to 624. [Price, $4.75.]

To judge from appearances, the *Practical Diagnosis* of Dr. Hare is likely to rival in popularity its companion volume, a *Text-book of Practical Therapeutics;* and were it not that the latter is now entering upon its seventh edition it would be interesting to observe which might find the greater favor as indicated by editions. As it is, the companionship of the two works is premeditated, and a very excellent arrangement it is, for what naturally follows the establishment of correct diagnosis but practical treatment? So far as the volume upon diagnosis is concerned, our opinion has already been expressed in the cases of previous editions, and we have but to add that revision has made the last edition in every respect a worthy and modern successor. The work is an excellent one and, with the therapeutic work, forms a pair which is unique.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Seventh Edition, enlarged, thoroughly revised, and largely rewritten. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. 11 to 776.

It can not be said that Dr. Hare's *Practical Therapeutics* ever lacked the quality of clearness, and for that reason the absence from previous editions of illustrations was less noticeable than ordinarily would be the case. For all this, the introduction in the present edition of a number of illustrations which emphasize the text is to be commended. Further than this, comment need not go. The work in its present state is modern and efficient.

BOOKS, ETC., RECEIVED.

A Text-book of Physiological Chemistry. By Olof Hammarsten, Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's Enlarged and Revised Third German Edition by John A. Mandel, Professor of Inorganic Chemistry and Physics, and Adjunct Professor of Physiological Chemistry in the University and Bellevue Hospital Medical College. Second Edition. First Thousand. New York: John Wiley & Sons. London: Chapman & Hill, 1898. Pp. x–705.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, M. D., LL. D., Queen's University, Fellow of the Royal College of Physicians and Surgeons, Kingston. Fourth Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xvi–365. [Price, $2.50.]

The Sexual Instinct: its Uses and Dangers as affecting Heredity and Morals. By James Foster Scott, B. A. (Yale University), M. D., C. M. (Edinburgh University), Late Obstetrician to Columbia Hospital for Women and Lying-in Asylum, Washington, D. C., etc. New York: E. B. Treat & Co., 1898. Pp. 5 to 436. [Price, $2.]

Acromegaly. An Essay to which was awarded the Boylston Prize of Harvard University for the Year 1898. By Guy Hinsdale, A. M., M. D., Fellow of the College of Physicians of Philadelphia and of the American Academy of Medicine, etc. Detroit: William M. Warren, 1898. Pp. 88. [Price, $1.50.]

A Primer of Psychology and Mental Disease. For Use in Training Schools for Attendants and Nurses and in Medical Classes. By C. B. Burr, M. D., Member of the American Medico-psychological Association, etc. Second Edition, thoroughly revised. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. ix–116. [Price, $1.]

The Phonendoscope and its Practical Application. Lectures delivered by Aurelio Bianchi, M. D., of Parma, Professor of Preparatory Clinical Medicine and of Pathology. Translated by A. George Baker, A. M., M. D., Physician-in-Chief of the Chinese Medical Dispensary, Philadelphia, etc. With Translations of Special Articles by Félix Regnault, M. D., of France, and M. Anastasiades, M. D., of Greece. Philadelphia: George P. Pilling & Son, 1898. Pp. 9 to 77. [Price, 50 cents.]

The Physician's Visiting List for 1899. Forty-eighth Year of its Publication. Philadelphia: P. Blakiston's Son & Co. [Price, $1.]

Adult Diet List. Compiled by C. S. Millet, M. D. Brockton, Massachusetts: Tolman Press, 1898. [Price, 25 cents.]

Doctor Therne. By H. Rider Haggard, Author of *She, Allan Quatermain,* etc. New York: Longmans, Green, & Co., 1898. Pp. viii–209.

Chirurgie de l'utérus. Par Henri Delagénière, Ancien interne en chirurgie des hôpitaux de Paris, etc. Avec 378 figures dans le texte. Paris: Institut de bibliographie scientifique, 1898. Pp. xii–467.

Die Sterblichkeit der Haupt- und Residenzstadt Budapest in den Jahren 1886–1890. Von Dr. Josef von Körösy, Director des Communalstatistischen Bureaus. Uebersetzung aus dem Ungarischen. Berlin: Puttkammer und Mühlbrecht, 1898. Pp. x–206. [Preis, 6 Mark.]

Fifth Annual Report of the Board of Managers of Craig Colony to the State Board of Charities. For the Fiscal Year ending September 30, 1898.

A Case of Thyreoidectomy. By Wilmer Krusen, M. D., of Philadelphia. [Reprinted from the *Therapeutic Gazette.*]

Sequelæ of Abdominal Operations. By Wilmer Krusen, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Electrolysis in the Treatment of Diseases of the Skin. By George Thomas Jackson, M. D. [Reprinted from the *Medical Record.*]

Spasmus Bronchialis, or Asthma: its Causes, Treatment, and Prophylaxis. By J. Adelphi Gottlieb, M. D. [Reprinted from the *Medical Times.*]

Castration for Rudimentary Uterus, Absence of Vagina, Menstrual Molimina. By Hiram N. Vineberg, M. D. [Reprinted from the *American Journal of Obstetrics.*]

Some Considerations of the Pathology and Treatment of Exophthalmic Goître. By Augustus A. Eshner, M. D., of Philadelphia. [Reprinted from the *Philadelphia Polyclinic.*]

The Abuse and Dangers of Cocaine. By W. Scheppegrell, M. D., of New Orleans. [Reprinted from the *Medical News.*]

Further Observations regarding the Use of the Bone-clamp in Ununited Fractures, Fractures with Malunion, and Recent Fractures with a Tendency to Displacement. By Clayton Parkhill, M. D., of Denver. [Reprinted from the *Annals of Surgery.*]

Purulent Tuberculosis and Rheumatic Hip-joint Disease. By A. M. Phelps, M. D. [Reprinted from the *Peoria Medical Journal.*]

Preparation of the Patient for Abdominal Operations. By Augustin H. Goelet, M. D. [Reprinted from the *Charlotte Medical Journal.*]

Uric Acid in the Blood. What does it Lead to, and how can we Eliminate it? By George E. Lemmer, M. D., of Danbury, Connecticut. [Reprinted from the *New England Medical Monthly.*]

Observations on the Treatment of Epilepsy. By A. H. Williamson, M. D., of New London, Connecticut.

Apocynum Cannabinum: "The Vegetable Trocar." By T. S. Dabney, M. D., of New Orleans. [Reprinted from the *Therapeutic Gazette.*]

Nouvelles communications sur l'application des rayons de Röntgen en rhinologie et laryngologie. Par le Professeur Max Scheier, de Berlin. [Extrait de *l'Archives internationales de laryngologie.*]

A propos de la photographie des cavités des fosses nasales et du larynx au moyen des rayons de Röntgen. Par le Dr. Max Scheier. [Extrait de *l'Archives internationales de laryngologie.*]

Zur Anwendung des Röntgen'schen Verfahrens bei Schussverletzungen des Kopfes. Von Dr. Max Scheier. [Sonderabdruck aus der *Deutschen medicinischen Wochenschrift.*]

Die Anwendung der Röntgenstrahlen für die Physiologie der Stimme und Sprache. Von Dr. Max Scheier. [Sonderabdruck aus der *Deutschen medicinischen Wochenschrift.*]

Zur Anwendung der Röntgenstrahlen für die Physiologie des Gesanges. Von Dr. Max Scheier. [Sonderabdruck aus *Allgem. medicin. Central-Zeitung.*]

Miscellany.

Nephritis without Albuminuria.—Dr. Edwards (*American Journal of the Medical Sciences,* October) thus summarizes his exhaustive paper on this subject:

1. Carefully repeated routine chemical and microscopical examination of the urine every twenty-four hours usually, but not invariably, detects acute and chronic nephritis.

2. The diagnosis of the albuminuric and non-albuminuric types of the nephritides is aided by searching examination of other viscera and parts, *e. g.*, by disclosure of cardio-vascular changes, retinal involvement, etc.

3. These visceral or somatic changes, usually present in nephritis, may be lacking in concrete instances or be capable of other or diverse interpretation, as polyuria, atheroma, etc.

4. The urinary findings most essential to the diag-

nosis of nephritis may be lacking, as may other signs and symptoms of minor dignity. Hence, as we fear instinctively, as it were, the existence of nephritis in certain cases before we examine the urine, so we may still fear its existence after negative uranalysis.

5. Nephritis may be unattended by albuminuria. Such nephritis is usually interstitial in type, of which cases abound in literature.

6. While certain instances of non-albuminuric nephritis correspond to the type described by Dr. D. D. Stewart, yet non-albuminuric nephritis may not exactly correspond to that type, since acute nephritis, chronic parenchymatous nephritis, and chronic interstitial nephritis may exceptionally occur without albuminuria.

7. Casts should always be searched for; they are more constantly found than is albumin, yet they seem in certain instances to betoken renal degeneration rather than inflammation. They are not invariable in nephritis nor are they invariably nephritic.

8. Future clinical caution and pathological examinations will probably increase the number of cases of non-albuminuric renal inflammations of acute, subacute, and chronic types.

9. Non-albuminuric nephritis is of special importance (*e. g.*, Stewart's type) in life-insurance and kindred examinations and in practice, since prophylactic measures may be instituted and the prognosis obviously influenced.

The Dangers of Flashlight Advertisements.—The *Lancet* for November 26th has some pertinent remarks on this subject, arising out of the case of a woman who was killed in London by runaway horses startled by this pernicious nuisance, which remarks are equally applicable to our own cities. The *Lancet* says:

"These advertisements are often lighted by powerful electric lights, and during the ten or twenty seconds in which the lights are turned on they brilliantly illuminate the part of the street in which they are placed. Suddenly this brilliant light is turned off and the streets are left in that condition of semi-darkness which the nearest gas lamp is wont to produce. The result of this sudden transition is obvious: If we suddenly pass from brilliant sunshine into a dimly lighted room it is a matter of common knowledge that for the first half minute or more we are quite unable to see anything. The eye takes an appreciable time to accommodate itself to the altered conditions in which it finds itself and fails to distinguish objects which after a moment or two it can discern with comparative ease. So it is with these most dangerous advertisements. For a few seconds everything is as bright as day. Then in a moment we plunge into what appears to be complete darkness. If we are so unfortunate as to find ourselves in the middle of the roadway when the light is turned off we have an excellent chance of never reaching the pavement except on a stretcher. The foot passengers can not see; the drivers can not see; the horses can not see, and, moreover, they are often rendered nervous by the sudden change from light to darkness, as seems to have happened at Kilburn. And if any one is run over it is difficult to apportion the blame. It may be urged that there is a remedy at law. If such a light is a nuisance and a danger an injunction could be obtained against its use. But this, after all, is an unsatisfactory method of safeguarding the public. It is not easy to find a man sufficiently public-spirited—or sufficiently litigious if the term is preferred—to spend time and money upon a lawsuit to abate a nuisance from which other people suffer equally with himself."

The Treatment of Epilepsy.—Dr. Henry I. Upson (*Cleveland Medical Gazette*, October) considers bromide of strontium in daily amounts of sixty grains as likely to supplant the other bromides in consequence of its being more easily tolerated and free from depressant effects. Among other drugs, he speaks highly of trional in three- or four-grain doses, three or four times a day, where the bromides are ill borne. He has never seen its continued use followed by any of the bad symptoms spoken of. It may be combined with the bromide of strontium. He has seen one case do well on three grains of trional thriee daily by the mouth and eighty grains of bromide of potassium every other day by rectal injection, using a long tube. Digitalis is a useful adjunct to other remedies when there is a low-tension pulse. Belladonna is of limited service in milder cases. He has seen no good results from antipyrine or other coal-tar products, nor from the vaunted tincture of simulo. He considers that "strychnine is to be avoided, like the howling pestilence," even as an ingredient in small doses in laxative pills. He has seen epileptic attacks, which had ceased for five years, recur after moderate doses of strychnine.

Quinine should be avoided. Nitrite of amyl may cut short the attack when there is an appreciable warning.

The same, he thinks, may be said of the ligature or encircling blister. These may be used when the aura travels up the arm or leg. In one case he has been able to stop attacks commencing with an epigastric aura. The sensation in this patient always began in the epigastrium and traveled upward. When it reached the head he fell unconscious. By clutching his throat firmly with both hands he could cut short the attacks. Experience has shown that attacks can not be permanently stopped in this way.

Keeping the bowels clear, great regularity in mode of life, the avoidance of fatigue and emotion, and the utmost care as regards alcoholic liquors are enjoined.

Hypnotic Anæsthesia in Accouchements.—M. Joire (*Nord médical*, July 1st) recorded three cases of accouchement under hypnotic suggestion. One was that of a primipara, one of a multipara, selected for purposes of comparison with previous confinements, and one that of a woman not pregnant for seven years. In these three cases suggestions in the waking state (*état de veille*) regulated the contractions and reduced or almost abolished pain. There was neither exhaustion nor fatigue after the confinement. M. Joire's method consisted in placing one hand on the abdomen and the other over the eyes, and making suggestions slowly in a low and persuasive voice. M. Oui cited a case under his own observation in which a woman in a state of lethargy expelled the fœtus without the least pain, but she was a pronounced hysteric and had been repeatedly hypnotized.

The Relation of Insanity to Pelvic Disease in Women.—In our issue for August 27th we gave a summary of the conclusions of Dr. W. O. Henry on this subject. Dr. Ernest Hall (*Canadian Medical Review*, October) thus concludes a paper on the same subject:

It would be presumptuous, he says, to draw conclusions from the study of but ten cases, only five of which were submitted to treatment, yet there are a few deductions that we may be justified in making that correspond somewhat closely with the results of those whose opportunities afford wider scope for observation and deeper investigation. We note: 1. That five, or fifty per cent., gave a history of pelvic pain or inflammatory trouble. 2. That three, or thirty per cent., gave a history of sepsis following childbirth or miscarriage. 3. That seven presented well-marked disease of the sexual organism, while one showed an undeveloped condition—that is, eighty per cent. showed gross abnormity of the pelvic organs. 4. That of those who had marked pelvic lesions two had never complained of any local trouble, and so far as we could determine had no suspicion whatever of the presence of disease. 5. That of the four submitted to treatment one was completely cured physically and mentally, one improved, and is still progressing, one died from cerebral disease, and one progressing favorably, but not sufficiently advanced to be classified. 6. That these results coincide with those of Dr. Hobbs in the London asylum as reported at the meeting of the Ontario Medical Society. Again, we note that the direct history of puerperal sepsis in three cases, with a grave probability in two others, is an additional reminder that the greatest care should be exercised—asepsis and, if necessary, antisepsis—in the management of all cases of abortion, miscarriage, and normal delivery.

In conclusion, let it be clearly stated that nothing is further from the purpose of this paper than to suggest operative interference with the pelvic organs as a panacea for mental disease, but in a very feeble way to rally to the support of those who, strong in the knowledge that experience alone can give, and firm in the conviction that the time has come when a new proclamation of emancipation must be published to those in mental slavery, are leading us in a campaign against officially retrenched and fortified conservatism. We ask that our insane mothers, sisters, and daughters be given the same consideration and treatment that we grant to those whose mentality is not disturbed. If Dr. Hobbs, out of a hundred and ten patients operated upon for gross lesions of the sexual organs, restored to health forty and has improved an additional twenty-five, and that without a death attributable to the operations, and if the limited experience of others corresponds with these results, it becomes incumbent upon us (1) to make a pelvic examination of all women before signing papers of commitment, and if pelvic disease be found, to give such patients the benefit of modern gynæcological treatment, and (2) to unite in urging upon our respective provincial governments the necessity of thorough and systematic gynæcological treatment of their insane population.

The Use of Morphine in Cardiac Disease.—Dr. Toogood (*Lancet*, November 26th) was first led to try the administration of morphine in those distressing cases of heart disease (mainly of mitral incompetence) where the exhibition of digitalis and its allies, strophanthus and convallaria, appears to do nothing more than excite persistent vomiting and where the stomach retains practically nothing; where the heart is extremely irritable and irregular in rhythm and the pulse in volume; where often an ever-present dyspnœa renders the condition of the patient intolerable from exhaustion and from want of sleep, and where there may also be œdema from a failing circulation and a scanty amount of albuminous urine. In these cases he has seen the hypodermic injection of morphine effect the most gratifying results. The pulse has become steady, strong, and regular, the œdema has disappeared, the dyspnœa has been relieved, and the urine, instead of being scanty, high-colored, of high specific gravity, and containing albumin, has become normal in amount and character and the albumin has become much less or has entirely disappeared.

The author then records five striking cases in illustration of his views.

Sound Advice from the Pulpit.—According to the *Lancet* for November 26th, the Rev. D. Watcyn Morgan, vicar of Morriston, Wales, in the course of his sermon on November 13th, is reported to have said that "diphtheria is now prevalent in our midst, and many parents, made disconsolate by the deaths of their children, in their moments of despair have doubtless felt inclined to blame Providence. Do not blame Providence; blame the Swansea corporation, and blame yourselves for allowing the laws of sanitation to be ignored."

The Origin of Spectacles.—In our issue for September 3d we published a note in which the origin of spectacles was attributed to Charles II, of England. In our issue for November 5th Dr. Edmund E. Blaauw called our attention to a quotation from Stilling which attributed their discovery to Salvino d'Armati. In this contention he is supported by the *British Medical Journal* for November 26th, in which the following paragraph appears:

"We recently quoted the Italian inscription in which the invention of spectacles is claimed for a Florentine of the thirteenth century. As some doubt has been expressed as to the genuineness of the inscription we communicated with our Florence correspondent, who reports that the inscription runs as follows:

Qui Giace
Salvino d'Armato degli Armati
Di Firenze
Inventor degli Occhiali
Dio gli Perdoni le Peccata
Anno D mcccxvii

Our correspondent adds: The above inscription is on a tablet let into the wall of the chapel at the eastern extremity of the left aisle of the church of Sta. Maria Maggiore, Florence. The tablet is modern, and above it is a bust which is not the portrait of Salvino."

Two Cases of Stramonium Poisoning.—Dr. E. A. Tracy (*Boston Medical and Surgical Journal*, December 1st) records two cases of children, aged respectively nine and seven years, to whom "a heaping teaspoonful" of what purported to be "licorice powder" had been administered by the mother. On investigation the so-called "licorice powder" proved to be "Powers's Asthma Specific," consisting apparently of powdered stramonium. Considering the poisonous nature of this drug, Dr. Tracy properly asks with regard to the proprietors of such "specifics," "Ought they not to be compelled to put a poison label on the package?" It seems to us there can be little doubt as to the answer. We should say YES, in large capitals.

The Antiseptic Properties of Sawdust.—We have referred on various occasions to Dr. Poore's suggestion that sawdust should be used for camp and other temporary urinals. Mr. F. W. Collingwood (*British Medical Journal*, November 26th) writes: Concerning the antiseptic and preservative qualities of sawdust, it would appear by the following story that the said quality was known long before antiseptic surgery, in the modern sense of the word, was known. In a church in the Minories, St. George's, there is a head which is said to be that of Brandon, Duke of Suffolk, in a state of adipocere. The tale runs that a faithful servant of the duke begged the possession of his master's head from the executioner on Tower Hill, and preserved it in a box of pine sawdust. The head is to be seen at the present day; at all events, it was in the church five years ago, and could be seen by paying the verger a small consideration.

To Increase the Power of Trional.—Habermann (*Centralblatt für innere Medicin*, September 17th; *Medical News*, December 3d) administers trional in carbonated water, which, by reason of the carbon dioxide contained in it, dissolves the drug and conceals its taste. It also hastens its action so that the patients often fall asleep within ten minutes after drinking the half or the quarter of a twelve-ounce bottle containing only fifteen grains of the drug. With such a small dose the patient sleeps eight hours and awakes without feeling tired and without headache.

Trilby's Prototype.—We learn from the *Indian Medical Record* for November 1st that, according to Mr. A. W. A'Beckett, assistant editor of *Punch*, the central idea of the hypnotic influence exercised by Svengali, in Du Maurier's celebrated novel, was founded on a case reported in the *Lancet* some forty or fifty years ago. "No less a person than the famous Jenny Lind was able to cause a factory girl without any musical education to sing like a sister nightingale," says Mr. A'Beckett.

To Stop the Crying Habit.—According to the *Indian Medical Record* for November 1st, an ingenious nurse has devised the novel method of placing her hand over the mouth and nose of a child whenever it begins to cry, thus shutting the breathing off for a few seconds. This process is repeated every time the crying is resumed, until in a very short time, the babe thinks that the crying is the cause of its discomfort and philosophically ceases to cry.

A Distinct Variety of Hip-joint Disease.—At the Royal Medical and Chirurgical Society of London, Mr. Edmund Owen (*Lancet*, November 26th) read a paper on a Distinct Variety of Hip-joint Disease in Children and Young Persons. He drew attention to a very important group of cases of acute suppurative disease of the hip joint which must be carefully separated from the much more common tuberculous disease of this joint. The disease was caused by the invasion by the micro-organisms of osteomyelitis of the very active tissue at the upper extremity of the diaphysis of the femur. Reference was made to the fact that the hip joint differed from all other joints in that the end of a diaphysis entered into its formation, and that, therefore, when this diaphysis was the seat of osteomyelitis, suppurative arthritis almost inevitably resulted. The symptoms of this form of disease were especially characterized by sudden onset, acute course, and intense severity. There was often a history of injury or some lowering disease preceding the onset of the attack, and it was suggested that such conditions, by lowering the vitality of the growing tissue, rendered it more vulnerable to infective organisms. Death from septicæmia was liable to occur if the disease was not speedily recognized and adequately treated. The treatment advocated was the free opening of the joint, with removal of the epiphysis and the affected part of the diaphysis, and the thorough application of germicides to the interior of the joint, and this operation must be followed by drainage. In view of the urgency of these cases Mr. Owen laid stress on the extreme importance of early correct diagnosis and immediate efficient treatment. He concluded with the report of four illustrative cases under his care. Reference was made to a paper on this disease by the late Dr. J. S. Bristowe, published in the *Transactions of the Pathological Society* for 1862.

The Stature of Professional Men.—The *Indian Medical Record* for November 1st informs us that in England the professional classes are distinctly taller than those of the lower orders. It is a fact that the Fellows of the Royal Society average taller than any other class of men.

The Frontal Mirror in Gynæcology.—At the Congress of Gynæcology, Obstetrics, and Pædiatry in Marseilles, M. Louge (*Progrès médical*, November 19th) called attention to the great service capable of being rendered by the laryngoscopic frontal mirror in gynæcological examination, dressings, etc.

The Solvent Action of Buffalo Lithia Water on Urinary Calculi.—The *Virginia Medical Semi-monthly* for November 25th cites a number of well-known reports by chemists on the disintegrated calculous material passed in the urine after the use of this water, and adds a recent one by Professor Mallet, of the University of Virginia. It adds:

"With clinical evidences so abundantly given by able practitioners from all parts of the country, testifying to the solvent action of Buffalo lithia water upon urinary calculi—renal as well as vesical—confirmed by the most eminent and conscientious chemists that France, England, and America can furnish—there is no longer any reason for holding back the free administration of these waters to patients whose symptoms indicate the presence of stone or gravel in the urinary passages.

"In this note, we have referred only to one virtue of Buffalo lithia water. But in practice it meets so many indications that it would be difficult to enumerate them all. Perhaps its most brilliant results are to be noted in cases of gout and uric-acid diathesis, and conditions dependent on them. Numerous able clinicians have used it with marked benefit in cases of albuminuria, chronic Bright's disease, post-scarlatinal nephritis, various gastro-intestinal disorders, etc. But the object of this writing was only to give the proofs of the solvent action of Buffalo lithia water, spring No. 2, upon uric-acid and other renal and vesical calculi.

"Dr. Mallet, in concluding his report, suggests the following explanation of the action of Buffalo lithia water in calculous cases, which seems altogether plausible:

"'It seems, on the whole, probable that the *action of the water is primarily and mainly exerted upon uric acid and the urates;* but that when these constituents occur along with, and as cementing matter to, phosphatic or oxalic calculous materials, the latter may be so detached and broken down as to disintegrate the calculus as a whole in these cases also, thus admitting of urethral discharge.'"

The New York Academy of Medicine.—At a stated meeting of the Section in Genito-urinary Diseases, on Thursday evening, the 15th inst., the following paper was presented by Dr. Samuel Alexander for general discussion: Observations on the Pathological Anatomy of Chronic Enlargement of the Prostate, with Special Reference to the Causes of Muscular Insufficiency of the Bladder. Illustrated by lantern slides.

At the next meeting of the Section in Medicine, on Tuesday evening, the 20th inst., the following papers will be read: A Case of Echinococcus Cyst of the Liver with Discharge of Daughter Cysts through the Common Bile Duct, by Dr. Henry W. Berg; and Experiments upon Leprosy with the Toxines of Erysipelas, by Dr. Henry D. Chapin. Dr. G. H. Fox will present cases of leprosy.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 22d inst., the following papers will be read: Symphysiotomy; Joint Apposition by a Sling from the Ceiling, by Dr. Robert L. Dickinson; and Extra-uterine Placental Pregnancy, with a Report of a Case of Abdominal Section at Ten Months; Recovery, by Dr. Edward A. Ayers. Patients will be presented and specimens and new instruments will be exhibited.

At the next meeting of the Section in Neurology and Psychiatry, on Friday evening, the 23d inst., Dr. William H. Thomson will read a paper entitled A Case of Diffused Brain Lesion with Localizing Symptoms.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 28th inst., the following cases will be presented: A case of operation for epithelioma of the nose, by Dr. J. F. McKernon; a case of hysterical mutism and a case of hysterical aphonia, by Dr. William M. Leszynsky; some unusual tonsils and a case of hysterical larynx, by Dr. F. E. Hopkins. Dr. J. E. Newcomb will read a paper on The Nasal Insufficiency due to Exaggerated Prominence of the Anterior Arch of the Cervical Vertebræ.

The Society of Medical Jurisprudence.—At the one hundred and thirty-eighth regular meeting, on Monday evening, the 12th inst., the annual election of officers and trustees for the ensuing year took place, and the Hon. John Woodward, of the Supreme Court, read a paper entitled Expert Medical Testimony: A Defense of the Present Procedure.

The Late Dr. Salmon P. Cahen.—At an emergent joint meeting of the medical board of the West-Side German Dispensary and the corps of professors of the New York School of Clinical Medicine, held at the dispensary and school building, the following resolutions were adopted:

Whereas, We have learned with great pain of the death of our friend and colleague, Salmon P. Cahen, M. D., secretary of the medical board of the West-Side German Dispensary and associate professor of practice at the New York School of Clinical Medicine, and

Whereas, Professor Cahen, by his nobility of character, scientific attainments, and devotion to the sick poor, endeared himself to us as a man and a physician, and

Whereas, His death is to us an irreparable loss; be it therefore

Resolved, That in manifestation of our deep grief we ask that the dispensary and school be closed on Friday, the 9th instant, until 1 P. M., that all connected with these institutions may attend the services in a body; and furthermore be it

Resolved, That four copies hereof be engrossed, one to be given to the widow of our friend and colleague, another to his brother, James P. Cahen, Esq., president of the board of trustees, another to Julius P. Cahen, Esq., secretary of the board of trustees, and another to be placed in the assembly room of this dispensary and school. And further be it

Resolved, That a copy of these resolutions be spread upon the minutes of the medical board of the West-Side German Dispensary and upon the minutes of the corps of professors of the New York School of Clinical Medicine; and be it further

Resolved, That copies hereof be furnished the medical journals of New York for publication.

[Signed.] FERD. C. VALENTINE, M. D.,
President Medical Board of West-Side German Dispensary.
LOUIS FISCHER, M. D.,
Secretary New York School of Clinical Medicine.

The Thirteenth International Medical Congress will meet in Paris on August 2, 1900, under the presidency of Professor Lannelongue, and will continue in session for a week. Papers may be written in German, English, or French. Inquiries may be made of the secretary-general, Dr. Chauffard, No. 21 rue St.-Guillaume. A section in otology has been organized, with Dr. Gellé as president and Dr. Castex (No. 30 avenue de Messine) as secretary; also one in rhinology and laryngology, with Dr. Gouguenheim as president and Dr. Lermoyez (No. 20 *bis* rue de la Boétie) as secretary.

The Medical Schools of Louisville.—We learn from the November number of the *American Journal of Surgery and Gynæcology* that Dr. Joseph M. Mathews has resigned the chair of surgery in the Kentucky School of Medicine and joined the faculty of the Hospital College of Medicine, of which Dr. L. S. McMurtry has been elected president.

The Mechanism of the Action of Injections of Iron Salts in the Cure of Anæmic Conditions.—Dr. Salvatore Pacilio (*Gazzetta medica di Torino,* xlviii, 33) has made a number of experiments bearing on this matter, and the substance of what he says of it is as follows:

Long practice, one may say for centuries, has settled beyond discussion that the administration of iron is capable of benefiting and curing many of the anæmic conditions one meets with; both those which are primary and those which are secondary to different affections of the organism. In many of these anæmiæ the phenomenon is so evident that many consider iron a veritable specific, but in others the efficacy of the medication being doubted, one succeeds but gradually, and even to-day bright clinical minds doubt the interpretation of results. It has been asserted and considered proved that iron administered by the mouth is not absorbed, but is instead passed, variously combined, with the fæces. It would be interesting to follow the wearisome progress of the idea of the assimilability of iron, but the fact being now accepted it suffices to recall how recent studies have demonstrated irrefutably that the organic as well as the inorganic salts, administered by the mouth, are absorbed by the intestines and deposited in some other organs, the liver being one of the first.

These experiments confirm the result evident from clinical induction. In fact, physicians had noticed that the same effects occurred when the iron was administered by the mouth and when administered in a manner which insured its penetration into the organism—that is, by hypodermic injection. Moreover, experiments upon animals show that iron when injected is found in the same organs as when introduced by the mouth.

Thus it is securely established that iron acts toward correcting an anæmic condition, and that in whatever way administered it does penetrate the system. While these two conclusions do not entirely explain the mechanism of the therapeutic action of iron, they serve to overthrow the hypothesis set forth by Bunge and Binz, both of whom explained the action as purely intestinal.

There remain for consideration two theories, which, instead of being antagonistic, complete one another. One, very original, little noted in literature, was formulated in 1881 by Foà. It is to the effect that iron acts by accelerating hæmatic exchange, in the sense of favoring the destruction of the old red blood cells, and in that way rejuvenating the blood. The other, which is the one most commonly accepted and given in all the treatises on pharmacy and materia medica and in the recent articles on the therapeutic action of iron, states that the drug acts by exciting the function of the hæmatopoietic organs and by furnishing the fundamental material in the new formation of hæmoglobin.

The theoria of Foà has neither been demonstrated nor refuted conclusively. All recent studies show that under the action of iron the blood assumes the characteristics of a younger tissue. This is brought about undoubtedly through the formation of new hæmatic elements. Whether or not there occurs also a more rapid destruction of the old elements is not yet certain. Riva-Rocci, who studied the question, could not find the sure signs of an increase of hæmatolysis under the administration of injections of iron salts. But he did not consider his results as final, and reserved his opinion, owing to the great difficulty in the present state of clinical chemistry of demonstrating slight variation in hæmatolysis.

The other hypothesis, though appearing sufficiently logical to be embraced by most writers, is quite other than exact or thoroughly demonstrated. Instead, researches have shown that iron is arrested first in an organ, the liver, whose essential hæmatopoietic importance, in the adult state, is doubtful, and that from there the iron, perhaps by means of the lymph channels, through phagocytosis, is carried back to the intestines and rejected with the fæces; so that one may say the iron is neither carried to the hæmatopoietic organs nor becomes fixed in any form to serve in the formation of hæmoglobin.

But it must be added that the iron, though in less degree, was found in the spleen and bone marrow, and that the amount of iron has been traced in animals only and not in anæmic human beings. Experimenting on this line, Riva-Rocci, with prolonged examinations as to the amount of iron in anæmic persons treated with injections of iron salts, was able to demonstrate for the first time that the iron introduced was not all rejected, but that a very appreciable amount became fixed in the organism, and that the induction logical to draw was that, of this iron which became fixed, a part, at least, was transformed into true organic iron in the hæmoglobin. Thus was demonstrated a part of the accepted theory as to the action of iron. The other part, that of its action on the hæmatopoietic organs, remained to be elucidated. How to explain the so-called stimulative action was not determined, although it is admitted by all.

The most definite results in this field we again owe to Riva-Rocci. He contended that iron had fundamentally the property of causing hyperæmia. This hyperæmic action (which has been shown in many viscera, as in the kidneys, lungs, stomach, intestines, and brain, from which he concluded arose the inconveniences observed after excessive iron injections, such as glomerulo-nephritis, pulmonary œdema, vomiting, diarrhœa, staggering, and vertigo) must likewise occur in the hæmatopoietic organs. But this he could not directly demonstrate; only in support of his theory he cited the increase in size of the spleen subsequent to iron injections, which increase was noted also by Dori in five cases of anæmia cured by injections of iron, and the report of Foà, who had found the medulla of the bones rust-colored after the endoperitoneal injection of ammonio-citrate of iron.

By the advice of Professor Forlanini, who kindly gave me the benefit of his wide experience and furnished me with material for experiment in the clinica medica propedeutica, of which I am proud to have been a pupil, I have tried to see in what part Riva-Rocci's hypothesis corresponds to reality—that is, if injections of iron are capable of provoking hyperæmia of the hæmatopoietic organs, and especially of the marrow of the bones. The experiments, made at the suggestion and under the direct control of Riva-Rocci, aimed to discover if after injections of iron there existed in the bones a greater quantity of blood than before.

I realize that the ideal of the experiments should have been to determine the amount of blood supplied in a given length of time (to a given amount of bone marrow) before and after the iron injections. But this the experimental conditions made technically impossible. I resorted therefore to determining the quantity of blood in the whole bone, supposing, as is rational, that, other conditions being equal, the amount of blood that irrigated the medullary substance was increased in proportion to the increase in size of the channels through which the supply passed. Indeed, from the anatomical condition of circulation in the bone marrow it is evident that whatever tends to increase the amount of blood passing through it tends at the same time to increase the calibre of the vascular network.

To determine the amount of blood contained in the bone, I employed the calorimetric method, dissolving all the sanguineous contents of the bone in a definite volume of distilled water. The process used in all experiments was as follows: The bone was removed, detaching all the soft parts with the greatest possible care, so that none remained attached. The bone was then further cleaned by rubbing with compresses until it was sure that no trace of blood remained. Then it was weighed in a delicate balance (Sartorius) and by the method of double weights. It was beaten with a pestle in a glass mortar, the residue being diluted with a volume of distilled water which was a certain multiple of the weight of the bone. It was further ground until reduced to the finest powder, and until I was sure that all the hæmoglobin was dissolved in the water. Then, in the first experiments, the solutions so obtained were centrifugalized, but, as I could not always, with the limited means at hand, obtain a clear product, I tried to establish the necessary condition by a chromometric examination, filtering the solutions;

and in this process, owing to great care in the uniformity of the filters used and to making all filtrations in a moist room, every difference that could be imputed to method was excluded. Of the solutions centrifugalized or filtered, one cubic centimetre was taken each time, and a calorimetric examination made with the hæmatometer of Fleischl, and I was careful to have independent observations made by several persons.

I experimented thus on bones already partly dried in the air, from animals that had died accidentally, and on fresh bones taken from animals killed for examination. Several times the tibia was removed when the animal was but just dead, as described above. In these cases, before disarticulating the tibia, I applied preventive hæmostasis, tying the limb with an elastic ligature. When it was necessary to keep the animal alive for several hours, I used the greatest antiseptic precautions. By preference, the tibia (as most accessible) was disarticulated, and this was followed by antiseptic treatment as in operative surgery. When the solutions were filtered (as has been said) care was had to use filters always of the same dimensions and quality, and I tried to avoid evaporation during the filtering by keeping the preparations in a moist chamber. So, if any error was made, it was at least constant in each experiment.

One may object that an increase in the amount of hæmoglobin might lead to a difference in the results without there being an increased irrigation of blood. But the experiments occupied so short a time—seven hours at the longest—and the results obtained showed so marked a difference, that one could not attribute it to the new formation of hæmatic elements. It is certainly logical to say that the hæmoglobin, as it is formed, passes into the circulation. If, then, it is maintained that the differences in results obtained are due to the new formation of hæmoglobin, whoever says so must believe that the total quantity of hæmoglobin in the blood is doubled in the circulation in a few hours. This is contradicted by every experiment, and is simply absurd. If, then, a new formation of hæmoglobin affects the results obtained, it must affect them in a measure so limited as to be overlooked in the conclusions drawn from the experiments.

The Medical Inspection of the Army.—The surgeon-general has sent the following instructions, dated December 3, 1898, to Colonel Charles R. Greenleaf, assistant surgeon-general and medical inspector: In the discharge of your duties as medical inspector of the army you are expected to report to me upon the sanitary condition and wants of troops in the field, at military posts, and in general hospitals, and as regards the skill, efficiency, and conduct of officers, enlisted men, and civilian employees connected with the medical department.

You will see that existing orders and regulations relating to the medical department are complied with, and that all prescribed reports and returns are promptly made and forwarded when due.

You will examine into the quality, quantity, and condition of medical and hospital supplies, reporting any failure upon the part of responsible medical officers to make proper requisitions and any deficiencies found due to failure on the part of supply officers to promptly fill approved requisitions.

You will ascertain what diseases are most prevalent in the camps visited by you, and will inquire into the cause of such prevalence and the steps which have been taken for the prevention or arrest of any infectious diseases which may exist, indicating verbally or in writing to the responsible medical officers such additional measures or precautions as may be requisite. When sanitary reforms requiring the sanction and co-operation of military authorities are urgently demanded, you will report at once, in writing, to the officer commanding the military department, corps, division, or camp, calling his attention to the facts and recommending such measures as you consider necessary for the relief of insanitary conditions existing. A duplicate of such report should be forwarded to the surgeon-general of the army.

You will ascertain whether medical supplies are properly used and with a due regard to economy; whether any additional articles not now included in our supply tables are necessary for the treatment of the sick; whether the equipment of regimental hospitals is such as is contemplated by recent orders; whether cases of infectious diseases or of soldiers seriously ill are improperly retained in regimental hospitals; whether division hospitals are fully equipped as regards supplies, medical officers, and attendants to properly care for the sick of the command to which they belong; and whether contract surgeons have been examined as prescribed by recent orders.

You will give special attention to diet kitchens and see that they are equipped for providing the sick with suitable light diet.

You will ascertain whether a proper use is made of the fund provided for the purchase of suitable articles of diet for the sick, as prescribed in General Orders No. 116, and whether the commissary department has on hand for sale such articles as are necessary.

You will also inquire as to the sufficiency of tents, ambulances, and other articles furnished by the quartermaster's department.

You will report any abuses or deficiencies existing to the commanding general of the department, corps, division, camp, or military post, sending a duplicate of this report to the surgeon-general of the army.

You will also report upon the professional competence, attention to duty, and general qualifications of medical officers, calling the attention of the surgeon-general to those who deserve especial commendation and also to those who are considered incompetent or for any reason undesirable members of the medical department.

You should give special attention to the efficiency of the hospital corps, reporting whether proper discipline is maintained and proper instruction given in all that pertains to the duties of enlisted men of that corps.

The American Gastro-enterological Association's next annual meeting will be held at Washington, D. C., in May, 1899. Communications should be addressed to Charles D. Aaron, M. D., secretary, 32 Adams Avenue W., Detroit, Michigan.

Women Doctors in Russia.—The *Progrès médical* for November 19th quotes the *Revue médicale* as authority for the statement that General Korsitch has referred to the Section of Scientific Medicine of the Congress of Russian Physicians a proposition to create at Kiew a medical school for women. Dr. Piasseski proposes to open to women the medical faculties of all Russian universities. Both these propositions were heartily applauded.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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(*Continued from page 403.*)

The constancy of the quality of the reaction, despite the variability in the form of the external stimulus, is one of the most puzzling of the phenomena with which the neurologist has to deal. While some physiologists would attribute the whole essence of the process to the characters of the peripheral apparatus with which the nerves are connected, maintaining that the position of the centres at which the stimuli arrive at birth is a matter of little significance, others hold that the sort of response evoked is dependent entirely upon the central region affected by the stimulus, which would mean that the specific energies belong to the centres and are practically independent of the periphery. It seems to me that each of these doctrines, though supported by distinguished neurologists, is necessarily incomplete. Is it not much more likely that in the gradual process of development and modification peripheral and central organs have been correlatively differentiated? We can not think that the various modifications of apparatus mediating between the external physical influences and the most peripheral portions of the sensory neurones of different kinds represent accidental structures which have no physiological import, nor can we imagine that were the central projection fields in the cerebral cortex, at which the sensory impulses arrive from the different parts of the periphery, of no specific significance for the origin of the different sensations, they would present for the different sensations so absolutely specific a structure.[*] The pathological cases again, in which direct irritation of these areas in the cortex has called forth definite sensations, speak for a direct relation of these centres to the specific energies of the sensory nerves. Odors, images of colored objects, of muscular movements, and of sounds have been experienced by individuals suffering from the pressure of cysts and other bodies upon the corresponding cortical sense areas.

The question is still obscure, nor have we much promise that it will speedily be satisfactorily explained. Kölliker,[†] in a discussion of the physiological functions of the elements of the brain, thinks that all nerve cells possess in the beginning essentially the same function, and that the manifestation of function depends entirely upon the manifold external influences or stimuli which affect them, and upon the many possible modes of responding to these excitations.[*]

From the concept we have gained of the neurone with all its parts, as a cell, and of the unity which characterizes the various steps in its metabolism, it would almost seem idle to devote time to the question of the existence of a unity in nervous function; the latter would appear to be a necessary corollary, and I should not discuss this topic at all were it not that some of the most distinguished investigators have assumed that only a part of the neurone is concerned in the actual nerve function, in the phenomena of irritability, in the transmission of impulses, and the like.[†] All are agreed that the axone—the axis cylinder of the nerve fibre—with its endings, is active in the conduction of impulses, but concerning the nerve function of the cell body and of the dendrites there has been much controversy. Recalling for a moment what was said at the beginning of these remarks regarding the position assumed by Golgi as to a diffuse nerve network, it will be remembered that he excluded in the spinal cord the dendrites and the cell body from the reflex arc. The sensory impulses, he thought, passed from the sensory fibres directly through the fibril reticulum out along the side fibrils to the axones of the motor fibres, and thence along them to the muscles. Accordingly, he denied the possession of nerve function to cell body and dendrites, and asserted that they were set apart to act solely as nutritive structures. That the cell bodies themselves are concerned directly in the nerve function can now be doubted by no one, hardly even by Golgi and Nansen, since the intimate relation of axone and terminals to the protoplasm has been clearly demonstrated in certain instances. The origin of the idea of the non-participation of the cell body in the propagation of nerve impulses can be accounted for by the apparent existence in the spinal cord, for instance, of mechanisms for excluding it from the direct path of the current. A pregnant example which was further offered was the arrangement in the spinal ganglion cell. For a long time it was held by many that the T-shaped process which brought the peripheral into a direct line with the central axone was for the purpose of cutting off the cell body from the conduction path. This idea was negatived by the demonstration by Wundt * in 1876 of a delay in the passage of the impulse corresponding to its passage through the spinal ganglion of 0.003 second, a result which has been confirmed and extended by the experiments of Gad and Joseph upon the vagus of rabbits. Moreover, the relations of the processes to the cell body in the cochlear and vestibular ganglia of human beings, as well as those in all the sensory ganglia of fishes, necessitates the passage of the impulses directly through the cell bodies. And, lastly, the physiologists who have studied such centres, as, for example, that governing respiration in the medulla, and who assume that excitation of this centre can result from the direct chemical action of gases in the blood, will not permit us to believe that the group of cell bodies making up the centre is unconcerned in nervous mechanisms.

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[*] "Die handgreiflichen Unterschiede im Bau der Centralwindungen, der Rinde der Fissura calcarina, des Gyrus hippocampi, etc., sind schon lange bekannt, wenn auch sonderbarerweise nicht recht gewürdigt."—P. Flechsig, *Gehirn und Seele*, Anm. 31.

[†] *Op. cit.*, Bd. ii, pp. 803–813.

[*] "So drängt sich doch zuletzt die Ueberzeugung zwingend auf, dass alle Nervenzellen von Hause aus wesentlich dieselbe Function besitzen und dass das Inslebentreten derselben einzig und allein von den mannigfachen äusseren Einwirkungen oder Reizen, welche dieselben treffen und von den vielen Möglichkeiten einer Beantwortung dieser Erregungen abhängt."

[†] Irritability and conductivity, as has long been known, are not equivalent terms.

There has been much controversial writing upon the functions of the dendrites. The arguments in favor of the different views have been ably marshaled and criticised by both Kölliker † and von Lenhossék.‡ On account of the fundamental importance of the topic it will be necessary to consider briefly the main points bearing upon it.

A mainstay of the Golgi school was the supposed direct attachment of the ends of the dendrites to the glia cells and to the walls of the blood-vessels. The supporters of the "nutrition" view held that the dendrites through their apical attachments represent the direct paths for the introduction of food materials from the blood-vessels into the nerve cells. Now, while the direct attachment of many of the processes of glia cells to the walls of the blood-vessels appears to have been definitely proved, there is no evidence at all that any such arrangement commonly exists for the dendrites of the nerve cells. According to von Kölliker, the only attempt to picture such a relation is that of Sala.# This single example of failure of the dendrites to end absolutely free must be looked upon as a unique observation. Even if it be confirmed, the experience of every one who works with the silver method must convince him that such a relation is highly exceptional. Moreover, studies upon the histogenesis of the nerve centres reveal no distinct reciprocal relations between the blood-vessels and the dendrites.

This connection with the blood-vessels was thought by Golgi to be the true explanation for the existence of the forests of dendrites which pass out toward the surface of the cerebellum and cerebral cortex, and of the dendrites which in the spinal cord run out in no inconsiderable numbers into the white matter for some distance, and in some animals (for example, certain reptiles) even to the surface, forming a matted feltwork upon the exterior of the cord. Could any more plausible explanation be given than that they, like the roots of trees drawing juices from a distance, pass outward to obtain nutriment from the blood-vessels of the pia?

That adendritic cells exist, has been adduced as an argument against the nervous function of the dendrites and in favor of their nutritive function. So obvious a fallacy is hardly worthy of consideration.

Some histologists, who concede that many of the dendrites have to do with both nervous and nutritive activities, believe that dendrites may exist which possess only one class of these functions. Thus, von Kölliker, while he inclines to the view that many of the dendrites are concerned in conduction,* is by no means willing to deny that there are some of them which do not play such a part, but which serve only to aid in the nutrition of the cell. He emphasizes the statement that all the physiological functions of the spinal cord can be entirely satisfactorily explained without calling in the aid of the dendrites.†

There is some force in the objection that there are dendrites so situated in the nervous system that they apparently can not come in contact with conducting structures belonging to other neurones. Many of the examples which have been brought forward to illustrate this point have not been able, however, to stand the test of investigation. Thus, Ramón y Cajal and C. L. Sala have demonstrated in batrachians collaterals from the fibres of the white funiculi in the spinal cord which run out toward the periphery and even to the surface of the spinal cord to mingle with the plexus of dendrites in that situation. In the olfactory bulb, however, and in Ammon's horn and the fascia dentata, there are dendrites which appear to have no direct relations to the terminals of collaterals or axones of other neurones. At any rate, such relations have not yet been proved. Even von Lenhossék, who along with van Gehuchten and Ramón y Cajal is one of the strongest supporters of the view that many of the dendrites are conductors, grants ‡ that to assert that the disposition of the dendrites in the nerve centres depends entirely upon the establishment of functional relations between different neurones is going too far. He argues that if this were the sole determining factor the organism could have got along with much simpler arrangements than those to be met with in many parts of the central nervous system—for example, in the molecular layer of the cerebellar cortex. He would rather assume that the excitations occurring within nerve cells are in some way favored by the fact that the protoplasm of the cell is split up into a number of fine processes—the dendrites.

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* Wundt, W. *Untersuchungen zur Mechanik der Nerven und Nervencentren.*

† Kölliker. *Handbuch der Gewebelehre des Menschen*, Bd. ii, p. 58, 111–115, 126–128, 683, 684.

‡ *Op. cit.*, p. 135–143.

# Sala, L. Zur feineren Anatomie des grossen Seepferdefusses. *Ztsch. f. wiss. Zool.*, Bd. lii, Taf. v, Fig. 6.

* "Fassen wir alles zusammen, so scheint, wie die Sachen jetzt liegen, die Wagschale doch in hohem Grade zu Gunsten der nervösen Natur der Dendriten sich zu neigen." *Handbuch der Gewebelehre*, Bd. ii, 1893, p. 113.

† *Op. cit.*, p. 126.

‡ *Op. cit.*, p. 142.

Let us turn now to the data which favor the assumption that the dendrites are concerned in nerve function as well as in aiding in caring for the nutrition of the neurone. The most convincing evidence of nerve function in dendrites is that offered by the structure of those curious bodies, the olfactory glomeruli. The view advanced by Owsiannikow[*] and by Walter,[†] that the fibres of the olfactory nerve on entering the bulb from the regio olfactoria became directly continuous with the processes of the large and small nerve cells of the gray matter of the olfactory lobe, was sharply contested by Golgi,[‡] who asserted that between the fine fibrils into which the olfactory nerve fibres broke up on entering the glomeruli and the beginnings of the protoplasmic processes of the cells of the gray matter no union could be demonstrated; nay, since sometimes the protoplasmic processes were stained when the axis-cylinder processes failed to take the dye, and *vice versa*, probably a chemical difference between the two sets of fibrils existed.

Ramón y Cajal,[#] from a careful study of the glomeruli with the osmo-bichromate method, came to the conclusion that the only possible path for the olfactory nerve impulses was that by contact from the terminals of the olfactory fibres in the glomeruli to the dendrites of the mitral cells, and along these to the cells whence they follow their axones into the olfactory tract (Fig. 104).[‖] These observations and views were confirmed in a large number of animals by Van Gehuchten and Martin,[△] as well as by Kölliker.[◊] The last states emphatically (1) that the dendrites can assume the conduction of nerve impulses and (2) that the transference of nerve impulses from one neurone to another can take place directly from fibre to fibre, a direct influence of cell body upon fibres or of fibres upon cell bodies not being essential.

The existence of anatomical relations which render necessary the assumption of a conducting capacity for the dendrites has been further demonstrated in the cerebellar cortex by Ramón y Cajal;[*] in the optic lobe of birds (Fig. 105) by Van Gehuchten;[†] in the distribution of the axones of the mitral cells of the olfactory lobe by Calleja;[‡] and in the retina by Dogiel.[#] There can, therefore, be no doubt that certain of the dendrites are capable at least of receiving certain excitations and of playing a part in their further propagation. Ramón y Cajal, van Gehuchten, Retzius, and von Lenhossék have therefore endeavored to extend the view so as to make it hold in general for all dendrites, and have assumed that the most common mode of transference of a nerve excitation from one neurone to a second is by means of the contact of the terminals of an axone of the former with the beginnings of the dendrites of the latter, a conclusion which seems to be scarcely warranted by the facts at present established. That it is one method of transference is certain; but that there are others, for example, through direct contact of axone terminals with the protoplasm of the cell body, all grant.

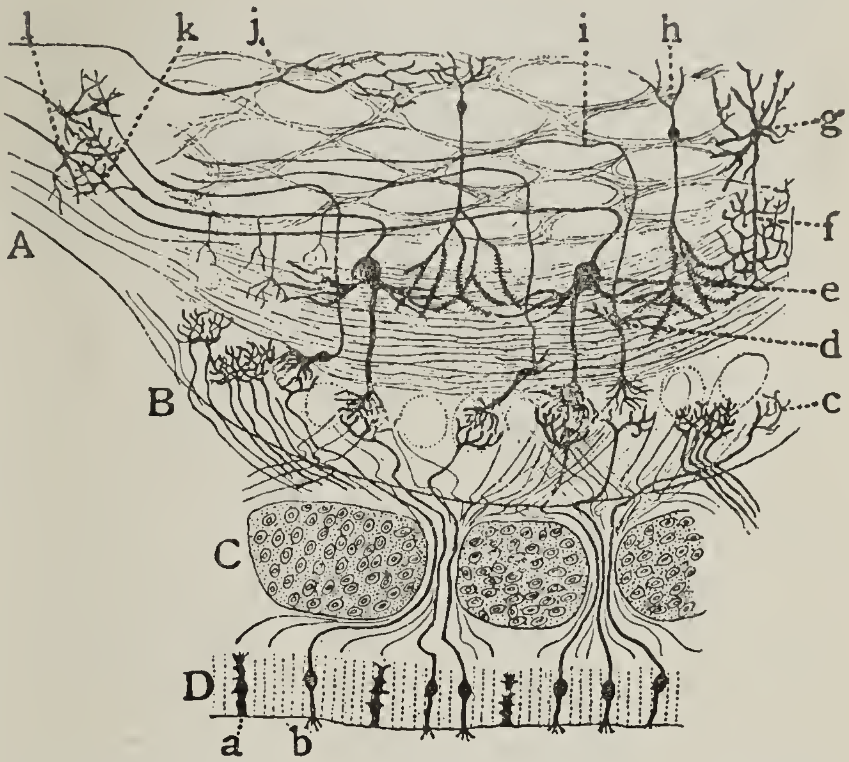

Fig. 104.—Scheme of the olfactory apparatus of mammals. *A*, the olfactory lobe; *B*, olfactory bulb; *C*, cartilage of the embryonic cribriform plate; *D*, nasal mucosa; *a*, supporting cell; *b*, peripheral olfactory neurone; *C*, arborization of an olfactory nerve fibre in the glomerulus of the olfactory bulb; *d*, small nerve cell; *e*, mitral cell; *h*, so-called "granule"; *g*, large stellate cell with short axone (*f*) terminating in the molecular layer; *j*, arborization of fibres of central origin. (After Ramón y Cajal.)

It may be worth while to point out just here a certain fallacy of generalization to which, curiously enough, attention appears not to have been called. Evidence has been adduced which demonstrates indubitably that in certain parts of the nervous system the anatomical relations are such that a conducting function for the dendrites must be admitted. This proof was brought forward as one of the means of demonstrating the nervous function of the dendrites. But some writers appear to take it for granted as a necessary sequence that dendrites for which no such anatomical relations are demonstrable possess no nerve function. If this were sound reasoning, we should have to assume that the transference of impulse from one neurone to another made up the sum total of the nervous functions, an absurdity too obvious to need further discussion. We have not the right to draw our deductions from any one factor to the exclusion of all other coexisting influences. It is surely easy to conceive of a participation in the nerve functions of the neurone of the dendrites, even if they stand in no direct relation either of receiving or discharging to another neurone or set of neurones. Indeed, granted that one portion of a single cell, as we believe a whole neurone to be, possesses nerve function, the onus of proof upon the question of the nature of another portion of this cell—for example, the dendrites—lies with those who deny the nervous function, not with those who maintain it.

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[*] Owsiannikow, Ph. Ueber die feinere Structur der Lobi olfactorii der Säugethiere. Müller's *Arch.*, 1860, p. 469.

[†] Walter, Georg. Ueber den feineren Bau des Bulbus olfactorius. Virchow's *Archiv*, Bd. xxii, 1861, p. 241.

[‡] Golgi, C. Sulla fina struttura dei bulbi olfatori. *Revista di freniatrico*, Reggio, 1875.

[#] Ramón y Cajal, S. Origen y terminación de las fibras nerviosas olfatorias. *Gaceta Sanitaria de Barcelona*, 1890; also *El Encefalo de los Reptiles*, Barcelona, 1891.

[‖] Golgi's observation of fine axones entering the olfactory glomeruli, other than those of the nervi olfactorii, has not, so far as I know, been confirmed by others.

[△] Van Gehuchten, A., et Martin, J. Le bulbe olfactif chez quelques mammifères. *La Cellule*, t. vii, fasc. 2, p. 205–237.

[◊] Kölliker, A. Ueber den feineren Bau des Bulbus olfactorius. *Sitzungsberichte der phys.-med. Ges. zu Würzburg.* Jahrg. 1892, No. 1, p 1–5.

[*] Ramón y Cajal, S. Significación Fisiológica de las Expansiones Protoplasmáticas y Nerviosas de las Células de la Sustancia Gris. *Revista de Ciencias Médicas de Barcelona*, 1891, Año xvii, p. 673.

[†] Van Gehuchten, A. La structure des lobes optiques chez l'embryon de poulet. *La Cellule*, t. viii, 1892, fasc. i, p. 1–39.

[‡] Calleja, C. *La Region Olfatoria del Cerebro*, Madrid, 1893.

[#] Dogiel, A. S. Ein besonderer Typus von Nervenzellen in der mittleren gangliösen Schicht der Vogel-Retina. *Anat. Anz.*, Bd. x, 1895, No. 23, p. 750–760.

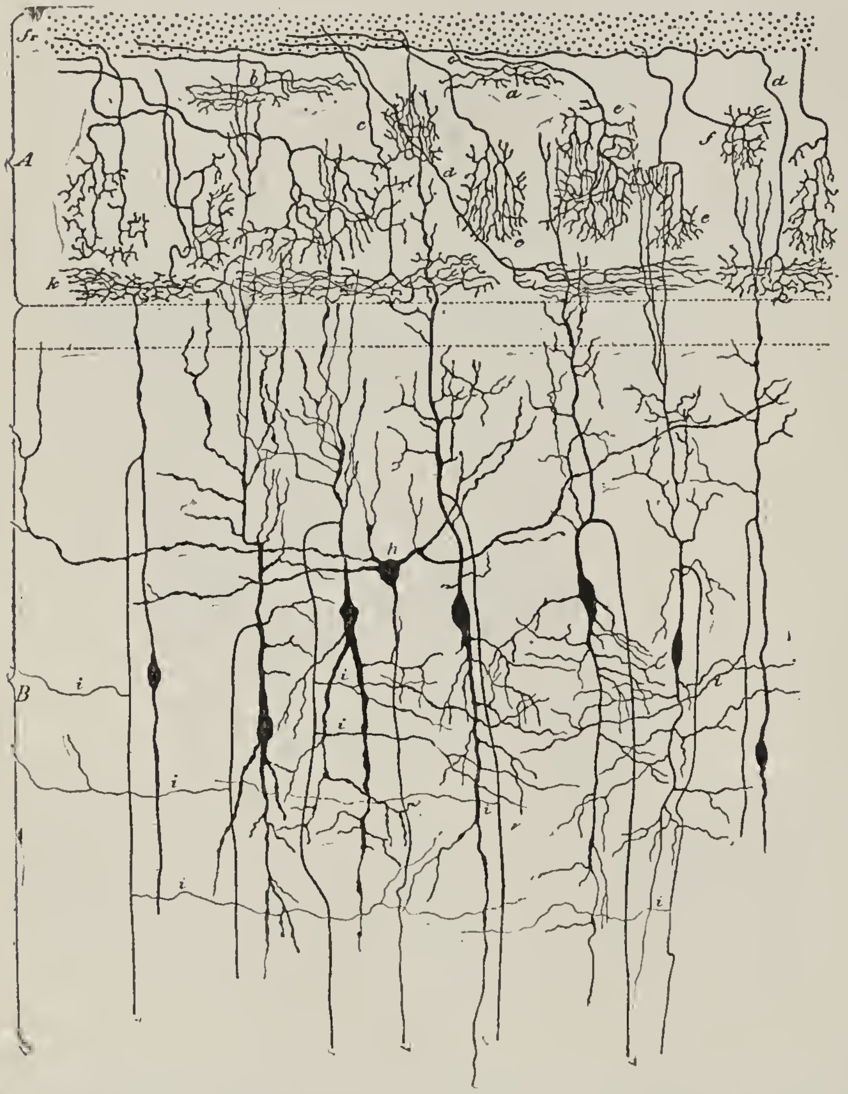

FIG. 105.—Section through the optic lobe of the embryo chick. (After van Gehuchten.) In the external layer *A* are represented the terminals of the fibres of retinal origin; in the layer *B* are shown several nerve cells of the middle zone of the optic lobe; *fr*, zone of peripheral nerve fibres; *a* and *b*, superficial arborizations; *c* and *d*, deep arborizations; *e*, rectangular arborizations; *f*, cuboidal arborizations. The optic nerve cells show internal dendrites manifoldly branched, and a large peripheral dendrite which terminates at different levels in the outer layer, sometimes (*k*) by a horizontal arborization at the level of the deep retinal arborization. The axone arises from the peripheral dendrite and runs through the middle layer, giving off numerous collaterals, *i*.

Now that the cell body of the neurone is known to possess nerve function, the fact that the axone often comes off from a dendrite instead of from the cell body is further evidence in favor of the identity or at least similarity of function of cell body and dendrites This conclusion would agree strikingly with the morphological resemblances revealed by the method of Nissl. Further, if anaxones are to be regarded as nerve cells, as seems almost certain, the dendrites must surely possess nerve function.

That the axones are concerned in the nerve function of the neurone has, so far as I know, never been questioned. It is generally believed that in the conduction of the excitations there can be no transference from one neurone to another except in those parts in which the myelin sheath is not present—that is, for the majority of neurones, so far as the axone is concerned, only in the region of its terminals and possibly in the short non-medullated portion immediately adjacent to the nerve cell. This statement is equally true of the collaterals, for, as Flechsig * has shown, these branches, at least in the cerebral cortex, are, like the main axones, provided with medullary sheaths. We have indubitable evidence, too, that the majority, if not all, of the collaterals of the dorsal root fibres within the spinal cord are medullated.

We have now to deal with the question of the direction followed by a nerve impulse in its passage through a neurone, and have to consider the evidence for and against the view that the impulses in a given variety of cell processes take always the same direction. The hypothesis that in the neurone the dendrites represent the apparatus for receiving nerve impulses, conducting always in a direction toward the cell body (cellulipetal conduction), the axones being the discharging processes conducting always in a direction away from the cell body (cellulifugal conduction), advanced first, I believe, by Van Gehuchten in April, 1891,† has been strongly advocated also by Ramón y Cajal ‡ in an article in which he deals with "the theory of the dynamic polarity of the nerve elements." Retzius # has declared also in favor of this view, and it has been adopted, though in a somewhat modified form, by Kölliker, Waldeyer, von Lenhossék, and others. In the embryological considerations of His and of Mall it met with approbation, since *a priori* nothing could be more natural than that the processes developed upon the end of the cell originally directed toward the outside of the body should serve for the reception of stimuli.‖ The actual

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* Flechsig, P. Ueber eine neue Färbungsmethode des centralen Nervensystems. *Arch. f. Anat. u. Phys.* Physiol. Abth., 1889, p. 537.

† Van Gehuchten, A. La structure des centres nerveux. La moelle épinière et le cervelet. *La cellule*, t. vii, 1891, p. 101.

‡ Ramón y Cajal, S. Significación Fisiológica de las Expansiones Protoplasmáticas y Nerviosas de las Células de la Sustancia Gris. *Revista de Ciencias Médicas de Barcelona*, 1891, p. 673.

# Retzius. Ueber die neueren Prinzipien in der Lehre von der Einrichtung des sensiblen Nervensystems. *Biol. Untersuchungen*, Bd. iv. 1892.

‖ *Cf.* Mall, F. P. Histogenesis of the Retina in Amblystoma and Necturus. *Journal of Morphology*, 1893, vol. viii, No. 2.

proof of cellulipetal conduction in dendrites is established by the observations previously mentioned, which demonstrate their conducting capacity; above all, by those bearing upon the structure of the mitral cells and the relation of their dendrites to the olfactory glomeruli. The galvanometric experiments of Mislawsky * have led him to support the doctrine of cellulipetal conduction in dendrites. He finds that, on applying the non-polarizable electrodes of Fleischl (using a very sensitive galvanometer) to the central end of the sciatic nerve of the frog, one gets a current of action constantly on feeble induced stimulation of the central ends of the corresponding dorsal roots; but, on the contrary, if one applies the electrodes to the dorsal roots and excites in the same way the central end of the sciatic, no effect is produced.

That the axones, at least when engaged in those of their functions with which we are acquainted, conduct, as a rule, cellulifugally is immediately apparent. Among other examples we have the passage of impulses along the pyramidal tracts or along the motor nerves from the ventral horns to the muscles, or, again, in the dorsal funiculi of the spinal cord or in the optic nerve. From the nature of things in motor neurones the cellulifugal impulses passing along the axones are also centrifugal impulses; while in the sensory neurones within the central nervous system the cellulifugal impulses in the axones are, as a rule, centripetal. This is not, however, tantamount to saying that centrifugal impulses are always descending, and that centripetal impulses are always ascending, although this holds as a general rule. An example of an exception is to be found in the descending limb of the Y-shaped divided dorsal root fibre which passes downward to terminate in the gray matter of a lower level and is undoubtedly a centripetal fibre.

Are there exceptions to the law of cellulipetal conduction in dendrites and of cellulifugal conduction in axones? This question, according to our present knowledge, must be answered in the affirmative. In those dendrites from which occasionally an axone takes its origin it is obvious that the conduction in the portion of the dendrite between the general cell body and the axone hillock must be cellulifugal, not cellulipetal, a difficulty of nomenclature which can be obviated by adopting the suggestion of von Lenhossék, who recommends describing the impulses in dendrites as being *axopetal* rather than cellulipetal. But in this way we are thrown on the other horn of the dilemma when we consider the direction of conduction in the dendrites of anaxones—for example, in the amacrine cells of the retina. Where there is no axone it would be absurd to speak of axopetal impulses. The argument that there are dendrites which stand in no contact relation with processes of other neurones makes against the universal cellulipetal conduction of dendrites. Further, if there is ever a transference of impulses from one neurone to another by means of the interwoven dendrites of two neurones, a view which von Bechterew strongly supports, it is obvious that with a given impulse the direction of the conduction in one of the sets of dendrites must be cellulifugal and axofugal. Von Bechterew, in corroboration of his hypothesis, describes the intimate relations of certain dendrites of the two halves of the cord in the ventral commissure, and of those of the anaxones in the olfactory lobe with those of the mitral cells; further, he adduces as instances the dendrites in the molecular layer of the cerebral cortex, and especially those of the nuclear layer of the cerebellum. Interesting as the hypothesis is, there is, as yet, no proof of its truth.

Nearly all writers have agreed that in vertebrates in the typical monaxones the conduction along the axones is cellulifugal. In the diaxones, however, the same rule need not hold. If we look upon the spinal ganglion cells as diaxones, then, obviously, the direction of the conduction of the sensory impulses in the peripheral axone is cellulipetal; in the central axone, cellulifugal. Those who have committed themselves to the doctrine of universal cellulifugal conduction in axones have denied that the axis cylinder of the peripheral sensory nerve fibres is really an axone, assuming it to be rather dendritic in nature.* The fact, too, that the axis cylinder of the peripheral fibre is, as a rule, of thicker calibre than that of the central fibre has been thought to favor the view that it is a protoplasmic process; but, as has been stated, this would appear to be entirely referable to the differences in distance between the cell body and the end of the axis cylinder, since in the ordinary ganglia the peripheral fibre is, as a rule, longer than the central; in the cochlear and vestibular ganglia the peripheral fibre is the shorter, and here the process passing to the periphery is of smaller calibre than that of the central fibre. I take it that we must acknowledge that, though embryologically a dendrite, the peripheral sensory fibre in the adult is histologically an axone, and the passage of impulses from the periphery to the centres must be granted as an example of cellulipetal conduction in an axone. In amphioxus, an animal which possesses no spinal ganglia, Retzius † has shown that the sensory impulses are received by the telodendrions of axones and conveyed along axones cellulipetally to the nerve centres, a form of sensory apparatus very commonly met with in invertebrates. In amphioxus two varieties of cells send axones into the sensory roots, bipolar cells (Fig. 106, *n, z'*) and multipolar cells (Fig. 107) (Smirnow, Retzius, von Lenhossék). The fact that the optic nerve contains axones whose cells of origin are situated not in the retina but in the brain (corpora quadrigemina) is not, as some think, proof of cellulipetal conduction in axones. I can see no reason for not believing that centrifugal impulses pass from the brain to the retina. Indeed, now that we know what an enormous number of neurones are situated within the retina, it would be surprising were its elements not in some way under the control of a governing centre in the central nervous system; and *a priori* the centre most likely to possess the power would be that which first receives the centripetal impulse from the retina, and which we know to be also the local seat of government for the movements of the eye muscles—viz., the superior colliculi of the corpora quadrigemina. That these centrifugal fibres of the optic nerve represent the apparatus concerned in the objectivization of received sensations—*i. e.*, in their projection outward—an idea suggested by von Bechterew, is too unlikely to be seriously entertained.

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* Mislawsky. Sur le rôle physiologique des dendrites. *Comptes rendus de la Soc. de biol.*, 1895, 29 juin, p. 488.

* The suggestion that the peripheral sensory fibre is a dendrite was, I believe, first made by Ramón y Cajal, in 1889, in an article entitled Conexión General de los Elementos Nerviosas, which appeared in *La Medicina Práctica*, in October of that year.

† Retzius, G. Zur Kenntniss des centralen Nervensystems von *Amphioxus lanceolatus*. *Biol. Untersuchungen.* N. F., ii, 1891, p. 29.

The arguments for cellulifugal conduction in axones hold also for their medullated collaterals. The hypothesis has been put forward by von Lenhossék * that Golgi's distinction between non-medullated side fibrils and true medullated collaterals is of definite physiological significance. He thinks it very probable that the side fibrils act as axopetal conductors, the true collaterals alone being cellulifugal as regards direction of conduction. He advances as examples the relations of the side fibrils on the ventral horn cells of the cord, the Purkinje cells of the cerebellum, and those described by Cajal and Van Gehuchten on the axones of the olfactory mitral cells. He would designate the side fibrils then as axodendrites (to distinguish them from cytodendrites), and the true collaterals as paraxones. Von Lenhossék's personal studies, particularly those concerning the relations in rodents (Fig. 108) of the sensory collaterals to the side fibrils given off from the axones of the ventral-horn cells, are indeed strikingly suggestive of the exercise by the side fibrils of a receptive function for impulses. As a result of his own studies van Gehuchten † has opposed this theory, and I must agree with von Kölliker that up to the present time, a cellulipetal conduction in the collaterals (side fibrils) is no better proved than is cellulifugal conduction in the dendrites.

To epitomize our actual knowledge then of the direction of the conduction of impulses in neurones, it may be said that axopetal conduction has been proved for the dendrites of many neurones, and that cellulifugal conduction can be asserted for the majority of axones, although cellulipetal conduction certainly occurs in some. Here our certain knowledge stops, yet the evidence for cellulifugal conduction in many dendrites is very strong, and it is not lacking for cellulipetal conduction in the side fibrils. Nevertheless, it would seem to be very unwise at present to state positively that nerve impulses may not pass in both directions in all neurones. There is certainly no apparent reason why they should not; indeed, just as we have peristalsis and antiperistalsis in tubes covered by smooth muscle, and just as electrical currents may pass in both directions along a piece of copper wire, it would not seem at all impossible in such eminently irritable structures as the nerve cells that the stimulation of either pole or of the terminals of any one of its processes may lead to alterations in the energy conditions of the whole neurone.

That at present we are well acquainted with the evidence for the passage of impulses in the neurones in one direction only does not exclude the possibility that we may at some later time become cognizant of facts which may demonstrate the conduction of impulses of some sort in the opposite direction; especially as physiological experiment has shown that impulses artificially excited in nerve fibres travel in both directions from the point of stimulation. Though the researches of Gotch and Horsley make it appear that on artificial stimulation of a motor nerve, while impulses may pass into the cell bodies of the neurones to which these fibres belong, there is no evidence that they pass out of the neurones immediately affected into those related to them by contact. But the question of cellulipetal and cellulifugal conduction must be solved first for single neurones before the transference of impulses from neurone to neurone can be settled, and the evidence as yet will not permit us to deny the passage of impulses in both directions. The changes in the cell body in the neighborhood of the axone hillock occurring after section of the corresponding axone may not be dependent entirely upon alteration in the character of cellulifugal processes in the cell, but may be influenced in part possibly by cellulipetal influences coming from the point of section. In attempting to explain the phenomena of tetanus, a similar possibility should be borne in mind. The impulses passing in one direction could be of an entirely different nature or quality from those passing in the other. The whole question must be for the present left open. The danger of the ancient mode of induction described by Bacon as "inductio per enumerationem simplicem, ubi non reperitur instantia contradictaria," is one against which the scientist must ever be on his guard.

(*To be concluded.*)

The Harlem Hospital.—We learn that Dr. Thomas H. Manley has been reinstated in his former office of visiting surgeon, and that probably his colleagues who were displaced at the same time as himself will also be reinstated.

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* *Op. cit.*, p. 129–134.

† *La cellule*, t. xi.

THE NEW CATAPHORIC TREATMENT OF CANCER.*

By G. BETTON MASSEY, M. D.,

PHILADELPHIA.

Since my presentation to you of the subject of the cataphoric destruction of cancer cells at the last annual meeting of the association, the estimate then expressed of the value of the electric dissemination of mercuric oxychloride from gold instruments has been justified by the cure of five cases, three of which were carcinomas, situated respectively in the breast, tongue, and sublingual gland. The two sarcomas were, respectively, of the upper maxilla and the right groin.

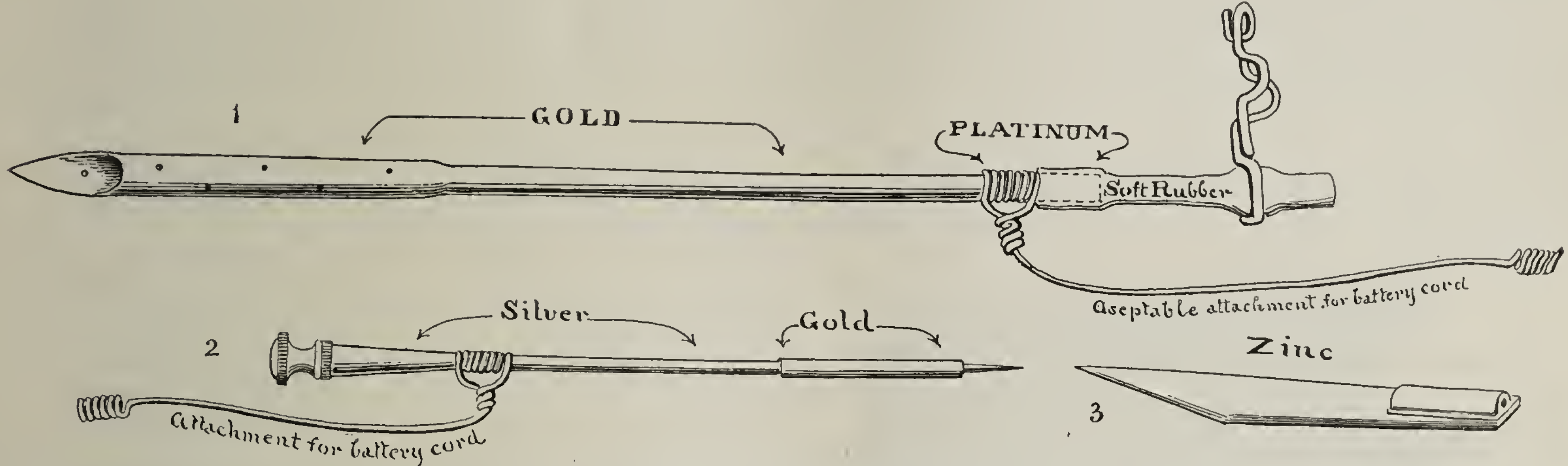
1
GOLD
PLATINUM
Soft Rubber
Aseptable attachment for battery cord
2
Silver
Gold
Attachment for battery cord
Zinc
3

Fig. 1.—The gold and zinc puncture electrodes devised for the cataphoric or electrochemical dissemination of nascent mercuric oxychloride in the treatment of cancer. The gold electrodes have a central channel.

This may be considered a small number of cases to fortify the claim I advance that this method is the most important discovery yet made in the therapeutics of malignant diseases, but when it is considered that these were nearly all of the suitable cases seen by me during the year, and that the remainder of this class is still under treatment with promise of cure, the value of the demonstration is by no means small. There have been several failures to arrest the malignant process in the same time, but these failures were invariably in cases in which metastatic deposits were existent before the beginning of the treatment. The local conditions in these disseminated cases were either temporarily improved or completely controlled during the remainder of the lives of the patients, which were terminated by the unarrested progress of deposits in internal organs made previous to the treatment.

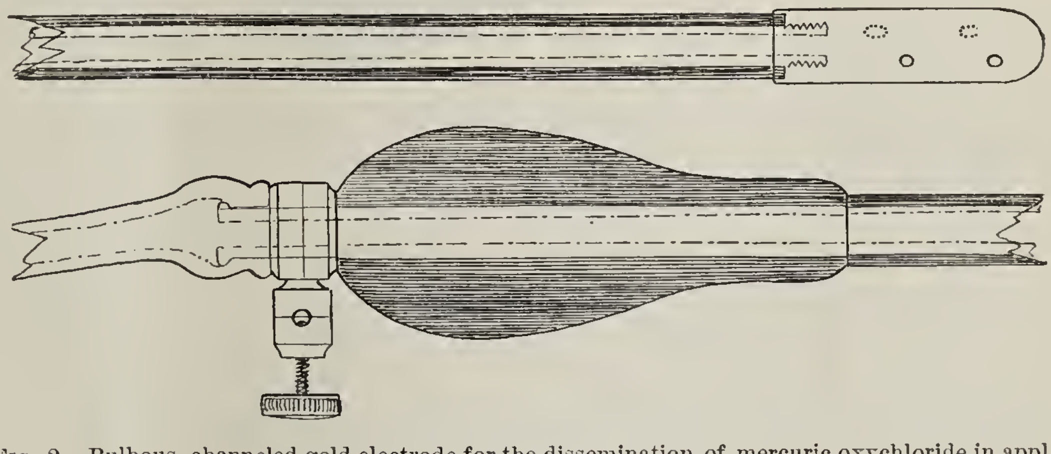

Fig. 2.—Bulbous, channeled gold electrode for the dissemination of mercuric oxychloride in applications to cancer within cavities.

It should be understood that while my method necessitates the use of electric currents, it is totally unlike any other electric treatment of cancer. The electricity is used merely as a carrier of a material or materials, which act as a protoplasmic poison when brought into contact with the protoplasm of the cancer cells, the value of the electric convection being the ability thus gained to cause a molecular union of the substance with the protoplasm of all the cells that lie within the polar region, which extends for some distance. Radiating lines of current flow between the penetrant electrode and dispersing pads. As a result, the cells of the malignant tissue are devitalized and either cast off or absorbed, while the cells of surrounding normal tissues are able to resist in great part the atomic invasion by reason of a sturdier vitality, the final result being a reawakening of their physiological resistance to the cancer dissemination.

A double effect is aimed at: the destruction of the malignant cells and the recrudescence of the forces of the body that resist their invasion.

The harnessing of one of the forces of Nature for the conveyance of protoplasmic poison into cancer cells enables us to thoroughly impregnate a growth at a single sitting from one or more electrodes placed within it, it being only necessary to use sufficient electric energy to convey the quantity suitable to the case, and to time the application so that the most distant prolongations may be reached. I scarcely need say to this audience that these two facts—viz., the quantity of a chemical carried by a current and its speed of progression—are physical laws well determined in pure physics and in the practical arts of electro-plating and electric manufacture of chemicals, and that these laws apply to the human body with the same precision as to other electrolytes of dead or living substances containing a similar proportion of water.

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* Read before the American Electro-therapeutic Association, at Buffalo, September 14, 1898.

An additional practical point remains to be mentioned that is of great consequence in comparing the merits of this method of cancer-cell destruction or removal with any other directed by the unaided efforts of the operator. The prolongations and peripheral invasions of both carcinoma and sarcoma are often of so subtle a nature as to evade recognition by the operator; such paths of extension are, however, better conductors of electricity than surrounding healthy tissues by reason of a greater preponderance of water-containing cells, and are therefore specially traversed by the chemical-laden current, and thus receive a greater dose of the lethal substance. The electric or cataphoric transmission of lethal substances enables us therefore to do a more thorough extirpation of a malignant growth, while the sound tissues of the region are saved from the wholesale removal now the rule in knife operations.

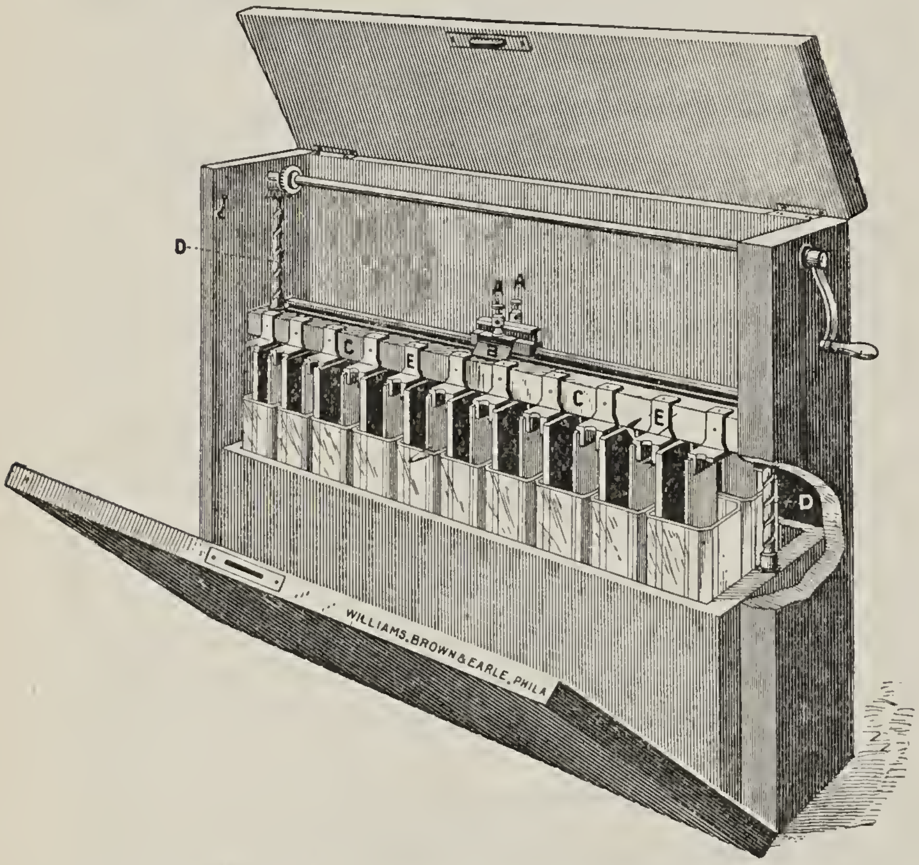

Fig. 3.—The Massey transportable galvanic battery. This battery has been designed to furnish an adequate current for the treatment of cancer at any place when sent or carried in an empty condition and filled at destination with battery fluid previously ordered by prescription.

Turning to the general details of the method, it should be stated that the process involves the placing of an electrode or electrodes within the growth, or possibly merely in contact with ulcerated surfaces, this electrode being constructed of solid gold, coated and surrounded with metallic mercury, or composed of other effective materials (Fig. 1), and made the positive pole of an appropriate current, the indifferent pole being a very large pad covering an area of skin equal to the whole surface of the patient's back. The patient having been put under ether, if the tumor is large or in painful situation, the current is turned on gradually and without shock through a controller, and electrolysis occurs at the electrode situations; the oxygen and chlorine anions, appearing at the gold electrode, attack the mercury, producing an oxychloride, which now, by cataphoric action, is repelled from the gold electrode along the lines of current flow, invading and destroying the protoplasm of the malignant cells in an increasing ellipse toward the opposite pole. From three hundred and fifty to twelve hundred or more milliampères will be required in average cases, and all portions of an average growth will be reached in from fifteen minutes to an hour. Complete anæsthesia is usually required.

During the passage of the current the mercury will disappear from the gold electrode unless it is kept supplied by injection through a channel within the instrument. In a few moments a marked change occurs in the cancer, easily seen if the growth is on the surface; it blanches and becomes shrunken, and an area of necrosis shortly appears about the electrode. Increased heat is evident if the area of the active electrode is small, though this is never sufficient to burn. If there has been any odor emitted from the growth or ulcerations within it this now ceases, never to return if the application is sufficient to arrest the growth. All pain also is removed at once unless the application be overdone, when the normal tissues will show a pain reaction for several days.

The small slough is thrown off in from ten days to three weeks, together with considerable watery discharge, and healing by granulation is usually complete by the end of four to eight weeks.

It is evident that this method is only applicable as a curative agency to growths that are still local, or with infected glands in a situation to be reached directly, though its use as a palliative in incurable cases has much to commend it.

The dissemination of the mercury is so gradual and massive when strong currents are employed that the lymphatics and veins are sealed before it, permitting applications to the most vascular tumors without the loss of a drop of blood. This sealing of the absorbents at the periphery of the growth is of great advantage also over cutting operations in that it is impossible to make such an application a menace to the patient by the transplantation of cells to fresh surfaces, as has been alleged of cutting operations. Only a minute quantity of the disseminated mercury reaches the general circulation.

1636 Walnut Street.

PHENALGIN.

By J. A. HOFHEIMER, M. D.,
LATE ATTENDING SURGEON, HARLEM HOSPITAL DISPENSARY, NEW YORK.

Over a year ago the writer's attention was called to a new coal-tar product known as phenalgin. I had attacks frequently of congestive headaches and had recourse to the various remedies then in vogue, always being compelled to increase the doses. At the time this drug was first brought to my notice I had but recently recovered from a long illness, partly rheumatic in origin. While suffering from a severe headache, later accompanied by nausea (migraine), and having taken a couple of doses of my usual remedy without any relief, I tried five grains of phenalgin. In about twenty minutes the throbbing and aching in my head markedly ameliorated, the nausea ceased, and in less than an hour I was entirely free from distress. This action was so decided and the relief so prompt that my attention thus forcibly attracted to the drug led me to study its action more fully. Since that time I have used it largely with a greater quota of success than I had obtained from other similar products.

Phenalgin is an ammoniated synthetic coal-tar product, being manufactured by a process which holds the ingredients combined in an active form and admitting of their free separation in the economy. It is described chemically as a compound product of the amido-benzene series ($C_6H_5NH_2$) + ammonia, or "ammonio-phenyl-acetamide." The ammonia is almost volatile and admits of its prompt liberation in the stomach in a nascent state.

The effect of this chemical change is to act primarily as a diffusible stimulant, and prevent any undue cardiac depression, which is so prone to follow the administration of most coal-tar products.

Phenalgin is given in powder, tablet, or capsular form, it being a fine white powder of pungent odor with slight taste, and is practically insoluble. It is not disagreeable to take.

From observations on myself and others, it stimulates the pulse rate for a short time after taking, and then the heart's action gradually slows down with a strengthening of its first impulse. It also conveys a soothing, quieting sensation to the patient without any subsequent unpleasant reaction. Frequently, after a ten-grain dose had been given, patients spoke of a feeling of drowsiness, which was followed by a short nap, from which they awoke entirely relieved of their distressing symptoms. Especially is this noticeable in cases of migraine and neuralgia. This later effect has led me to prescribe phenalgin quite often for *insomnia*, sometimes alone and again in combination with bromides or trional. When so given a relatively smaller dose of the last two drugs acted with increased energy.

In *dysmenorrhœa* I have used it with good effect, especially in the functional variety. One noticeable case —a primipara—had always experienced distress during the catamenia, lasting for two or three days, and was compelled to keep the recumbent position with hot applications over the abdomen. In this case I ordered phenalgin in ten-grain powders, to be repeated every two hours if necessary. She took two powders the first day and one the second, and was so relieved as to be able to attend to her household duties. The following month I ordered a powder to be taken on the day before the expected menses; this prevented the pain, and since that time there has been no further trouble, one powder being taken in advance as a precautionary measure.

Another case was relieved by ten-grain doses of phenalgin in powder, accompanied by a mixture of viburnum, every three hours. In most cases of dysmenorrhœa I generally ordered phenalgin, ten grains, at beginning of menses, and to continue it in five-grain doses every four hours for the first thirty-six hours.

Among other cases treated with excellent results from the use of this drug alone and in combinations, I have recorded in my note book the following:

Case I.—Hatty P., abdominal neuralgia, subacute rheumatism.
Case II.—Mrs. Sp., sciatica.
Case III.—Carrie Sc., quotidian malaria, constant cephalalgia.
Case IV.—Della N., fermentative dyspepsia, cephalalgia, insomnia.
Case V.—Mrs. Sa., *la grippe.*
Case VI.—Mrs. O'C., neuralgia (abdominal), insomnia.
Case VII.—Mrs. K., acute rheumatism, cephalalgia.
Case VIII.—Mr. J. Sc., gastralgia, palpitation, cephalalgia.
Case IX.—Mrs. Sa., chronic headache "for years," atonic dyspepsia, and rheumatism.
Case X.—Miss L., cervical metritis, dysmenorrhœa.
Case XI.—Mrs. Sh., pleurodynia, bronchitis.
Case XII.—Fred G., myalgia, rheumatism.
Case XIII.—Mrs. W., nervous dyspepsia, cephalalgia.
Case XIV.—Miss L. M., *petit mal*, insomnia, cephalalgia.
Case XV.—Miss A. J., gastric catarrh.
Case XVI.—Mr. W. F., malaria, cephalalgia.
Case XVII.—Mrs. F., incipient phthisis, pleurodynia.
Case XVIII.—Mr. G. S., gout.

The combinations I have used it in are numerous—*i. e.*, in conjunction with salicylate of sodium, salol, or lycetol in rheumatism and gout. With antiferments and peptogenic compounds in the various forms of dyspepsia and gastralgia. With guaiacol carbonate in phthisis, giving great relief. Combining with arsenic or quinine in malarial affections, and more often given alone.

In summing up my experience with phenalgin, it was found useful in all cases where *pain* was a prominent symptom, acting especially well in rheumatic and neurotic cases. Also, like most of the drugs of its class, it has antipyretic powers; and in malaria, used alone or combined with *small* doses of quinine, it aborts or shortens the paroxysm. It has hypnotic as well as anodyne properties, and is of great service in cases where opiates are often indicated, especially as it leaves no bad after effects and engenders no habit.

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THE LOCAL USE OF THE AQUEOUS EXTRACT OF THE SUPRARENAL GLANDS OF THE SHEEP IN THE NOSE AND THROAT.*

By HENRY L. SWAIN, M. D.,
NEW HAVEN, CONN.

It is about two years since Dr. W. H. Bates referred to the local use of aqueous extract of the suprarenal glands in the eye, and to the most pronounced effects which could thereby be obtained. Since then, while much has been written about the action of the powdered glands taken internally, only a few articles have appeared concerning the local use of this agent. Velich, Darier, Dor, Königstein, and Hajek have all written more or less extensively, the latter being the only one to say much about the use of the glands on the mucous membrane of the nose and throat, and I am sorry to have been unable to get at the original article. Moved by one or another of these communications, I became interested in the use of this agent, and find in it a wonderful aid in controlling local congestions, both acute and chronic.

The following short description will suffice, without prolonged and detailed histories, to give the results of the few months' use of the agent, with the hope that ere long, by a wider use by the gentlemen present, a more definite knowledge of its possibilities and limitations may be obtained.

What the ultimate active principle is has not been accurately determined, although Abel has done a great deal in that direction. Dr. Wagner tells us that a product which he has had made, called ischæmin, is quite permanent, handy to use, and very concentrated.

What I have used is the aqueous extract, which I prepare from the dried saccharated glands. These are to be bought in powder form. Following Bates's suggestion, I have used a solution made by adding about ten to twenty grains to half a drachm of cold water, and, having thoroughly stirred the powder in, the whole is filtered. The result is a reddish-brown fluid, somewhat redder than but very nearly the color of a good old sherry. This solution is thoroughly unstable and will not keep longer than three days, the signs of decomposition being evident by the formation of a deposit. A small amount of alcohol seems to help out the durability of the solution, and if added to the filtered product does not seem to affect its usefulness, unless it is in eye work, where the added alcohol stings. The solution does not seem to mix well with any drugs and works best alone. Such a strength of the extract causes a trifling smarting when instilled in the eye, and when sprayed on most mucous membranes gives a sensation of slight warmth or stimulation. The action in either case is to induce immediate blanching by virtue of the long-recognized power it has to cause the peripheral vasomotor apparatus to contract the smaller blood-vessels. This is the same action locally as that which takes place when the extract taken internally causes the blood pressure to rise by this same contraction of the smaller blood-vessels all over the body. Instilled into an eye, which may be red from any cause, or especially in acute hyperæmia, within a minute there will appear a blanching which leads up sometimes to absolute pallor, often so unnatural in appearance as to remind one of the ghastly whiteness of the eye of a dead person. This action lasts for a varying time, dependent upon the type of congestion present, being shorter for active than for passive types, and gradually passes away, leaving the eye about as before. A repetition of this same action can be had apparently for almost any length of time, Bates relating how a patient of his had it instilled every day for a number of months, and the last time perceived as much effect as the first. No benumbing effect exists, and the only influence on pain would seem to be what comes from the lessened amount of blood present in the outer coatings of the eye. Intraocular tension is not altered. In some obstinate forms of congestion, where we seem not to get a good absorption of either cocaine, eserine, or atropine, if we first instill our capsule extract, and then later our drug, we get a pronounced effect of the latter, sometimes more than we desire.

Having observed these facts, I decided to try it on the nasal mucous membrane, and my most sanguine expectations have been more than realized. The inference was that if the blanching of the conjunctiva was due to the contraction of the vessel walls, there would ensue, when applied to the inferior turbinate, a loss of volume, for it will be remembered that the erectile tissue of these bodies is well supplied with large bands of smooth muscular fibre around the vessel walls. And such was found to be the case. One drawback is that only a limited area is affected at a time, and the effect is somewhat less than a pronounced contraction under cocaine. You will bear me out in the observation that we often get a very complete contraction of the inferior turbinate, for example, with a very limited amount of the membrane having been directly reached by the cocaine which we have sprayed in. This is due to an extension of the first effect from one part to another, and so on until the whole nostril may clear up under the effects of the spray, which probably did not penetrate much beyond the middle portions of the nose. This extended action can be explained by rapid absorption into the vessels and spread through the blood and lymph channels to different parts; but there is probably also a stimulation of vasomotor nerve trunks which supply large areas of blood-vessels, and thus extends the effect far beyond the original absorption area. When the capsule extract is sprayed on to an inferior turbinate, the parts touched by it immediately blanch to a most livid white, then very gradually contract to a very considerable degree, but only over the area directly moistened. In an occluded nostril a second application allows the spray to reach the more remote portions, and the ultimate effect is to cause a nostril to open up very nicely. This would seem to argue that the effect must be directly upon the muscle fibre in the walls of the blood-vessels, rather than upon the nerve trunks, as is the supposed action of cocaine. A further argument would seem to be that we get more pronounced effects from the gland extract applied to the erectile tissue of the nose than upon a congested palate, for example, the reason being apparently that the extra supply of muscle fibres around the blood-vessels of the former gives a better field for the work of the extract.

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* Read before the American Laryngological Association at its twentieth annual congress.

Still another ground for our supposition lies in the fact that the known paralysis of the vessel walls which follows an excessive stimulation of the nerve fibres by cocaine results in a very pronounced flooding back of the blood into them again, so that sometimes the second distention is worse than the first. This lack of tone of the vasomotor nerves seems to be usually explained by the fatigue or paralysis theory. This seems the only tenable one. In some cases considerable time elapses before the full tone seems to be restored. Frequent use of cocaine seems to lead to a more frequent necessity, and this latter develops the need of larger doses repeated at shorter intervals to get the equivalent effects, until the membranes become debauched, as may also the individual, all arguing excessive fatigue effects on the nerve. Not so the capsule extract. As in the eye, so in the nose, I can rely upon a given amount of effect every time, when repeated under similar conditions. There is no such specific loss of tone to the vasomotor nerves, rather the reverse, the subsequent congestion never exceeding what was present before the use of the extract, and frequently in acute disorders it was made markedly less by a repetition. In chronic hypertrophies I have sprayed a nostril every day for weeks at a time, have had patients spray three times or more a day, and have the universal testimony that the effects were the same in amount, came punctually, and lasted on an average as long, a month from the beginning of its use, as at the start. No untoward effects seemed to be observed, either locally or constitutionally, and I have not felt in myself anything more than the slightest pulse changes from a large amount sprayed into my nose and the excess swallowed. The immense advantage over cocaine, in that no danger of a local habit of the tissue or a general habit of the patient exists, can be by no means too much emphasized.

When flushed by the excitement of the first interesting experiments, I thought I had something which might be the much-desired and very greatly needed panacea which would be our stand-by in treating the great class of nasal diseases of the chronic type, where we want, as in hay fever, to open the stopped nostrils, and reopen again and again until the patient is more permanently relieved from his distress by other methods. Perhaps even, I dreamed, if I could only make those muscle fibres contract often enough, real hypertrophies might be squeezed out of existence; but I must confess that some of my sanguine hopes were doomed to disappointment, especially as regards the permanent shrinkage of chronic hypertrophies. A large field of usefulness does, however, exist where it is desired to secure temporary shrinkage to reduce congestion or pressure in a nose, and to insure a moderate amount of patency. Occasionally we find it very desirable to get rid of obstinate congestions, and even hypertrophies, which seem to follow our operative procedures, and which refuse to disappear as a result of them. In a number of such cases the daily use of the suprarenal extract seemed to be the most effective means I have ever used. Especially was this so when the shrinkage produced by the extract was emphasized and followed up by the use of astringents and, wherever granulation tissue seemed to be developing, by ferripyrine. The œdematous hypertrophy of the middle turbinate, such as appears in sneezing catarrh and in asthmatics, seemed to be very favorably affected by the extract, and was certainly shrunken by its frequent use, so that I am very much in hopes, when the season of hay fever comes around, we may find here a most safe and satisfactory adjuvant to our other methods of treatment. In several cases of perennial sneezing catarrh, with large white swellings in the middle turbinate, I am sure I got a very considerable amount of comfort in the post-operative condition, as well as in one patient, who refused operation, a permanent improvement in her condition.

While, as before stated, the extract never seems to work well in combination with any other drug in the same solution, it does aid and abet other medicines in their effects when they are used after it. Just as in the eye, so in the nose, we have cases where cocaine fails to absorb and will not contract a given hypertrophy unless large amounts are used, and sometimes then we fail utterly to get a good operating anæsthesia. In just such cases spray thoroughly with capsule extract, and then, after three or five minutes, lay on the pledget of cotton wet with cocaine, and a most complete anæsthesia and contraction will take place. When on the sæptum there is not the desired ischæmia produced by cocaine to make it desirable to operate, put off operating for a time, and, having first deluged with gland extract, then apply cocaine, and one can operate even in a "bleeder" with great comfort, sometimes almost bloodlessly. It can therefore be relied upon that the gland extract will not only not interfere with the working of cocaine, but will make the effects more lasting and satisfactory. In acute congestions, when it seems absolutely necessary to do something more than merely contract the erectile tissue, any of the various agents in common use may be applied. Apparently, when a prolongation of the ischæmia is desired, one is justified in using a small amount of cocaine as a single application, and the contraction which follows persists very much longer than when either is used alone. Apparently, also, the same is true if a solution of antipyrine follows the gland extract, and there is unquestionably more quieting and analgetic effect from the antipyrine so used. Oil of eucalyptus inhaled works well, and menthol is made more effective when breathed in over the pale contracted turbinates resulting from the use of capsule extract. If any use of the extract has led me to any especial satisfaction, it may be said to be in acute cases, and I have used it in acute rhinitis, inflammation of the three tonsils—faucial, lingual, and pharyngeal—pharyngitis, and laryngitis, and I flatter myself that I have been able to abort some of these by having had the good fortune to get at them early enough to drive out the congestion, and thus give the vessels a chance to get hold of themselves again, resuming normal tone. Even in that most distressing condition, quinsy, I have succeeded in giving more comfort by spraying with capsule extract, and then applying cocaine, than ever before. The two used together produce a very distinct diminution in the size of the swelling, and during this period a glass of milk and a raw egg, together with a little stimulant, can be worried down when previously impossible. Formerly I used to think I might very occasionally abort a follicular amygdalitis by the following method of treatment: Cleanse surface by thoroughly spraying with alkaline spray, and then carefully enter each crypt where the mucous plugs showed with small probang wet with peroxide of hydrogen. After allowing plenty of time for the working of the latter, wash it off with alkaline spray, and cover the parts by painting on boroglyceride; then spray with albolene. Since I have added the use of the capsule extract, aided when large swelling was present by the use of a very dilute solution of cocaine, I appear to have aborted many more cases than formerly. Meantime, if this last observation should prove it to be due to my having seen very simple, easy cases this year, I am sure of one fact—whenever I have used it and reduced the congestion for the time, I have made my patient more comfortable, and have usually had the satisfaction of observing that the inflammation as a whole was made a trifle better if not actually stopped. Subsequent applications of the extract leave the blood-vessels in a more contracted condition, and I have allowed patients to take some home in a few instances to use again later. Of course, patients have used the usual internal and local treatment which we all employ.

Without, therefore, presuming too much on my limited term of observation with this agent, and without laying too much stress on the possibilities which seem to be in evidence, I can quite safely sum up my experience as follows:

First. We have in the aqueous extract of suprarenal glands a powerful local vasoconstrictor agent and a contractor of erectile tissue, which it is safe to use in very considerable amounts without any dangerous or deleterious effects locally, or to the general constitution of the individual.

Second. These local effects can be reproduced in the same individual apparently any number of times without entailing any vicious habit either to the tissue or to the individual.

Third. The use of the extract seems to rather heighten the effects which may be expected from any given drug which may be locally used after it.

Fourth. In acute congestions it has its widest application and greatest opportunity for good, but also in certain chronic conditions of the hay-fever type, where œdematous tissue seems prone to develop, it can be relied upon as one of the most helpful adjuvants which we have at command. The only difficulty seems to be in producing it in quantities and in preventing decomposition on standing, which objection will be probably easily overcome by laboratory experiment.

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PREGNANCY IN WOMEN WITH UTERUS DUPLEX.

WITH REPORT OF A CASE.*

By SARA WELT KAKELS, M. D.

Duplicities in the genital tract of women differ from similar deformities in other organs of the body in that they are caused not by anomalies of the embryonic centres, but by an arrest of development. Adherents of the Darwinian theory of evolution may regard the occurrence of this anomaly in women as atavism, as we find it normally among certain classes of animals; thus, for instance, among the marsupialia *Didelphys dorsigera* has two completely separated uteri and vaginæ; among the rodents, the genus *Lepus* possesses two entirely separated uteri, with one or a partly double vagina; in others, like the mouse, the two uteri unite in their lower portion; while in the higher developed mammals, however, like the monkey, there is only one uterus with an oviduct on each side.

The embryo possesses, as is well known, the two Müllerian ducts, which at an earlier period are solid; only at the sixth week of embryonic life do they become patent; they are transformed in the female into the genital canal, which extends from the ostium abdominale tubarum to the orificium vaginæ. The primitive arrangement remains stationary only in the upper parts of the ducts, the Falloppian tubes; the lower portions, however, below the insertion of the round ligaments, unite after the eighth week of embryonic life and form in the upper part the uterus, and in the lower the vagina, the fusion proceeding from below upward.

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The occurrence of the various forms of duplicity depends upon the complete or partial failure of union of these ducts; in the entire absence of fusion, each uterus is completely separated from its mate and undergoes an individual development. In the space between, intestines may be found. This represents the uterus duplex separatus or didelphys—by far the rarest form of double uterus.

If the upper parts remain separate from each other, and union has taken place in the lower portions only, we have the uterus bicornis; if the sæptum reaches to the external orifice, we have to deal with a uterus bicornis duplex; or, if both uteri have one common cervix, uterus bicornis unicollis. In other cases there is only one uterus, externally of normal shape, but its cavity divided by a sæptum into two parts, uterus sæptus or bilocularis; if the sæptum be only a partial one, uterus subsæptus.

Formerly deformities of the uterus were considered as freaks of Nature until Kussmaul, in 1859, in his classical work *Von dem Mangel, der Verkümmerung und der Verdoppelung der Gebärmutter,* referred them to interference of normal processes of development. To L. Fuerst, however, belongs the credit of having approximately fixed the time of their origin.

The ætiology is not entirely clear, and possibly in various individuals various factors may be potent. Some observers maintain that the ligamentum rectovesicale—that is, a fold of serous membrane extending in sagittal direction from the bladder to the rectum—is responsible for the failure of coalescence. In most cases of uterus didelphys it is absent, though it has been found in non-viable children with this latter anomaly.

Pfannenstiel, of Breslau, who published an excellent article in 1894 on Schwangerschaft bei Uterus didelphys, believes, like Pozzi before him, that the importance of this ligament in the development of uterus bicornis has been vastly exaggerated, and from his own experience he suggests that it was without any ætiological significance in the formation of uterus didelphys.

He claims, however, that the coexistence of a considerable broadening of the pelvis with duplicity of uterus, found in his own case and that reported by Mundé, Holzapfel, and Loehlein, as well as the pelvis preserved in the anatomical museum in Bonn, belonging to a woman with uterus duplex and described by Schroeder, is not merely an accidental one. He believes that in the more spacious pelvis the opportunity to approximate and unite is less favorable, and the Müllerian ducts have better facility to remain separate from each other and to develop independently. With Fehling he refutes the argument that the broad pelvis is secondary only to the larger volume of the uterus duplex.

The frequency of uterus duplex, even in its most extreme form, with or without pregnancy, is, without doubt, far greater than the literature on the subject shows. Many of these cases have only accidentally been discovered at abdominal sections, during parturition or post mortem. There are frequently no disturbances in the physiological functions, and pregnancy and delivery are generally normal.

In the above-mentioned book of Kussmaul it is quoted that uterus didelphys cum vagina duplici was seen only in non-viable children together with other deformities. Fränkel cites the two cases reported by Ollivier and Bonnet as the only two observed in adults and Schroeder, in his text-book on *Obstetrics* in 1886, mentions the case of Benieke as the only one of delivery in a woman with uterus duplex separatus.

Eight years later, in 1894, Pfannenstiel tabulated from the literature eighteen cases of uterus didelphys in adults, including a case observed by himself; twelve of these became pregnant, and there were in the whole twenty-six pregnancies, the largest number of pregnancies being six—Ollivier's case.

Pfannenstiel has been very careful in his selection, and excluded from his statistics all doubtful cases—as, for instance, Le Fort's case, which has been cited by many authors, lately also by Tschudy.

Le Fort's case is, by the way, identical with Bonnet's case. The twelve cases of pregnancy reported were as follows: Ollivier, one; Benieke, one; Dirner, one; Strauch, one; von Engel, one; Las Casas dos Santos, two; Tauffer, one; Müller, one; Rossa, one; Holzapfel, one; Pfannenstiel, one.

In the next year, in 1895, A. Giles reported from the literature of the last twenty-five years twenty-one cases of uterus didelphys in living adults. Strange to say, Pfannenstiel's article has escaped his attention, and his case is not mentioned by him. Giles is not as critical in his selection and admits cases, like Kubassow's, which was rejected by Pfannenstiel. Giles also omits to mention the interesting case reported by Max Simon. In the last two years the literature was increased by contributions of H. Wendling, Pruvost, and G. Spitzer.

Rather meagre is the American literature in this regard. Under the title A Case of Uterus Didelphys and Vagina Duplex, F. C. Ameiss reports about an American woman, twenty-four years old, with double uterus and vagina. The sæptum had to be cut out on account of dyspareunia; six months later she informed the doctor that she was three months pregnant. H. Tuholske cites a case of pregnancy at full term in a woman with uterus didelphys. He was called in as consultant to a primipara and was told that a foot was presenting, but on examination found a tightly closed os. A reexamination, however, cleared the case up as one of double vagina and uterus didelphys, with but one half of the organ in labor. The labor was tedious and the child born dead. The woman made a good recovery; the vaginal sæptum was partly torn during parturition. Some time after the woman again conceived and had a normal labor, giving birth to a living, healthy child. Diagnostically interesting is the case reported by Paul F. Mundé concerning a woman, twenty-five years old, mother of one child.

She was admitted to the Mount Sinai Hospital with the diagnosis of extra-uterine gravidity in the third month. At the operation it was found, however, to be a gravidity in one half of a uterus duplex sæptus. There was one vagina. The abdomen was hastily closed, and the patient aborted twelve hours later.

Reports of the various forms of uterus bicornis, with and without pregnancy, abound in recent literature.

The following case is briefly reported, having come under my own observation:

Mrs. D. S., born in Germany, thirty years old, came under my treatment more than five years ago. Her family history was negative; to her knowledge none of her female relatives suffered from any abnormal formation in the genital tract; she always was well. Her menses made their first appearance in her eighteenth year, while crossing the ocean. They appeared regularly every month, and lasted seven to nine days, with very profuse loss of blood and such severe pain that she often was confined to her bed. There was considerable leucorrhœa and a sensation of weight in the abdomen in the intermenstrual period. The patient was married nine years, and her menses had never ceased during that time. Her ailment, as well as her great desire for maternity, induced her to put herself under my professional care.

Patient is of medium height, with very broad face; anæmic; mammæ not very large; nipples small and retracted, especially on the left side. Surrounding the right nipple in the areola are a number of papillæ, about twelve to fourteen; not so many surround the left nipple.

Organs of thorax are normal; patient appears to be decidedly broad in her hips; the diameter of the pelvis, especially in transverse direction, apparently large.

The external genitalia are normal; mons Veneris covered with abundant hair; clitoris and orifice of urethra normal. Hymen lacerated, vagina not very spacious; portio vaginalis small, os externum narrow. On bimanual examination a small uterus acutely anteflexed. with the fundus pointing somewhat to the left, could be felt. There was a small tumor to the right of the uterus; a reexamination, with the labia well separated from each other, revealed another somewhat smaller introitus to the right of the first one. Hymen lacerated; right vagina, separated by a complete fleshy sæptum from the other, narrower, but passable for two fingers, led to an individual cervix; and the tumor before felt was found to be another much smaller uterus, with very thin walls, slightly anteflexed, the fundus pointing to the right. The fornices of both vaginæ near the sæptum were flattened; the right vagina near the sæptum measured two inches and a quarter, posteriorly four inches, in length. Length of right uterus, an inch and a half. The left vagina, considerably wider, measured, near the sæptum, two inches and three quarters, and in the fornix four inches. Length of left uterus, two inches; its walls thicker than those of the right one. Annexa could be easily palpated on each side. Each uterus was movable independently from the other, and separated from its mate, not only in the upper, but also in the collum part. The interstice between the two uteri could easily be felt by bimanual examination. With one hand placed over the abdominal walls and the finger of the other in the vagina or rectum, a sound having previously been introduced into each uterus, distance between both vaginal portions about an inch; a ligamentum rectovesicale could not be detected. There was, however, a transverse, apparently membranous, bridge about an inch wide and of the same height between the two cervices—Pfannenstiel's so-called ligamentum intercervicale.

Among the eighteen cases tabulated by Pfannenstiel it was absent in only three. He calls attention to the fact that this membrane undergoes involution post puerperium. As it becomes narrower, both cervices approach each other, and the diagnosis becomes more difficult. During pregnancy, however, this ligament broadens by softening of the tissues.

Diagnosis.—Uterus duplex separatus; vagina sæpta; endometritis; stenosis and anteflexion of the left uterus; atrophy of the right uterus; sterility.

I am well aware of the difficulty of making a diagnosis in such cases. Garrigues, who detected a uterus didelphys in a virgin while making an abdominal section, claims that it is hardly possible to diagnosticate the uterus didelphys from the uterus bicornis in the living woman through the closed abdominal walls; yet I think there can be but very little doubt in regard to my case.

During the next menstrual period I had the opportunity of observing both uteri menstruating simultaneously. This occurred in the plurality of cases recorded.

In von Engel's case, however, both uteri menstruated separately. The flow always began from the better-developed right uterus, lasting two to three days, after which there was a bloody discharge from the left side for a day and a half. William S. Sprigg reports the case of a woman with double uterus and partly double vagina who menstruated one month from one side and the next month from the other. In Dr. Müller's observation the left uterus menstruated, while there was pregnancy of the right one. After the puerperium, however, the right side only menstruated. In the last year Pruvost contributed a case concerning a woman, twenty-five years of age, with double uterus, who had given birth to five children. Her menstruation lasted three days, after which a pause of one day followed, when again a menstrual flow of three days' duration set in.

My patient was treated in the usual manner: the cervical canal dilated and the faradaic current applied to develop the weak uterine muscle; the menstrual pain, however kept on, and I decided to insert an intra-uterine stem. Dr. B. Scharlau saw the woman in consultation with me at that time. The pessary was inserted, after which the dysmenorrhœa somewhat abated. The stem was worn for a number of months. About a year after I first saw her Mrs. S. became pregnant in her left uterus. The pregnancy was entirely normal. The menses ceased on both sides. The right uterus hypertrophied somewhat, but not to a considerable degree, and at full term a well-developed boy was born; breech presented; labor lasted only a few hours. Before I arrived, a physician in the neighborhood had to be called in, who extracted the child; spontaneous delivery of placenta; puerperium was entirely normal. I am unable to state whether the empty uterus participated in the contractions during pain, or a decidua from the empty uterus was expelled.

The patient escaped my observation at that time, and, though I took some pains to locate her, I did not succeed. Only a short time ago I was able to see her, and found on examination a single introitus of the vagina. Along the anterior wall are remnants of the sæptum. The now single vagina is far more spacious and the left uterus considerably larger. She has not been pregnant since.

The above-reported case presents, it seems to me, some interesting features: A woman with uterus duplex, both uteri small, giving birth for the first time in the eleventh year of her married life, gravidity and delivery as well as the puerperium being perfectly normal.

I would not like to claim that the long treatment she was subjected to improved her condition very much. I am aware that *post hoc* is not always *propter hoc.* As a matter of fact, her ailments never ceased entirely, but were, at most, somewhat alleviated. It may be, however, that the straightening of the acutely anteflexed uterus and the dilatation of the canal made it more permeable.

The outlook in regard to fertility, even in the most pronounced form of uterus duplex, is very good.

As stated before, Pfannenstiel reports pregnancy in twelve of his eighteen cases. There were in the whole twenty-six pregnancies. Fifteen of these went to full term. The largest number of pregnancies in one woman was seven, reported by Max Simon. Of the twenty-one cases of uterus didelphys reported by Giles, fifteen were married; of these, three miscarried, while eleven had borne children.

In repeated pregnancy in the same person the two uteri may alternately functionate. Sometimes a certain regularity seems to exist in this regard, oftener no regularity exists.

In Ollivier's case the six pregnancies took place in the left uterus.

Sometimes there may be pregnancy in both uteri. Thus Sotschawa records the case of a woman, twenty-six years of age, with uterus and vagina duplex, in whom both uteri were pregnant, the left one containing a fœtus a month and a half old, while the right one inclosed a three-months'-old fœtus. Althen also reports gravidity in both uteri. Both uteri aborted in the fourth month.

While the outlook in regard to fertility is very good, disturbances during pregnancy and delivery are not rare; abortion in the early months and partus præmaturus being of rather more frequent occurrence than with normal uterus.

If pregnancy takes place in a rudimentary horn of a uterus bicornis, gravidity is threatened with the same danger as tubal pregnancy, with which condition it is very often confounded.

Giles's statistics show that of sixteen labors, ten were normal and six complicated. Inertia of contraction during labor is often referred to, which is not astonishing considering the lesser amount of muscular fibre, as each uterus represents *de facto* only one half of the normal uterus.

With the inertia of contraction there is often a protracted duration of delivery. There are, besides, various causes of dystocia. In Strauch's case the sæptum vaginale had to be incised, as it impeded the descent of the child. Often the sæptum is torn completely by the descending part. Very interesting in this respect is the case reported by Rossa, where one otherwise well-formed vagina was occluded at its lower end. There was, however, a communication with the patent vagina through a hole in the sæptum, through which impregnation of the occluded side occurred. Delivery of the child took place through the hole in the sæptum, after it was digitally somewhat dilated. There may be sometimes an obstruction formed by the empty uterus. In one of Las Casas dos Santos's cases the retroflexed empty uterus caused the difficulty; while in Tauffer's case it narrowed the pelvic inlet. Loehlein refers to a very difficult delivery in a woman with uterus bicornis duplex; the non-pregnant uterus, being much enlarged, formed a very serious obstacle, which finally led to the violent rupture of the gravid uterus. In Wendling's case of uterus didelphys an impediment arose through a hæmatocolpos of the occluded side, and a dead child was extracted only after the vaginal sæptum was incised and a large amount of fluid permitted to escape. A very unusual complication was encountered by Tschudy: pregnancy occurred in the right rudimentary uterus; the woman was in labor three days; as the os did not dilate and there was immediate danger of rupture of the uterus, Cæsarean section was resorted to, and the uterus amputated *supra vaginam.* The woman made a good recovery.

With regard to the attitude of the fœtus in utero, longitudinal presentations are most frequent. It seems, however, that breech presentations are met with somewhat oftener than with normal uterus.

The prognosis for the child is good.

The diagnosis of duplicity of the genital tract is not always an easy one. If there be two vaginæ, one might sometimes be overlooked.

The true condition becomes apparent if there are two cervices in one vagina. Generally there are two uteri where two cervices are found. The various forms of double uterus may be diagnosticated by bimanual examination, if necessary, in narcosis; of greater difficulty is the diagnosis if there be an accumulation of blood in the occluded half of the double uterus.

Pfannenstiel points out the importance of observing the course of the round ligament of the impregnated side. He also thinks this point valuable in differentiating between a tubal pregnancy and a gravidity in a rudimentary horn. The round ligament of the impregnated uterus in his case took a vertical course somewhat in front of the uterus in the parasternal line downward to the inguinal canal.

He explains this as a result of mechanical traction. During normal pregnancy the round ligaments, becoming stretched, have a tendency to draw the uterus down and forward, attached, as they are, to the upper and lateral part of the uterus. If there be pregnancy in one half only, the uterus is turned around its long axis by the traction of the right ligament, and thus the lateral edge of the uterus, as well as the right ligament itself, come to the front.

Interesting in regard to diagnosis is the story related by Kussmaul in his text-book.

In the latter part of the last century the famous author of the *Stolpertus*, Franz Anton Mai, and Fischer, both well-known obstetricians in their time, examined a primipara. As each of them examined through a different vagina, one found the os to be patent, in the first stage of labor, while the other found a closed os and of a nearly virginal condition. They almost came to a heated dispute. When they examined her again the true status was revealed. The woman died on the ninth day after delivery. At the autopsy it was found that a splenic abscess had perforated into the abdominal cavity.

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AN EXPERIMENTAL STUDY OF
THE EFFECTS OF HYDROGEN DIOXIDE UPON THE NORMAL ACTION OF UNORGANIZED FERMENTS.

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While the researches of Schmidt, Assmuth, Guttmann, Richardson, and others have revealed many important and interesting physiological properties of hydrogen dioxide, still, the influence of this product upon certain vital processes, and particularly upon those of digestion and upon the action of digestive ferments, does not seem to have received very much direct attention. The effects of hydrogen dioxide upon the life and activity of organized ferments—bacteria, fungi, etc.—have been more carefully investigated, though even in this direction there is obviously an opportunity for more direct experimental work.

In 1860, Dr. Benjamin Ward Richardson, at the close of a paper on Hydrogen Dioxide, read before the Medical Society of London, said: "In placing this memoir on the annals of the society, I guard myself, once and for all, from any exaggerated suggestions as to the value of this new medicinal agent. The subject is so novel, even to me, after twelve months' learning and knowledge of it, I have feared to use a sentence that has not been measured and recast over and over again. I am not offering this medicine as an *elixir vitæ*. I do not pretend to know all its properties. I do not bind myself irrevocably to that which on the present occasion has been offered; on the contrary, I remain open to all new observation and knowledge for correction and guidance. I believe we have here within our grasp a powerful medicine, the full value of which it may take years to develop, and the useful application of which may be developed in directions different from those now advanced. My purpose will be served if I but call forth investigation and elicit fact; let the course of the events bend as they may."

After years of further study and experiment with this product, this same investigator, in 1892, published a series of papers in the *Asclepiad* on Further Research with Hydrogen Dioxide, lauding its value as a therapeutic agent, and concluded by quoting the above paragraph and making the following indorsement of it: "A generation has passed since these words were spoken. I repeat them with more knowledge, more experience, and more confidence, but still expressing the same earnest hopes, the same candor, and the same respectful confidence in the voice of the future."

Dr. Richardson in 1860 appreciated the value of hydrogen dioxide as an acquisition to both medicine and general science, and knew that its properties were worthy of much further investigation; so, besides calling upon others to pursue the inquiry, he himself continued to study and to make further observations in the same direction. In 1892, with a consciousness of the existence of important facts not even then determined, he urged still further investigation of the subject, and, although since 1892 additional facts concerning the physiological properties of this product have been pointed out and its value as a therapeutical agent has become more generally known, the ground has not even yet been thoroughly explored.

Quite recently the writer reported (*Medical Summary*, March, 1898) an interesting case of chronic gastric catarrh completely cured by the internal administration of medicinal hydrogen dioxide, demonstrating the practical utility of this remedy in certain digestive disturbances. Since preparing that report I have made some direct experiments to determine the influence of hydrogen dioxide upon the action of digestive ferments and upon digestive functions in general. The results of the more important of these experiments are herewith recorded:

Experiments with the Action of Ptyalin upon Starch.—Fifteen grains of potato starch were gelatinized by heating with three ounces of distilled water in a flask over a boiling water bath for half an hour. The mixture was then divided into two equal parts, and each part placed in a separate flask and allowed to cool to a temperature of 100° F., which temperature was then maintained during the remainder of the experiment. To one part of the gelatinized starch mixture was added one drachm of saliva, while to the other portion was added one drachm of saliva—collected at the same time as that used in the other flask—and also one drachm of a three-per-cent. aqueous solution of hydrogen dioxide rendered neutral in reaction by the addition of chemically pure aqua ammoniæ. In all these experiments the U. S. P. preparation of medicinal hydrogen dioxide, manufactured by the Oakland Chemical Company, of New York city, was employed. This preparation, in common with other properly prepared stock solutions of hydrogen dioxide, has an acid reaction, and the neutralizing of this acid was necessary to the proper performance of this experiment, as the action of the salivary enzyme, ptyalin, is restrained by even small traces of acids, as also by excess of alkali. Both mixtures were then agitated and maintained, as already stated, at a uniform temperature of 100° F. At the expiration of ten minutes both mixtures were tested for starch by the usual iodine test, and in neither was there any indication of its presence. It was thus shown that the presence of hydrogen dioxide did not interfere with the digestive action of ptyalin, since in both the mixture containing the hydrogen dioxide and that without it the diastatic action of the ferment was manifested by the rapid conversion of the starch into maltose.

Another interesting and suggestive experiment with salivary digestion was made. In the preceding experiment the saliva used was taken from a mixture previously deposited in a beaker by one person, so that both portions used might be uniform in composition and properties, but in the following experiment this plan was changed. Some saliva was collected as in the previous experiment, in a beaker. The mouth of the person furnishing the saliva was then rinsed with the three-per-cent. solution of hydrogen dioxide and more saliva deposited into another perfectly clean beaker. One drachm of the saliva in beaker No. 1 was then added to one half of a mixture of gelatinized potato starch identical with that prepared for the former experiment, while to the other half one drachm of the saliva from beaker No. 2 was added. Both mixtures, contained in separate flasks, were then maintained at a temperature of 100° F., and portions of each mixture tested every two minutes, with iodine solution, for starch. At the expiration of six minutes the starch reaction had disappeared from the mixture to which saliva from beaker No. 2 had been added, but was still faintly shown in the mixture containing saliva from beaker No. 1. In eight minutes, however, the starch reaction had entirely disappeared from the latter mixture as well. A not unwarranted inference—concerning the salivary enzyme—from this experiment would be that either a more concentrated or more active product was furnished after the mouth was rinsed with the hydrogen dioxide solution. The details of these experiments were verified by repetition.

It might be said that gelatinized rather than raw starch was used in these experiments owing to the slow and incomplete change induced by diastatic ferments in raw starch, compared with that occasioned under similar conditions in gelatinized or cooked starch; and the starch of the common potato was employed, rather than starches of different origin, because of the fact that, other things being equal, the starch yielded by the common potato is saccharified by the salivary enzyme much more rapidly than the starches of wheat, rice, corn, or sweet potato.

Experiments with the Digestion of Proteids.—Experiments were also undertaken to determine the effect of hydrogen dioxide upon gastric digestion. To this end experiments were made both with pepsin in artificial solution and with gastric juice obtained from living animals:

An artificial gastric juice was prepared as follows: Pepsin, seven grains and a half; hydrochloric acid, forty-five minims; water, eight ounces. To two ounces of this solution, contained in a flask, were added one hundred grains of hard-boiled egg albumen, while to the same quantity of the solution in another flask were added one hundred grains of hard-boiled egg albumen and also one drachm each of hydrogen-dioxide solution and glycerin. Both mixtures were then maintained at a temperature of 100° F. until solution of the albumen was effected. In both instances the albumen was dissolved in about six hours.

Experiments similar to the preceding one were made with fibrin, the same pepsin solution being employed. It was found that when fibrin was first soaked in a weak solution of hydrogen dioxide its digestion was facilitated, and also that the combining of hydrogen-dioxide solution with the pepsin mixture also facilitated the digestion of the fibrin.

The influence of hydrogen dioxide upon the action of natural gastric juice, as elaborated by living tissues, was also studied. The gastric juice for these experiments was supplied by a dog upon which an artificial gastric fistula had been established. The gastric juice of the dog, while practically comparable to that of man, is richer in pepsin, free hydrochloric acid, and organic salts—is, in fact, a more concentrated product.

For the following experiments the digestive fluid was collected through the fistula which had been previously established—a free opening from the cavity of the stomach to the abdominal integument being maintained by the insertion of a silver tube having a retaining flange on either end. A series of comparative experiments were made with canine gastric juice, from which the following is selected:

After the dog had fasted during the night he was fed next morning with a piece of previously cooked meat, and the cork drawn from the tube in the fistula. The first portion of the gastric juice which came away was rejected—the properties of this secretion varying somewhat during digestion and in the intervals of the same—and after it had flowed a short time an ounce was collected. This was at once placed in a flask with a quarter of an ounce of recently boiled lean beef, and the flask and its contents maintained at a temperature of 100° F. until the meat was completely digested, which occurred in somewhat more than five hours. The experiment was then repeated, using the same quantities of gastric juice and meat and identical conditions of temperature and manipulation, but varied by the addition of a drachm each of hydrogen-dioxide solution and glycerin to the mixture. In this instance the digestion of the meat was complete in five hours. The experiment was then varied by washing the cavity of the dog's stomach, through the fistula, with a one-per-cent. aqueous solution of hydrogen dioxide, made by adding to an ounce of the three-per-cent. stock solution of hydrogen dioxide two ounces of water. The dog was then fed with a little cooked meat as before, and another ounce of gastric juice collected. To this a quarter of an ounce of boiled lean beef was added as before, the digestion of which was completed in somewhat less than five hours.

It was thus shown by a series of carefully conducted experiments that hydrogen dioxide, instead of retarding the normal action of the digestive ferments of the body, as might be inferred from its recognized antigermicidal properties and destructive effects upon bacteria—organized ferments—may even aid their action. In virtue of its important oxygen-yielding property it is not difficult to understand that this product may directly influence the processes of tissue metabolism. Further experiments which we have made—the details of which are too elaborate for the present discussion—show that, under certain circumstances at least, diffusion of the products of digestion through animal membrane and their further elaboration for the nourishment of the tissues may be facilitated by hydrogen dioxide. The influence of hydrogen dioxide upon the processes of absorption and nutrition will constitute a fitting theme for future discussion.

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TRIBROMPHENOL-BISMUTH AS AN ANTISEPTIC IN CHRONIC SUPPURATIVE OTITIS MEDIA.

By LEWIS S. SOMERS, M. D.,

PHILADELPHIA.

Suppuration of the middle ear of long duration presents a constant menace to not only the hearing, but also the life of the individual, and, unless efficient means are used to favorably influence the septic changes progressing in the tympanic cavity, cerebral abscess, mastoid disease, or sinus thrombosis will be the ultimate outcome in a considerable proportion of cases. It is futile for one to advocate any individual drug or surgical procedure as applicable to all cases; each must be treated upon its own merits, and an accurate diagnosis of the pathological changes in the affected ear must be made before any form of treatment will be successful. Many cases are accompanied with necrosis of the ossicles, limited or extensive areas of the tympanic walls, or of all conjoined, and in these local applications should only be used when operation is refused or where the necrotic area is limited in extent.

The following cases illustrate what may be done when operative measures can not be carried out:

W. M., male, aged twelve years. Right ear suppurating for an indefinite period without known cause. There was a profuse offensive discharge, the membrana tympani was destroyed, and the malleus, incus, and a portion of the tympanic wall were necrosed. He received topical treatment for several months without result, until October 5, 1897, when tribromphenol-bismuth was first used. October 30th, much improved, and two weeks later the discharge had lost its offensive odor and purulent character and was greatly diminished in amount. The patient then retained all the improvement gained, but progressed no further, and finally ceased attendance.

M. R., female, aged twenty-five years. The left ear has been suppurating at irregular intervals since childhood. The membrana tympani, malleus, and incus were absent, and there was a small area of necrosis on the promontory. Operation was refused, and varied treatment used for one year with no apparent results. Tribromphenol-bismuth was then used, and three weeks later there was a marked diminution in the amount of discharge and the odor had disappeared, while two weeks later the ear was practically dry.

In attic suppuration, where thick membranous bands exist, dividing this portion of the tympanum from the atrium, and where the pus is discharged through a small perforation in Shrapnell's membrane, operative interference alone will be of any permanent benefit. The use of powders tends to prevent free drainage through the external canal and retention of pus with mastoid necrosis results. But after the incus has been removed and the parts have been curetted, antiseptic measures, as here indicated, are essential to prevent reinfection and the continuance of the disease. The class of cases with which we are especially concerned embraces those forms of chronic suppuration characterized by a profuse, purulent or mucopurulent discharge, with free drainage through the external canal and not presenting evidence of necrosis of the atrial walls. In nearly all the malleus and incus are necrosed in part, but often absent when the case comes under observation, or, when present, must be removed before local applications are advised. In the class of cases here named, and they form by far the vast majority, three forms of treatment have been used—syringing, dry, and the drainage method. The method of treating suppuration of the tympanic cavity with solutions and the syringe is most harmful, while the two latter methods offer a basis for the successful use of drugs in the majority of cases. When powders are used, much depends upon their application and the size of the perforation in the membrana tympani. When the perforation is small, and especially if situated high up, powders should not be used; but when the membrana tympani is absent, or the perforation large and the discharge moderate in amount, the judicious use of an antiseptic, such as the one under consideration, will be productive of much good. Drainage is indicated in practically the same conditions, and also when the perforation is smaller and the discharge offensive and profuse.

The method of treating these cases is as follows: The external canal and middle ear are thoroughly cleansed with peroxide of hydrogen applied on a cotton-tipped applicator, all granulation tissue having previously been removed; then the powder is lightly dusted over the secreting surfaces and a gauze drain inserted, reaching from the tympanic margin to the concha. Over the external canal and fitting into the concha, a pad of sterile absorbent cotton is placed and allowed to remain for one or two days, as the amount of discharge may suggest. In the cases in which tribromphenol-bismuth was used, all were improved, or apparently cured, under the treatment outlined, after other methods and remedies had been tried.

The following case illustrates the antiseptic value of the drug:

E. M., female, aged eight years. Seen September 1, 1896. Both ears discharging since scarlet fever six years ago. Examination showed a profuse mucopurulent discharge and the membrana tympani absent on both sides. No necrosis existed in either ear, but the mucous lining was hypertrophied and the patient was treated until January, 1898, with but little result. The long continuance of the affection while under observation was in great extent due to her mode of living and her irregular visits to the clinic. Tribromphenol-bismuth was then applied to the entire surface of the tympanic cavity and external canal, and a gauze drain was inserted. She was treated in this way on alternate days for one week, and at the end of that time both ears were completely dry and have remained so to the present time.

Since commencing to use this drug over one hundred cases have been treated, those reported here representing both successes and failures in part, and they show that the drug is of considerable value as an addition to the armamentarium of the otologist. Tribromphenol-bismuth is valuable if properly used, on account of its antiseptic properties. It does not stain the parts, as does pyoktanin, nor cake like boric acid, and has a decided effect in not only lessening but also changing the character of the discharges from the middle ear. This is well shown in the following case:

B. L., male, aged three years. The right ear has been suppurating for two years. Was treated in various ways without apparent benefit, and the discharge was worse than it had been at any previous time. The canal was filled with foul, yellowish-green pus, and the membrana tympani and ossicles, except the stapes, were destroyed. One month later the discharge was considerably diminished in amount, it had changed in character, and the offensive odor had entirely disappeared. Although the patient did not show as much improvement as did some of the others here reported, yet, under the use of this drug, the aural suppuration had improved more than it had in any like period of time under other treatment.

A decided desiccating effect was marked, while the limitation of secretion under its use was prominent, and at the same time the odor so often present in long-continued cases speedily disappeared, as will be seen by the following case:

G. S., female, aged four years. First seen October 12, 1897, with the left ear suppurating for over one year. The discharge was profuse; there was a large perforation of the membrana tympani and external otitis from the constant presence of pus in the canal. On October 14th decided improvement had taken place, and two weeks later the discharge had entirely disappeared and the canal was normal.

In both the following cases excellent results were also obtained in a comparatively short time:

Mrs. E. P., aged forty-five years. Left ear discharging for several years following *la grippe*. The canal was filled with granulation tissue, and when this was removed the drum was seen to be perforated in the inferior posterior segment. The discharge rapidly diminished in amount, and at the end of three weeks had entirely ceased.

J. M. K., male, aged thirty-two years. First seen on January 25, 1898. Right ear had been suppurating for twelve years, following sea bathing. There was a bloody, purulent discharge, with perforation of the posterior inferior segment of the drum, surrounded with granulations. These were cauterized with silver and absolute alcohol, and on January 27th the discharge was much diminished in amount, and one week later had ceased.

The composition of tribromphenol-bismuth is indicated by its name, while its physical properties recommend it for aural use, being odorless, impalpable, and non-irritating. It is greenish-yellow in color, neutral in reaction, insoluble, and, on account of the high temperature required for its decomposition, can be sterilized without affecting its value. As the drug is slowly decomposed in the ear, it exerts its action for a considerable time, keeping the mucous surfaces under its antiseptic influences for a longer period than any other remedy with which I am familiar. Of great importance is the thorough cleansing of the canal and tympanic cavity of all detritus before any powder is applied, and this is especially so here, as the drug will have little or no influence unless brought in immediate contact with the pus-producing surfaces. Under its use epithelial growth is promoted and cicatrization occurs at an early period, while its sedative action allays pruritus and consequently allows of more rapid repair of the tissues.

RESTORE THE TERM TYPHO-MALARIAL FEVER.

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MAJOR AND SURGEON, U. S. V., IN THE CIVIL WAR.

During the civil war the term typho-malarial fever figured frequently in army sick reports. Assistant Surgeon-General Woodward gave the name to that mixed condition so often found in the malarial districts of the South, especially near some of the famous battlegrounds of the Rebellion, particularly Chickamauga, Shiloh, and in the camps about Cairo, Yazoo Pass, and on the Chickahominy. The term was expressive, and is yet so descriptive as to justify its restoration to a place in clinical nomenclature.

The nerve centres were prostrate from the toxic effects of malaria, the plasmodium of Laveran causing much the same collapse of vital energy, with nervous prostration, as the bacillus of Eberth, the two *materies morbi* often cooperating, though not then as now demonstrable.

Dr. James Ewing opened a recent discussion (September 26, 1898) before the Medical Society of the County of New York on differential diagnosis, by means of blood examinations, between tropical and malarial fevers and typhoid fever, including their ætiology, prevention, and treatment. Dr. Ewing's work was at Camp Wikoff, and comprised eight hundred blood examinations in seven hundred and fifty-four cases of suspected malarial fever.

Dr. Ewing thus discourses on this subject:

"A great many cases which were undistinguishable from typhoid fever without the most careful clinical examination proved to be clear cases of infection with the æstivo-autumnal organism of malaria. Over two hundred cases of typhoid were studied, and in nearly all of these was also malarial infection. In spite of these favorable conditions for mixed infection, in no undoubted fatal cases of typhoid fever (in which the diagnosis was confirmed by autopsy) was the malarial organism found. In five cases of typhoid fever the plasmodium of malaria was found in the blood during acute exacerbations occurring during convalescence from the typhoid fever. From these observations the following conclusions were drawn: 1. Mixed infection of typhoid fever and malaria undoubtedly exists. 2. When typhoid develops in a case of active malaria, the malarial element nearly always becomes quiescent, and has little or no effect on the course of typhoid fever. 3. Malarial infection frequently outlasts the typhoid infection, and makes itself manifest during convalescence."

"In nine cases of pernicious anæmia and amœbic dysentery the æstivo-autumnal organism was found in the blood, and the amœba were present in the stools."

Dr. W. Gilman Thompson continued the discussion of his experience with these cases after they had reached the Presbyterian and Bellevue Hospitals.* He had studied a hundred and seventy-three cases. Some of the cases came from Santiago, others from Puerto Rico, and others from Chickamauga. Typhoid fever not being endemic in Puerto Rico, the cases coming from there were probably American typhoid, which had been carried there and brought back again, so that they came under obsercation rather late in the disease.

In many of the cases there had been great difficulty in making the diagnosis at first. Many of the patients suffering from the æstivo-autumnal fever came under observation at a time when the fever had been more or less continuous, and the symptoms resembled more closely those of typhoid fever. Usually the malarial spleen was larger than the typhoidal spleen, but in the cases under consideration this had often been reversed. In bad cases of malarial infection there was often seen the mental hebetude so generally observed in typhoid. The temperature had very generally been lower than that observed in our ordinary cases of malaria in the United States. Icterus, anæmia, and herpes were found in these cases of typhoid fever, as well as in the cases of malaria.

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* *Vide* New York *Medical Record*, October 1, 1898, for full account of report and discussion.

Dr. Thompson had also found the *Plasmodium malariæ* in the blood during the course of typhoid whose diagnosis was beyond doubt, and why not? Typhoid does not fortify against malaria, especially in the beginning of the disease.

It would appear, though, from Dr. Ewing's microscopic records, that malaria germs require a more vital blood soil to live in than those of typhoid fever.

In the discussion the remarks of Dr. Charles E. Nammack, professor of clinical medicine at Cornell and visiting physician to Bellevue, were confirmatory.

Regarding mixed infection, Dr. Park said that he had inquired as to the experience of the various hospitals in this city, and in all but one hospital the malarial organisms had been found in the blood of from one to five per cent. of the typhoid-fever cases.

From these and other records of the camp and field already in, or forthcoming, there ought to be no longer a doubt as to the clinical *tout-ensemble* of typho-malarial fever or malario-typhoid fever. The fever is there, the congestions of head and liver, the extreme physical and nervous prostration are there, the delirium often, and the bowel disturbance in both, the blood depravity in both, and each may have the germ of both, or have but one morbid cause in the blood.

Assistant Surgeon-General Woodward was right in instituting the term, and, though he himself recalled it, it is timely and proper that it be now restored.

There are clinical features of differentiation in the temperature range, the tympanites, the pulse, the subsultus, petechiæ, sudamina, etc., if you please, and other symptoms for differentiation in the unmixed cases of typhoid, and the term has just warranty to live in medical nomenclature because of typical symptomatic expression and distinctive pathologic features. Woodward was right. We older clinicians were right in recognizing and accepting this condition as a true form of disease. The term typho-malarial fever has just warranty for retention because of its clinical features and its demonstrable and demonstrated specific *materies morbi*.

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Therapeutical Notes.

The Treatment of Alopecia Areata.—Dr. Joseph Sprangenthal (*Buffalo Medical Journal*, November) reports a case of this obstinate affection successfully treated by the following application:

℞ Bichloride of mercury	20 grains;
Glycerin	4 drachms;
Eau de Cologne	18 ounces.

M.

He says: "Under this treatment not only did the baldness cease to spread, but fine downy hair began to spring up all over the bald patches. This at first was white, but finally the growth became more vigorous, the pigment returned, and in about twelve months after the commencement of the disease the patient had fully recovered."

Formulæ for the Injection of Gelatin.—In our issue for November 5th, in a minor paragraph we referred to the treatment of hæmatemesis by subcutaneous injections of gelatin, and in the issue for November 12th we published a note on the treatment of aneurysm by such injections. We had previously referred to this subject in an editorial in our issue for October 23, 1897. We give herewith various formulæ for its employment:

M. Lancereaux and M. Paulesco (*Journal des praticiens*, November 5th) employ the following formula:

℞ Gelatin, Sodium chloride,	of each..... 150 grains;
Water	33⅓ ounces.

Sterilize. Begin by injecting fifty cubic centimetres, then increase up to one hundred and fifty cubic centimetres. The authors make the injection in the thigh.

M. Huchard and M. Deguy (*Journal des praticiens*, 1897) have employed the following formula against tuberculous hæmoptysis:

℞ Gelatin	105 grains;
Sodium chloride	150 "
Water	33⅓ ounces.

Dissolve by heat, filter, and sterilize. Begin with injections of fifty cubic centimetres in the skin of the abdomen.

The same authors employ more concentrated solutions for aneurysm—for instance:

℞ Gelatin	30 grains;
Sodium chloride	150 "
Water	3⅓ ounces.

Begin with twenty-five cubic centimetres, and increase to fifty cubic centimetres.

The Treatment of Hemicrania of Gastro-intestinal Origin.—The *Clinica moderna* for October 12th gives the following:

℞ Menthol valerianate	5 parts;
Water	25 "
Syrup of capillaria	30 "

M. S.: Fifteen drops every two hours.

If the attacks are accompanied by contraction of the pupil, use the following:

℞ Caffeine citrate, Menthol,	each......... 7½ grains;
Quinine sulphate	15 "

M. Divide into ten powders. One to be taken every two hours.

If the pupils are dilated, a little ether may be inhaled.

Ichthyol in the Treatment of Hyperidrosis.—In the *Archivos de la Policlinica* for November we find the following formula for an ointment:

℞ Ichthyol	25 parts;
Water	15 "
Lanolin	25 "

M.

Antigonorrhœal Injection.—The *Gazette hebdomadaire de médecine et de chirurgie* for November 24th gives the following:

℞ Gallobromol	60 grains;
Distilled water, Glycerin,	of each.... 1,500 minims.

M.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 24, 1898.

WHAT CONSTITUTES OBSCENITY?

According to the *Lancet* for November 19th, a somewhat remarkable trial took place about that time at the Central Criminal Court in London. As we understand the facts they are as follows: A publisher was indicted on a charge of publishing obscene literature, and three instances were adduced. The first was that of a book, the second that of a lecture, and the third that of a magazine. The publisher pleaded guilty on all three counts, and was let off on his own recognizances to come up for judgment when called on, on the ground that "as the defendant had only taken a very small part in the matter, the recorder did not consider it right that he should suffer while others much more guilty went scot free."

The lecture and magazine may be left out of consideration, inasmuch as we believe no exception was taken to the justice of the indictment in those cases, and, moreover, we do not understand that they were technically scientific works; but the book was one by a medical man, Mr. Havelock Ellis, upon the subject of sexual inversion, and this, therefore, deserves some further consideration. In regard to it, the recorder was of opinion that "though some might call the book a scientific work, it was impossible for any one of ordinary judgment not to see that to be a sham." Against this we have the opinion of the *Lancet*, to which journal the book had been sent for review, expressed in the following terms: "Mr. Havelock Ellis's book is written in a purely dispassionate and scientific style, and the only exception we take to the treatment is that we consider some of his quotations unnecessary, because a scientific public is already familiar with the originals, and some of them useless, being drawn from tainted sources. We may say also that we do not agree with his view of the question, for we consider that such matters are far better treated from the psycho-pathological standpoint of Kraft-Ebbing than from that of Ulrichs, with whose theory as to the naturalness of homo-sexuality Mr. Havelock Ellis seems in agreement; but a difference of opinion would not have prevented us from giving publicity to the author's labors."

The *Lancet*, it appears, refrained from reviewing the book, but only on the ground that, not coming through a recognized medical or scientific publisher, it considered its method of introduction suspicious, or at least injudicious.

We believe that Mr. Ellis has replied, explaining satisfactorily his reasons for publication through the unusual channel. Notwithstanding the admittedly scientific character of the work, he appears to have found it impossible to get any of the recognized medical publishers to undertake its publication, and was therefore compelled to allow his researches and the earnest exposition of views, in which he no doubt conscientiously differed from leading authorities, either to take such mode of publication as offered, or to go stillborn. All the world knows the difficulty experienced by novel or unpopular views on subjects which the popular, or the scientific mind, as the case may be, regards as settled by the strangling fetters of conventionality, in obtaining a fair hearing; and we can, therefore, hardly feel surprised that the author should have chosen the former alternative. It is to be greatly regretted for his own sake that it was so.

These considerations lead us to a subject upon which we have previously had something to say. In our articles on the Ethics of Adolescence in our issues for May 14th and June 4th, we have already had occasion to protest against certain subjects being stigmatized as improper or impure in themselves. Nothing that is in accordance with the normal habits of man can be of essence either improper or impure. It is the attendant circumstances, the manner, and above all the motive of the consideration, which alone can be impure and improper, or otherwise.

And so we may ask, What is obscenity? Conventionality in this as in most other things is the rottenest of rotten reeds to lean on. It substitutes shadow for substance and form for matter. It judges of things and acts, instead of motives. There is no subject that exists, the consideration or investigation of which constitutes in itself obscenity. It is not the thing done or the subject treated of that constitutes obscenity, but it is in the circumstances under which, the manner in which, and the purpose for which the thing is done or the subject treated that obscenity lies, or does not lie, as the case may be. A really pure system of morals would treat not of acts but of the motives which prompt them. If this truth were more fully realized society would be less full of viciousness luxuriating broadcast and unmolested under the cloak of virtue, by complying with the letter of conventional law, and of virtue driven into byways, from which it would gladly escape, to be howled down as vicious by the whited sepulchre of a hypocritical conventionality.

MINOR PARAGRAPHS.

THE OLD STORY OF A FORGOTTEN INSTRUMENT.

A Russian surgeon, Dr. Morestin (*Vratch*, 1898, No. 26; *Centralblatt für Gynäkologie*, December 10th), tells the story of a woman whose uterine annexa were removed in August, 1894, on account of bilateral pyosalpinx. A stitch-abscess formed, and it was six weeks before the patient was dismissed, still with a fistula. In December she was attacked with a phlegmon of the left iliac fossa. It was opened and a drainage-tube was inserted. A fresh abscess then formed in the scar of the first operation, and a new fistula was established which discharged fæcal matter. As suppuration persisted, the abscess was opened from the vagina, and another drainage-tube was inserted. The woman improved and left the hospital, but soon came back on account of an escape of urine by the vagina, the abscess having communicated with the bladder. This discharge ceased after a time, and the patient went home in August, 1896, but in March, 1897, she again presented herself because of a renewed escape of urine by the vagina. In April a fresh phlegmon was opened, this time in the right iliac fossa. Finally the woman came again, perfectly restored to health, having, a fortnight before, passed a hæmostatic forceps by the anus. It was four inches long, and had remained in the patient's body for four years. The author concludes by citing the American practice of having clamps, sponges, etc., counted before and after an operation, so that none may be left in the abdomen.

A MEMORIAL OF THE LATE DR. MÜLLER, OF VIENNA.

We learn from the *Klinisch-therapeutische Wochenschrift* for November 27th that on the 20th exercises commemorative of Dr. Franz Müller, one of the recent victims of plague in Vienna, were held in the lesser banquet hall of the university. Dr. Müller's mother and the university officials were present. Two verses of a dirge were sung, and then Dr. Poech, a lifelong friend of the deceased, delivered a eulogy, and the proceedings closed with two verses of the *Gaudeamus*.

A NOTABLE ACHIEVEMENT IN DENTAL PROSTHESIS.

In the December number of the *Dental Cosmos* Dr. C. H. Land, of Detroit, describes the case of a man who had lost his lower teeth, also, as the result of an operation for cancer, a considerable portion of his lower lip. His natural appearance was completely restored, as shown by photographs, by means of a single piece of mechanism, including teeth, lip, and beard.

COMPLICATIONS ARISING OUT OF THE POSTHUMOUS SALE OF A PRACTICE.

In the *Gazette hebdomadaire de médecine et de chirurgie* for November 27th we find an account of the trial of a civil suit based on the following transactions: A Mrs. Y., the widow of a Paris physician who died in 1896, sold her husband's account books to Dr. X., the consideration being that for a certain length of time he was to share with her the fees that he might collect from Dr. Y.'s old patients. The books were accompanied by a list of addresses, and a circular was sent to each patient, together with the widow Y.'s card. Dr. X. was well received among his predecessor's patrons, so that for the remainder of the year 1896 he was able to turn over to the widow the sum of about twelve hundred francs, one half of what he had received from her husband's old patrons. But at the close of the year 1897 he turned over, for the preceding quarter, only five hundred and eighty francs. The widow disputed the figures and sought access to the new account books, in order to check off the charges against her husband's old patients. Dr. X. refused to grant her request to this *effect*, on the ground that to show his books would be a violation of professional confidence. The widow brought suit to compel him to show them, and the court granted her prayer.

"CEREBRO-SPINAL HYPERIDROSIS."

At the Third Congress of Pædiatrics, held recently in Turin (*Riforma medica*, November 18th), a Florence physician, Dr. G. Mya, reported that he had been able to satisfy himself that the amount of the cephalorhachidian fluid was the greatest during the second and third years of life, after which it diminished gradually. He concludes from his observations that it is particularly abundant in rhachitic children, and he thinks fit to call its excessive production "cerebro-spinal hyperidrosis."

NEW JOURNALS.

Among the new American medical journals whose initial issues have lately come to this office is the *Medical Dial*, a monthly of thirty-two large double-columned pages of reading matter, published in Minneapolis. It is edited by Dr. J. W. Macdonald. The first number is dated December, 1898. Another new journal is the *Rassegna di scienze mediche*. It is published in Modena and is the organ of the Medico-chirurgical Society of that city. In the first number, forty-three pages are devoted to brief notes of the society's proceedings, and the papers and discussions are presented in full in the hundred and thirty-eight additional pages. The number contains some very good photographs of the fundus of the eye. The *Rassegna* is edited by Professor Arnaldo Maggiora, Dr. Francesco Generali, Jr., and Dr. Luigi Tavernari. A new English monthly, two issues of which have reached us, is entitled the *Medical and Surgical Review of Reviews*, edited by Dr. Nathan E. Boyd and published in London. In form and general appearance it resembles the old *London Medical Record*, but it has some distinctive features, notably its editorial notes, which we think will prove attractive.

AN ANEURYSM AT UNUSUALLY EARLY AGE.

Dr. Berry records in the *British Medical Journal* for December 10th a case of aneurysm of the aorta in a boy of fifteen. He was stooping for the ball at cricket when he fell down unconscious and expired on his way to the Charing Cross Hospital. At the autopsy Dr. Hunter found that the ascending aorta for the first inch of its length was closely adherent to the pericardium, and just below the line of reflection was a transverse tear in the aorta, five eighths of an inch in length; below this was a large aneurysm of the aorta. The aneurysm was fusiform in shape, four inches in vertical and three inches in transverse measurement. There were a few small fatty patches in the wall of the sac, and at the point of rupture, and one inch around there was obvious thinning of the tunica media. The aortic valves were slightly thickened, but competent. The right and left ventricles were normal. In the descending aorta there were a few small patches of atheroma. There were no signs of syphilis, congenital or acquired; nor was there any history pointing to severe strain, the boy's most violent exercise being the use of dumb-bells, No history of rheumatism could be obtained. In addition to this being an unusually early age for aneurysm of the aorta, the boy also had a persistent and enlarged thymus which was equally unusual in the point of lateness.

"*PER OREM*" AGAIN.

In our issue for March 19th we published an article entitled The Clinical Value of Diphtheria Antitoxine Administered per Os. In its December number our esteemed contemporary the *Archives of Pœdiatrics* gives an abstract of the article, and takes the trouble to change *per os* in the title to "per orem." We should like to know to what language the word "orem" belongs.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 17, 1898:

DISEASES.	Week ending Dec. 10.		Week ending Dec. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	33	15	45	12
Scarlet fever	134	6	131	13
Cerebro-spinal meningitis	0	2	0	3
Measles	117	3	112	7
Diphtheria	151	35	171	19
Croup	15	7	20	7
Tuberculosis	162	157	199	174

Bellevue Hospital Medical College.—On Tuesday evening, the 20th inst., Dr. S. S. Adams, of Washington, D. C., delivered a lecture on Fevers in Children: their Significance, General Diagnostic Value, and Antipyretic Treatment, before the seniors of the University and of Bellevue Hospital Medical College.

The Force of Habit.—The *Medical Council* for December quotes the following from the *New York Journal:*

Customer (in bookstore): "I want to look at some Bibles."

Clerk (formerly with druggist): "We're just out of 'em. (Abstractedly) We have something just as good, though."

A Christian Science Record.—We learn from the *Atlanta Medical and Surgical Journal* for December that Thomas Greenwood Kershaw, leader of the Christian Science Church of Tacoma, died of acute pneumonia on November 12th, as a result of his refusal to receive medical treatment. According to reports, says the *Journal,* he was a man of the highest education and intelligence, and until identifying himself with Christian science was one of the most active and successful business men of Tacoma. Since embracing that doctrine, although a sufferer himself from a broken hip, he had devoted his entire time to promulgating his faith and ministering to the afflicted. When taken ill, Mr. Kershaw, despite the entreaties of his family, refused to see physicians, and placed himself in the care of a woman Christian science healer in Savannah, Ill., who, he said, was able to relieve him regardless of distance. He was visited by several of his Christian science followers, and at their suggestion he rose from the bed and took a step forward. He would have fallen had he not been caught. It was then found that he was dead.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general during the week ending December 17, 1898:

Small-pox—United States.

Mobile, Ala.	Nov. 10–Dec. 6	16 cases,	3 deaths.
Pueblo, Col.	Nov. 27–Dec. 4	8 "	1 death.
Hamburg, Iowa	Dec. 10	Reported present. Traced to Nebraska City.	
Lacona, Iowa	Dec. 10	Reported present. Traced to Nebraska City.	
Percival, Iowa	Dec. 10	Reported present. Traced to Nebraska City.	
Milo, Iowa	Dec. 10	Reported present. Traced to Nebraska City.	
Stroud, Oklahoma	Dec. 8	1 case.	
Norfolk, Va.	Dec. 9	1 "	
Norfolk, Va.	Dec. 10	3 cases.	

Small-pox—Foreign.

Antwerp, Belgium	Nov. 19–26	10 cases,	3 deaths.
Bahia, Brazil	Oct. 22–Nov. 19	164 "	27 "
Paris, France	Nov. 18–26	1 case.	
Moscow, Russia	Nov. 6–13	8 cases,	9 "
Odessa, Russia	Nov. 19–26	1 case.	
St. Petersburg, Russia	Nov. 12–19	2 cases,	3 "
Warsaw, Russia	Nov. 12–19		11 "
Montevideo, Uruguay	Nov. 5–12	1 case.	

Yellow Fever—Foreign.

Havana, Cuba	Nov. 24–Dec. 1		1 death.
Vera Cruz, Mexico	Nov. 26–Dec. 2		7 deaths.

Plague.

Bombay, India	Nov. 1–8		63 deaths.
Bombay, India	Nov. 1–15		59 "
Anzob, Turkestan	From outbreak of epidemic to Nov. 2.		233 "

Cholera—Foreign.

Bombay, India	Nov. 8–15		2 deaths.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 17th inst., the following papers were presented for discussion: The Cure of Cataract without Operation, by Dr. Adolf Alt; and Fat Metabolism, by Dr. T. C. Witherspoon.

Curious Accident to Professor Hans Virchow.—According to the *Progrès médical* for November 26th, Professor Hans Virchow, son of the celebrated pathologist, was recently bitten in the hand by an ape at the Anatomical Institute. Several tendons were severed and had to be sutured. The ape had never previously shown any ferocious tendencies.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending December 15, 1898:*

Bailhache, Preston H., Surgeon. To proceed to Philadelphia, Pa., to inspect the barge *Protector.* December 2, 1898.

- Banks, C. E., Surgeon. To proceed to the ports of Booth Bay Harbor, Portland, Me., Fall River and Boston, Mass., as inspector. December 2, 1898.
- Glennan, A. H., Surgeon. To proceed to San Juan, Puerto Rico, for special temporary duty as quarantine officer. December 9, 1898.
- Stoner, J. B., Passed Assistant Surgeon. Detailed to inspect stations of the third class. December 5, 1898.
- Nydegger, J. A., Passed Assistant Surgeon. To proceed to New Orleans, La., for duty and assignment to quarters. December 15, 1898.
- Clark, Taliafero, Assistant Surgeon. To proceed to South Atlantic Quarantine Station and assume temporary command. December 15, 1898.
- Lavinder, C. H., Assistant Surgeon. To proceed to Cape Charles Quarantine as inspector of unserviceable property, and then to proceed to Washington, D. C., for further orders. December 7, 1898. To proceed to Philadelphia, Pa., for temporary duty. December 10, 1898.
- McMullen, John, Assistant Surgeon. To report at bureau for special temporary duty. December 10, 1898.
- Foster, M. H., Assistant Surgeon. Granted thirty days' extension of leave of absence on account of sickness. November 27, 1898.
- Board convened to meet at Washington, D. C., at 11 a. m., December 14, 1898, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Banks, Charles E., Surgeon, chairman; Vaughan, G. T., Passed Assistant Surgeon; Sprague, E. K., Passed Assistant Surgeon, recorder.

Society Meetings for the Coming Week:

- Monday, *December 26th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.
- Tuesday, *December 27th:* New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery.
- Wednesday, *December 28th:* Western Surgical and Gynæcological Association (first day—Omaha); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.
- Thursday, *December 29th:* Western Surgical and Gynæcological Association (second day).

Births, Marriages, and Deaths.

Married.

Chamberlin — Denny. — In Moss Point, Mississippi, on Wednesday, December 14th, Dr. John B. Chamberlin and Miss Mamie Denny.

Cotter — Stone. — In Savannah, Georgia, on Wednesday, December 14th, Mr. Lewis Fairchild Cotter and Miss Clara Isabel Stone, daughter of Dr. George H. Stone.

Crosland—China.—In Sumter, South Carolina, on Wednesday, December 14th, Dr. W. J. Crosland, of Bennettsville, South Carolina, and Miss Fannie China, daughter of Dr. A. J. China.

Died.

Bottome.—In New York, on Tuesday, December 20th, Dr. Frank Archer Bottome, in the thirty-third year of his age.

Harrison.—In Orange, N. J., on Wednesday, December 14th, Mrs. Sarah E. Harrison, wife of Dr. Alfred J. Harrison.

Letters to the Editor.

FORMALDEHYDE AS A DISINFECTANT.

Boston, *December 13, 1898.*

To the Editor of the New York Medical Journal:

Sir: I read with a great deal of interest the article in the *Journal* for December 3d on The Disinfectant Value of Formaldehyde. I have carried on experiments for the board of health of the city of Boston at various periods for almost two years. During that period I have tested a large number of generators and lamps and have evolved the formaldehyde gas from the solutions and from the solid forms. While I have not found in the daily routine of household disinfection that the claims of the manufacturers could be substantiated, I have not found that the opponents of formaldehyde have any real substantial grounds to base their opposition to the germicidal forms of the gas upon.

For superficial disinfection formaldehyde gas is the best practical gaseous germicide for all pathogenic organisms. This I know to be fact from repeated tests on all sorts of conditions in the houses of the city of Boston where disinfection has been necessary on account of there having been some cases of contagious disease in those houses. I have made these tests with the *Staphylococcus pyogenes aureus*, the Klebs-Loeffler bacillus, *Bacillus anthracis*, and *Bacillus typhosus*. The tests have been made with the organisms on silk threads, cotton strips, paper, glass rods, wood, etc. I have used the organisms from twenty-four-hour broth cultures and from twenty-four-hour serum or agar slants. The only absolute necessity is that there shall be used a *sufficient* amount of the gas. The machines are nothing but a convenient form of evolving the gas. The gas does and will do the work. We use in the disinfecting work of this city nearly a quart of the solution of formalin for every thousand cubic feet. This we regard as an excess of the gas, but we have always felt it better to use too much than too little and to err on the safe side. I regard from sixteen to thirty ounces to the thousand cubic feet as sufficient for practical disinfection of rooms; the exact amount between these limits has not yet been definitely determined.

Now, if it be asked how our results differ so greatly from those of Dr. Lopez, I say that it must be in the method of that gentleman in making the tests. He made his tests with fragments of paper put into tubes and distributed in various parts of the room. Now, it may at first glance seem as if this method of making tests was a perfectly fair one. I have performed tests in practically the same way. That is to say, I grew the various organisms in broth for twenty-four hours, then saturated silk threads with the organisms. These threads I put in test-tubes, the threads being at the bottom of the tubes. These were exposed in the tubes in the vertical position to the action of the gas for six hours, and twenty-four ounces of the formalin solution to the thousand cubic feet used. The size of the room was fourteen feet long, twelve wide, and seven high. There were two windows and one door. The cracks and crevices were sealed with pasted paper strips. The *Staphylococcus aureus* and the diphtheria, anthrax, and typhoid bacilli were used.

What was the result? In every case there was a growth of the organisms.

I repeated the test, only changing the position of the threads. Instead of leaving the threads at the bottom of the tubes, and the tubes in the vertical position, I placed the threads some about a quarter of an inch from the mouths of the tubes, laying them in a horizontal position, and some of the threads were placed outside of the tubes. The exposure and amount of the gas were the same. Now, what was the result? In this second test I got complete sterilization; all the organisms were killed. Now, why I did not get any disinfection in the first case and complete in the second was simply the position the threads were placed in. The first experiment was practically no test at all, for, the specific gravity of formaldehyde gas and air being about the same, the gas really did not reach the bottom of the tubes. The threads were inclosed by a cushion of air and the gas could not reach them. Now, when the threads were put outside of the tubes or nearly outside, the results were totally different. So I would say, a great deal depends on the method of making tests; entirely erroneous conclusions may be drawn from methods which are not the correct methods of testing formaldehyde. David D. Brough, M. D.

A POINT IN THE HISTORY OF CINCHONA.

109 West Eighty-second Street,
New York, *December 17, 1898.*

To the Editor of the New York Medical Journal:

Sir: In the issue of the *Journal* of this date I note a letter from Dr. E. T. Millegan, of Detroit, criticising a statement of mine in the brief historical sketch which introduces my article on quinine in Foster's *Practical Therapeutics.* Dr. Millegan objects to my statement that for a period of ten years "the influence of the Church was sufficiently strong to prevent its (quinine's) general use"; he regrets that "matter of a religious nature" should appear in a work devoted to therapeutics, and he characterizes my statement as false. It is only in so far as historical accuracy may be called into question that I shall speak, for I am loath to believe that Dr. Millegan is desirous of a controversy as to the influence of the Church upon the progress of scientific medicine; nor should I think he would care to hold himself personally responsible for the errors of the Church of three hundred and fifty years ago any more than the profession in general would apologize for the attitude of the men who opposed Harvey's epoch-making work in the same era. At the same time, I should like to assure Dr. Millegan that authentic historical facts can not be accounted "matter of a religious nature," and that such data, in my opinion, have a legitimate place in some kinds of medical articles. Moreover, it is often incumbent upon us to look with forbearance upon the deeds and words of our religious or scientific ancestors.

The few statements which Dr. Millegan includes in his letter are correct, but he has not arranged the facts chronologically, so that they leave an erroneous impression. My own data were gathered from unimpeachable sources, and may be very briefly summed up as follows: The Countess Chinchon, vice-queen of Peru, was cured of a fever in Lima in 1638 by drinking the so-called "Peruvian waters" at the request of John del Lugo (Don Juan Lopez Canizares, Spanish Corregidor of Loxa, later Cardinal del Lugo). These waters were obtained from a stream impregnated with cinchona. On her return to Spain she brought with her some of the bark, which she distributed among friends and peasants on her estates who were suffering from fever. This act aroused the jealousy of the Jesuits, who vainly forbade its continuance. The ground bark was at this time known as the "countess's powder." Cardinal del Lugo, who appears to have returned to Spain simultaneously, called Colbert's attention to the drug in France, and in that country it was known as the "cardinal's powder." Meanwhile the Jesuit missionaries in Peru ground the bark and shipped it to Europe, where they sold it for immense sums in gold. The Church refused to sanction its use, however, on the ground that it was the invention of unenlightened savages (Markham). As late as 1680 a pound of the bark in London cost £8 sterling (Baas). In 1649, at a Jesuit conference in Rome, the official ban was removed from Peruvian bark on the representation of Peruvian missionaries of that order, the drug was used in Rome with great success, and its reputation rapidly spread over Europe. Hence the name *pulvis Jesuiticus,* or "Jesuit's powder."

Thus for ten years its general introduction was delayed through the intervention of the Church on the one hand and the cupidity of the Jesuit missionaries on the other (Baas, page 544). When one considers the relative influence of priest and physician of that day, one can determine for himself whether the scholastic opposition of the latter was of sufficient importance or dignity to interfere with the general introduction of the Peruvian bark. Sprengel has considered this phase of the subject thoroughly (*Geschichte der Arzeneikunde,* vol. iv, pp. 500 ff.).

For purposes of ancient historical discussion, Mr. Editor, it is essential to rely for information upon trustworthy sources, since, for obvious reasons, it is impossible for the disputants to obtain knowledge at first hand. I have depended upon the following works for my data, both in the original article cited by Dr. Millegan and in this letter. Mr. Markham's book, I would add, is considered especially reliable by competent judges. 1. C. R. Markham: *A Memoir of the Lady Ana de Osario, Countess of Chinchon and Vice-Queen of Peru* (A. D. 1629–'39), *with a Plea for the Correct Spelling of the Chinchona Genus,* London, 1874. 2. Ralph Irving: *Experiments on the Red and Quill of the Peruvian Bark,* etc. First Harveian Prize Essay. Edinburgh, 1785. 3. Johann Herman Baas: *Outlines of the History of Medicine.* Translated by H. E. Henderson, M. D., New York, 1889. 4. H. Haeser: *Geschichte der Medizin,* Jena, 1853. 5. Thomas Skeete: *Experiments and Observations on Quilled and Red Pe-*

ruvian Bark, etc., London, 1786. Further references can be found in most text-books of materia medica, encyclopædias, and histories.

One word with reference to the quack, Sir Robert Talbor or Talbot, whose sole reputation lies in the fact that he cured Louis XIV of France of an intermittent fever. There is no longer any doubt that the wine of cinchona which he used was the result of the inspiration of Sydenham's excellent work in introducing the cinchona bark into England. Similar uses of drugs are not unknown at the present day.

Samuel M. Brickner, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of October 5, 1898.

The President, Dr. S. Alexander, in the Chair.

Hydrophobia.—Dr. R. J. Wilson reported a case of hydrophobia. He said that, according to the literature, very few cases of true hydrophobia had been reported in this country. On March 5, 1898, one month after a woman had received twenty-eight severe bites from a rabid dog, she came under his observation. In some instances the bites had passed clear through her hand. She stated that the hæmorrhage had been profuse. The wounds had been thoroughly washed with boric acid, and afterward with carbolic-acid solution, and a gauze dressing applied. As soon as she had come under his observation the preventive treatment had been begun, and had been continued daily thereafter for twenty days. On March 23d she had complained of considerable pain about the wound on the right hand. The next day her face had been pallid and anxious, the pain in the arm had been very severe, and she had been very weak. The following morning her physician, Dr. Walser, of Staten Island, had seen her. At that time she had complained of pain in her right hand and arm, and the wounds had been of a dark-red color. There had also been spasmodic vomiting. The wound at the metacarpo-phalangeal joint had been tender ever since she had been bitten, and now the pain seemed most severe at this place. When seen by the speaker, the throat was slightly red, and there was some coryza; her whole figure appeared shrunken, and she was weak and excitable. Convulsions occurred every two or three minutes. There was incomplete paresis of the right arm and forearm. She was perfectly conscious, and remained so to the last. With each convulsion there was a distressing sense of suffocation. There was a feeling of fullness in the nose, and every attempt to relieve this brought on a convulsion. She could swallow neither food nor water because the effort would cause a convulsion. Thirst was excessive. The pulse ranged from 110 to 140, and during the convulsions there was great venous congestion. There was some œdema of both feet and hands. The temperature remained most of the time at about 100° F. The urine was normal. At the time of the convulsion the jaw would become fixed, and then there would follow contractions of the muscles of the throat, thorax, and back, in the order named. Each convulsion lasted from a minute to a minute and a half. She died three days after the appearance of the first symptoms. Examination at the laboratory showed that the dog which had bitten her had hydrophobia. Subsequently there was an epidemic of hydrophobia among dogs in the locality in which the first case occurred—*i.e.*, Staten Island.

Dr. Jarvis said that ten years ago he had seen a case of hydrophobia in the person of a cattle ranchman. While he was asleep on the ground in Arizona, a skunk seized him by the nose, producing a badly lacerated wound. The wound was disinfected with permanganate of potassium, and the man went home. One month later he returned, complaining of a tingling sensation in the forehead, and he was extremely nervous and irritable. The next morning there was a well-marked convulsion, with a spasmodic contraction of the diaphragm. The glosso-pharyngeal nerve seemed to be involved, and it was with the greatest difficulty that he could swallow either solids or fluids. He made a peculiar barking sound, probably due to muscular contraction. He frequently went "on all fours" in order to enable him to better get air into the larynx. Before death, which occurred on the third day, there were several severe hæmorrhages from the stomach, the cause of which could not be ascertained. At one time, in the course of an hour and a half, he was given a grain and a half of morphine without any effect whatever. The patient stated that he had at times a strong impulse to bite, and on this account warned those around him. He became very much excited, and so dangerous that, at his own request, he was tied in bed. During that season there were several cases of hydrophobia reported in that locality. There are two varieties of skunk in the West—viz.: 1, a small, yellow variety, resembling a polecat, and 2, a larger variety about the size of a pug dog, and having a large, handsome, curling tail. The first variety is not considered liable to hydrophobia.

Dr. Louis A. di Zerega said that there had been an epidemic of hydrophobia in John Brown's Tract in the Adirondacks, in 1878, which had lasted three years. A number of people had been bitten by skunks, and the infection had been traced to a dog known to have been rabid. The disease had been conveyed by this dog to the skunks. It would seem to be a question merely of inoculation rather than of a particular species of animal.

In Memoriam—Dr. John Blair Gibbs.—Dr. Parker Syms presented the following:

Mr. President and Gentlemen: It is most fitting that at this time we should pay tribute to the honored memory of our beloved and distinguished brother, Dr. John Blair Gibbs.

In honoring him we honor one who was peculiarly dear to all who knew him, and one whose tragic death in the cause of patriotism has made him a more than national hero.

Dr. Gibbs, who was a graduate of Rutgers College, and, later, of the College of Physicians and Surgeons, was appointed to the first surgical division of Bellevue Hospital in the fall of 1881. During his service in the hospital he distinguished himself as an exemplary interne by the excellence of his work and by his proficient skill; and he endeared himself to the members of his staff by that personality which has made him such a host of friends.

After graduating from the hospital he continued his medical studies in Europe for some time, and then returned to this city and entered upon the practice of medicine. For five years he was attending surgeon to the out-patient department of Roosevelt Hospital. For several years he was a member of the teaching body of the Post-graduate Medical School of this city. At the time of his death he was assistant attending surgeon to Lebanon Hospital, and attending surgeon to Demilt Dispensary. In all of these capacities he worked with that diligence, integrity, and skill which were among his prominent characteristics, and thereby he won for himself the much-deserved esteem in which he was held in his profession.

Soon after its formation he became an active member of this society, making many valuable contributions to our scientific work, and he has added much to the pleasure of our social sessions. His loss we shall ever mourn; his memory we shall always cherish.

In personality he was a man peculiar. He was unflinchingly brave, and yet most modest and reserved. He was of the highest moral rectitude, and yet most liberal and charitable of the views and acts of others. He was a true lover of outdoor sports, and pursued them with enthusiasm and skill. Extensive reading, keen powers of observation, and his remarkable wit and sense of humor made him a delightful and charming companion, but above all, he was as staunch and loyal a friend as ever a man had.

His great-grandfather was a soldier in the War of the Revolution, and was secretary of the treasury under Washington. His grandfather was an officer in the War of 1812. His father was a major in our regular cavalry service, and fought through the War of the Rebellion. So the patriotism which prompted Dr. Gibbs to offer his life to his country was a natural inheritance.

The crowning act in his life is a matter of history. When war with Spain became imminent he at once offered his services. He was the first volunteer surgeon appointed to the navy from New York. In the battle of Guantanamo on June 12th, in the gallant performance of his duty, he was the first American officer to be killed on Cuban soil.

Death, "that one glorious distinction that awaits us all," can never come more honorably than it has come to our much-esteemed and much-beloved brother, Dr. John Blair Gibbs.

Personal Reminiscences of the Santiago Campaign. —Dr. Hamilton Polk Jones, of New Orleans, United States Volunteers, said:

Mr. President and Gentlemen: I wish to take you through the campaign of Santiago with the First Division Hospital. It is necessary for a proper understanding of the conditions that arose there that you should know of the manner in which the division hospitals were formed, and the sources from which they derived their medical supplies. The regiments of the United States regular army were supplied with an outfit for a post regimental hospital. These regiments were hurried to Tampa with these outfits, and were then subjected to a stripping process for the purpose of forming the division hospitals. As a contract surgeon I was attached to the first of the three division hospitals. The regiments were stripped of everything, with the exception of their medical and surgical panniers, containing a few tablets and dressings, and a pocket case of surgical instruments.

The First Division Hospital, to which I was attached, was intended to be a reserve hospital, and was to take the overflow of patients from the other two division hospitals, which were to have been in the front. But it so happened, from circumstances with which I am not familiar, that the First Division Hospital was the only hospital in the field before Santiago, and was nearer to the firing line by seven miles and a half than any other hospital.

On the 1st of June an order was issued directing Major Marcus Wood to form this first division hospital. Major Johnson was put in charge of the hospital, Major Wood being the chief surgeon of the division. Captain Godfrey was commandant of the hospital corps. Dr. Frederick J. Combe and I were contract surgeons attached to this hospital. When the order was issued we had to form our hospital by stripping regiments which had already been stripped by two previous division hospitals. We had great difficulty in getting material, therefore, out of a lemon that had already been squeezed dry. We succeeded in collecting about forty hospital tents and seventy-five or eighty officers' tents. We had several complete Tiemann's operating sets and two new surgical panniers, together with a vast quantity of surgical dressings and similar material, although we were short of splint material. The dressings were put up in what was called Schering's cases, because they contained a Schering's sterilizer. Each case contained about one thousand bandages, rubber gloves, hot-water bags, fountain syringes, bulb syringes, an Arnold sterilizer, etc. We collected forty new Red Cross ambulances, with mules and new harness. Had we been able to go into the field in this way we should have been extraordinarily well equipped.

On June 7th, at nine o'clock in the evening, we received an order to be ready by four o'clock in the morning to move a distance of ten miles. We had no wagons for transportation, so we loaded the ambulances as well as we could, and were on hand at the hour specified. The order instructed us to abandon all tentage and ambulances. We abandoned the ambulances, because we had no means of carrying them, but we did not give up our tents. We boarded the transport *Santiago*, and the medical officers personally did the work of stevedores in storing their supplies, which amounted to about two carloads. This stuff was stored in an isolated spot in the vessel, but was afterward so disarranged by the troops on the vessel that it became utterly impossible to locate anything in the hold. We fortunately discovered this before landing at Siboney. Two days before landing we knocked out the space occupied by about sixty bunks, and we searched the hold of the vessel, and placed near the port on one side, in a systematic manner, everything which we possessed. When the troops disembarked that night we obtained control of a launch and some whaleboats, and by working all night unloaded the entire supplies of the division hospital. The wisdom of this forethought was amply shown by the fact that after that time the surf became so high that it became exceedingly difficult to land supplies. This was one reason why the other hospitals were not placed on shore early enough. Having abandoned our ambulances in Tampa, and not being supplied with transportation at Siboney, we had either to stay there and await it, or to proceed to the front. Major Wood is a very energetic man, who is deserving of great credit, and he was not content to sit down and wait. The medical officers with their private horses were loaded down, and they tramped to the front. We marched with the troops, leaving Siboney on the 27th. We deposited the loads after going about four miles, and returned for more. Finally, after several relays, we arrived on June 27th at our final destination, within fifteen hundred yards of where most of the casualties occurred on the 1st and 2d of July.

We had carried on our backs and horses sufficient dressings for two hundred men. We had been told that we were a reserve hospital, and therefore thought we were fairly well equipped, even in spite of the lack of transportation. The site which we selected was for two nights and a day the advance guard of the United States army in Cuba. There was nothing but a very thin line of pickets between that hospital and the Spaniards, so that at night we had to be very careful about fires and lights.

On the evening of June 29th six mule teams of supplies arrived from the beach at Siboney—seven miles and a half away. We proceeded at once to pitch tents and arrange operating rooms, for we believed an engagement was imminent. We had no just conception, however, of the valor of the Spaniards, and expected that there would be very little required of the surgeons. We soon had occasion to bitterly regret this misconception. We had four compact iron operating tables. Four hospital flies were put up, and we had a moderate supply of instruments. We were compelled to use the simplest methods and as few instruments as possible.

The hospital corps had been considerably exhausted by its march and efforts at transportation. The hospital corps, you know, is made up of privates from the army, who are supposed to take the place of nurses. As a matter of fact, they were not skilled nurses, although willing ones. While in Tampa, I had selected a man for myself, and had instructed him in giving anæsthetics, and in other details. On the 30th we had a shallow well dug, about fourteen feet from a stream. The hospital site was about four hundred yards long and a hundred and fifty yards wide, and there was a sort of pineapple hedge between it and the road. The water must have been greatly polluted, so that from a surgical standpoint it was not of excellent quality. The water from this well was boiled for twenty minutes, and filtered through a small Berkefeldt filter. It was then kept in zinc cylinders capable of holding about thirty gallons. Experience showed that we obtained in this way a remarkably pure water supply. There were only three ambulances on the field. The wounded were carried on these and on improvised litters.

The fighting began on the 1st of July by the battery, which was a few hundred yards in advance of the hospital. The first shot killed sixteen Cubans, and wounded sixteen others. The wounded reached us about forty-five minutes later, or about 9 A. M. In a short time we treated a little over a thousand wounds, for we found that ours was the only hospital in the field. On the first day the hospital staff consisted of five men. Major Wood devoted his time to keeping proper records, distributing the cases, and attending to other details. Lieutenant Godfrey had to go with his hospital corps of thirty-seven men to the front. He should have had two hundred men on this corps. The two contract surgeons, assisted by Major Wood and Major Johnson, attended to a hundred and ninety men before darkness fell. The wounded were laid in rows on the ground, and were inspected, and the more urgent cases treated first, and the rest in turn. The cases of active hæmorrhage at the hospital were very few. The work of the hospital consisted almost entirely of dressings; operations were hardly ever necessary. The wounds of the brain were terrible in most instances, and death usually occurred in a short time.

I have failed to see the so-called "explosive effect" of the Mauser bullet, except in a few instances. Oozing of the brain from the wounds was quite common. In one case the entire skull felt like a hard-boiled egg which had been dropped on a table and cracked. This was owing to the very extensive comminution of the skull, possibly due to the explosive effect of this bullet. The wounds of the thorax, as a rule, pursued a very favorable course. Many of the cases presenting undoubted evidence of wound of the intestines recovered—probably fifty-five per cent. of the thirty-six cases. We did not laparotomize for the reason that this entailed spending one or two hours in the attempt to save one life, which would probably mean that many other lives would be thereby jeopardized. Moreover, at the time it was supposed that the aseptic conditions were too imperfect to warrant opening the peritoneal cavity. We learned subsequently, however, that out of about a thousand cases, only ten or twelve cases of infection could be directly traced to our imperfect asepsis. Our experience showed that under the circumstances it was just as safe to refrain from performing laparotomy.

Wounds of the bones, for the most part, healed kindly, and the fractures were treated as simple ones after the application of an antiseptic dressing. The dressing material was in sealed packages put up by Johnson & Johnson and other firms of this class. Only three amputations were performed at this hospital out of the vast number of wounded treated there. One of these cases was one in which a three-inch shell had exploded within the thigh and had fearfully lacerated the limb. The patient was profoundly shocked, and, as I regarded the leg as a foreign body, I simply snipped the tendons and muscles and dressed him. He died about half an hour afterward. The two other amputations were for gangrene.

Both the wounds of entrance and exit were usually small with the Mauser. Occasionally, where a man was shot through the body, the wound of exit was marked by an extensive area of ecchymosis. In one instance, an area about two inches in diameter sloughed out, corresponding to the area of ecchymosis. We attempted to meet the surgical indications as they were presented to us. A few patients were trephined, and did well. If a nerve was cut, and the ends could not be readily brought together, we sutured the nerve. In some cases in which these conditions were apparently present, but in which suturing was not done, the function of the nerve was nevertheless restored in a few days.

Dr. Kirkpatrick, of the Twenty-fourth Infantry, brought to our attention the value, as a splint material, of the stem of last year's leaf of the royal palm. When opened out it is about eight or ten feet long and two feet wide. This sheathing stem varies in thickness from an eighth of an inch to an inch and a quarter at its central portion. The stem furnished an ideal splint material. It could be softened by soaking for a few hours in cold water. When dry, it was an exceedingly light and useful dressing, so much so that I have been tempted since then to get a supply of it for use in my office. For fractures of the thigh, it gave sufficient rigidity to allow of the application of a modified Liston, and for other fractures it was just as efficient as any *papier maché*. Too much credit can not be given to Dr. Kirkpatrick for this ingenious resource. It was doubly welcome because all of our scanty splint material had been exhausted.

The Spaniards fired a 45-calibre brass-jacketed bullet. This was split longitudinally, and simply drawn together, the lead being loosely forced into it. Just as soon as any resistance was met with by this bullet, no matter how slight, this brass jacket opened, producing really an explosive effect. The wounds of entrance of these balls were usually small, but the wounds of exit were ghastly in appearance. These bullets were very difficult to get out, and the incisions were necessarily large.

As soon as the wounded could be attended to and transported, they were sent to the base hospital at Siboney. A more permanent dressing was sometimes then applied, after which they were sent to the transports and shipped to the United States. I think I can say, without any fear of contradiction, that the surgery practised among our troops in Cuba, and the results obtained, were better and more satisfactory than have ever been obtained in any military field in the history of the world.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. Thomas R. French, of Brooklyn, in the Chair.

(*Continued from page 897.*)

Some Observations on the Use locally of Aqueous Extract of Suprarenal Glands in the Upper Air-passages. —Dr. H. L. Swain, of New Haven, read a paper on this subject. (See page 916.)

Dr. Mayer: I should like to ask a question as to the strength of this aqueous extract. I understand the speaker to say that he uses ten to twenty grains in half a drachm of water. I would also like to ask if he always uses the same preparation, and where can it be obtained for further experimentation?

Dr. Swain: In answer to Dr. Mayer's question, I would state that I have bought the powdered extract of the suprarenal glands in the drug store, and have, I think, generally used the Parke, Davis Company's preparation.

I might have said a great deal more about the effects of this extract, and would have done so if I had known that I would have been backed up by some one else who had used it. I have myself used it in my operative work every day for the last three months, and expect to continue to use it largely in the future. The solution is made with boiled water and may be reheated almost to boiling point without destroying its activity. It is filtered before use. The strength, as I have stated, is ten grains to half a drachm, as suggested by Dr. Bates. Of course, you use an excess of powder in this way and a good deal is filtered out on account of its not being soluble.

Dr. Hopkins: Has it anæsthetic effects?

Dr. Swain: No, certainly not in the nose; but, on the other hand, it is not irritating in its effects.

Dr. Brown: Did you use hot or cold water in making the solution?

Dr. Swain: I always use cold water.

Dr. Brown: What is the objection to mixing it with alcohol and water?

Dr. Swain: There is no objection that I know of, except that it will sting on application. You understand that I have been experimenting and did not want to get any effects which might be attributable to alcohol. I have no doubt that the addition of a small quantity of alcohol would preserve it almost indefinitely from putrefactive change.

Dr. Wagner: Of late I have become very pessimistic as to new remedies. We have had so many coal-tar compounds brought to our notice that we can not test them sufficiently. Germany especially has flooded this country with so many new chemical preparations that we can not keep track of all of them. When the extract of suprarenal capsules was first mentioned I was not inclined to give much credence to the extraordinary claims made for it, but I soon became convinced by some experience that they were true. If any of you will use it, you will speedily learn that these claims are well founded. As for controlling capillary hæmorrhages of the mucous membranes, you will be much pleased with the results at your first trial. In my recent operations upon the antrum of Highmore through the fossa canina I have used (by injection) a preparation that I have brought with me and have had very little bleeding. Operations on adenoid tissue also have been nearly bloodless. Further, in performing the Asch operation on the nasal sæptum, I have been able in some cases to dissect a part of the mucous membrane from the sæptum in the form of a flap and to replace it afterward in fracture of the cartilage.

I have been told that this product resembles pyrocatechin. But we have learned by a recent publication that it does not belong to this organic group.

It appears that this new agent, like cocaine, will open a new era in our operative work. For my part, I do not attempt to perform any operation without using this remedy.

In rhinitis hyperæsthetica, I might yet add, I have found it to act very soothingly; especially where I have given it in diluted form to patients to use at home as a spray or in form of a salve.

(*To be concluded.*)

Miscellany.

Surgical Intervention in Gynæcology.—Dr. J. Halliday Croom (*Edinburgh Medical Journal*, December), in his inaugural address on this subject to the Obstetrical Society of Edinburgh, of which he is president, said:

"While at the present day every surgical proceeding is accepted and adopted, it is striking to think how medical innovations are received with distrust. Even anæsthesia, that has revolutionized the whole of medicine and surgery, was, on its first introduction, scorned, and regarded in the light of charlatanism.

"It is interesting now to look back after this interval of time, and to reflect how this wonderful discovery, associated as it is so intimately with the founder of our society, was received in England. It is best told in the late Sir Russell Reynolds's own words:

"'The first operation in England performed under an anæsthetic was witnessed in University College Hospital. Liston had consented to try the anæsthetic. "I can see him," says Sir Russell Reynolds, "as he said to the students, 'Gentlemen, we are going to try a Yankee dodge for making men insensible.' At length, Peter Squire said, "He is quite ready now, sir." Liston's knife flashed in the air. I took out my watch to count the time, and the leg was on the floor in twenty-six seconds. Liston turned to the students, and said, "This Yankee dodge, gentlemen, beats mesmerism hollow."' Such is Russell Reynolds's report.

"The great discovery had to make its way against obstinate prejudices and folly, and Liston's grudging utterance should serve as a warning to those of us who make light of new methods, only because they are new.

"Looking back over thirty years' experience—from the escharotic treatment, the chian turpentine epoch, the various amputations, curettings, and hysterectomies—I am rather disposed to think that the surgical method of dealing with uterine cancer has done little either to ameliorate suffering or to prolong life, and that once a uterine cancer is recognized, palliative local measures and a happy euthanasia through morphine are the best solutions of the difficulty. Such a statement may have the verisimilitude of despair, and, so far as I personally am concerned, that is my position. I hope and trust that the day may yet dawn when we shall have measures, whether therapeutic or surgical, of dealing with uterine cancer effectively, but I confess that I do not believe it has dawned yet.

"Perhaps these statements are somewhat at variance with the gist of the address I had the honor of making, as president of the Section of Obstetrics, to the British Medical Association some years ago. Then I was captivated with the wonderful improvements made in the technique in the operation of vaginal hysterectomy by Doyen, of Paris, and introduced to us here, especially by Professor Simpson. Unfortunately, so far as my own personal experience has been concerned, improved technique has not bettered my results; for the last series of cases have all been done with this enormous advantage, but without any improvement in the ultimate result. I have honestly stated my own experience, and I shall be only too pleased if, whereas my work reads failure, the results of the other fellows of this society give a more optimistic view of the case. You will perhaps say to me that I have taken undue advantage of my position here to discuss a question of enduring interest from my own side, and in this way avoid due criticism. But this is not so, for I hope to place before you the whole of my cases in detail, at no far distant date.

"With regard to hysterectomy for conditions other than cancer, such as prolapsus, subinvolution, and inflammatory disease of the uterus and appendages, the operation is one which, from its simplicity, requires to be safeguarded. Like the removal of the uterine appendages for inflammatory disease, this operation bids fair to be overdone. Unlike uterine cancer, none of these diseases are in themselves necessarily fatal, and the symptoms and discomfort to which they give rise can in many cases be alleviated by other less drastic measures. I am free to admit that there are cases for which the operation offers perhaps the best prospect of cure, such as small bleeding fibroids and prolonged hæmorrhages from the uterus which have resisted all other means of treatment, but such, so far as my own personal experience goes, are comparatively rare.

"With regard to fibroids, removal of the ovaries for bleeding or rapidly growing tumors is gradually being supplanted by the operation of abdominal hysterectomy, an operation much more certain in its results, though more dangerous for the moment. This operation had at one time such an alarming mortality as to be quite deterrent. Even yet the death-rate is most undesirably, and perhaps needlessly, high, and it is an operation which, except in the hands of experienced operators, is not to be undertaken without considerable anxiety.

"The improvements in this operation have been no less remarkable. The ligature of the broad ligaments and uterine arteries, the substitution of the intra- for the extraperitoneal stump, the complete removal of the whole organ by pan-hysterectomy, and the remarkable results obtained by both foreign and British operators, make this a more thorough and reliable method of dealing with these growths than any. It is further possible, in most cases, to have recourse to this operation when the safer and simpler operation of removing the ovaries has failed to give the desired relief.

"In a large number of cases, especially when the tumor is of considerable size, removal of the ovaries is an impossibility, and hysterectomy is the only means of dealing with them. We now recognize that the inconveniences and dangers of fibroid tumors do not by any means cease with the menopause; but I must say that I have no sympathy with the indiscriminate removal of these simple tumors, and I can never conscientiously advise a patient to undergo the risk of hysterectomy, unless urgent symptoms, such as rapid growth, mechanical pressure, hæmorrhage, or malignant degeneration (which is itself a curiosity) present themselves."

"Humanum est Exagg-er(r)are."—The following pertinent remarks on the wildly exaggerated stories of sickness among soldiers that have found their way into circulation mainly through the medium of "yellow" journalism are made by the editor of the *Journal of the Mississippi State Medical Association* in his issue for December. He says:

"Much has been said about the inhumanity and neglect of the doctors toward the soldiers. Some few instances of this kind have doubtless occurred, but it is a well-known fact that men when congregated together away from home are apt to become captious and will tell all kinds of lies to those to whom they may happen to write. An instance of this kind came under my personal observation in Central America, in which a poor devil had been killed by another fellow in a drunken brawl, and in his pocket was found a letter to a relative stating that the men were dying at the rate of five a day, when the truth was that twelve were lost in eighteen months. This will do as a sample of some of the tales told."

Professional Secrecy and Criminal Offenses.—The *British Medical Journal* for November 5th discusses this question very fully and fairly as follows:

"What is the duty of a medical attendant who in that capacity becomes aware that his patient has committed a crime? Ought he to give information to the police? It is generally said that he ought. Yet there are cases in which, in the words of an eminent judge, such action on the part of the medical attendant would be 'a monstrous cruelty.' Quite recently one of the London daily papers, commenting on the position taken up by a medical witness at an inquest, undertook to lay down the law on this very delicate and difficult question. In the case in question the medical attendant of the deceased had, in reply to the coroner, expressed an opinion (from which few, we think, will dissent) that 'if the patient was in her proper senses he would hardly consider himself at liberty to disregard her strongly expressed wishes' not to communicate with her relatives.

"The writer of the article approves of the 'courage and straightforwardness' of this answer, adding, however, a proviso—'if and so far as the patient's confidences disclose or suggest no criminal or illegal act.' And then he goes on: 'His (the doctor's) first duty, of course, is to the law of his country, and if the facts revealed to him raise any suspicion of crime or foul play, he could not for one moment be justified in complying with her request for secrecy. To do so would be to make himself an accessory to a breach of the law.'

"On the other hand, a medical correspondent writes: 'Not long ago I was called in to a young lady who, after a lover's quarrel, attempted suicide with chloroform, and nearly succeeded. This was a crime on her part; but surely I am not to lay information, and by not laying information I am not making myself an accessory to a breach of the law?'

"Now, which of these two opposite views is the right one? Let us see how stands the letter of the law. Is it an offense cognizable by the law of England to hold one's tongue about a crime that one knows to have been committed? The answer is doubtful. There is an offense known to the learned in the law as 'misprision of felony,' which is defined in *Russell on Crimes* as 'a concealment of felony or a procuring the concealment thereof. . . . and silently to observe the commission of a felony without using any endeavor to apprehend the offender is a misprision; a man being bound to discover the crime of another to a magistrate with all possible expedition. If this offense were accompanied with some degree of maintenance given to the felon, the party committing it might be liable as an accessory after the fact.' This definition may appear at first sight to answer our question in the affirmative, yet if closely looked at it may fairly be doubted whether it includes the case of a person merely discovering evidence that a crime has already been committed, he not having observed the actual commission of the crime, and having done nothing willfully with intent to conceal it.

"There is no doubt that the offense defined above is recognized by the law, but it is equally undoubted that the law has not been enforced for many years; and, except in some very glaring case, we may be sure it never would be enforced by legal penalties, even against a person who stood in no confidential relationship to the felon. In fact, the offense of misprision is not even mentioned in so complete a work as Archbold's *Pleading and Evidence*, and its existence is probably unknown to ninety-nine out of every hundred lawyers.

"As for making himself an accessory after the fact, mere knowledge of the fact without anything done to assist the felon to escape apprehension or trial would not make an accessory. There must be some act proved to have been done to assist the felon.

"So far, therefore, as legal penalties are concerned, the ordinary citizen has little to fear for simply holding his tongue; and the medical attendant has even less to fear. For although the law of England, unlike that of most civilized countries, does not recognize the inviolability of professional confidences between patient and doctor, yet in practice the judges, with whom a discretionary power as to compelling disclosure rests, can and do take account of the circumstances.

"We have stated the letter of the law as laid down by writers of the highest authority. Now let us see in what spirit the administrators of the law interpret it. What says Sir Henry Hawkins—no namby-pamby sentimentalist, but one of the sternest, as he is the most experienced, of the judges in all that pertains to crime and criminals? Our readers will recall his very remarkable *obiter dicta* in the case Kitson *vs.* Playfair.

"Sir John Williams, speaking as an expert witness with regard to the exceptions to the general rule of the inviolability of professional confidences, had just declared that, 'with regard to a crime, a medical man is obliged to inform the public prosecutor of any crime which has been committed or is intended to be committed.'

"The judge (Sir H. Hawkins): Suppose a medical man were called in to attend a woman, and, in the course of his professional attendance, he discovers that she has attempted to procure abortion. That being a crime under the law, would it be his duty to go and tell the public prosecutor?

"Sir J. Williams: The answer of the College of Physicians to that very question was 'Yes.'

"Sir H. Hawkins: Then all I can say is that it will make me very chary in the selection of my medical man.

"Two days later, in his summing up, the judge deliberately returned to the same subject:

"He could not altogether agree—we quote from the *Times* report—with what Sir John Williams and Sir William Broadbent had said as to exceptions to the rule imposing secrecy. As to giving evidence in a court of justice, it all depended upon the judge. He might refuse to commit a medical man for declining to disclose confidences. Each case would be governed by the particular circumstances, and the ruling of the judge would be the test. Secondly, they said that if there were circumstances from which they supposed a crime was intended to be committed they would have to inform the public prosecutor. If the doctor were called in merely to attend a woman needing physical aid, his lordship doubted very much whether he would be justified in going to the police and saying: 'I have been attending a poor woman who has been trying to procure abortion.' That would be a monstrous cruelty. Therefore, to say there was a general rule was going too far. There were cases, no doubt, in which it was obvious that a medical man should inform. He only protested against that rule being said to be applicable in all cases.

"It seems, therefore, that the judges do not uphold the doctrine that the medical attendant is bound under all circumstances to give information. The time may come when they will say he is never bound to do so—when they will recognize the right of the medical man to respect the confidence reposed in him, unless and until he is ordered by the court to violate it. Meantime, we can give no help for the solution of the many painful 'cases of conscience' which medical men are confronted with beyond recommending them to 'mark, learn, and inwardly digest' the words we have quoted from Sir Henry Hawkins.

"We have been speaking throughout of crimes committed, not of crimes contemplated. The latter stand on a totally different footing, but we have not space to discuss them here."

The Retinitis of Pregnancy.—M. Guende (*Gazette hebdomadaire de médecine et de chirurgie*, November 24th) recorded at the Congress of Gynæcology, Obstetries, and Pædiatry the case of a woman who had had six pregnancies. The first was followed by puerperal mania. The three following ones had no special complications. In the fifth she was taking morphine and aborted. In the sixth she added the cocaine habit to that of morphine. In the eighth month her vision was lowered to such a point that she was in a condition of almost total blindness at her accouchement. Some slight amelioration was evidenced after delivery. A month later ophthalmoscopic examination showed exudation resembling that of albuminuric retinitis. There was, however, neither sugar nor albumin in the urine, only polyuria. The author considers this an example of one of those mixed infections, as yet ill known, of the puerperal state.

Naftalan.—Dr. Rosenbaum, of the St. Michael's Hospital, Tiflis (*Therapist,* November 15th), in a paper read before the Imperial Caucasian Medical Society, says that the medical ointment naftalan is procured from a special and peculiar crude naphtha, differing considerably from any other raw naphtha in its physical and chemical properties. In spite of a high specific gravity of 0.960, this naphtha does not contain any resinous products, dissolves completely in ether, and burns with an agreeable aromatic smell, without leaving any residue. The flash point of this crude naphtha is beyond 140° C., and the point of freezing is 20° C. In the fractional distillation of this naphtha it does not give off light oils, such as benzine, kerosene (petroleum), etc., but immediately as first product (distillate) a heavy oil with a specific gravity of 0.890 is passed over. It can be distilled to dryness without noticing a trace of paraffin.

The place where this peculiar naphtha is found is situated in the Caucasus, at the foot of the Armenic Highlands, and has the Tartaric name "Naftalan." This place is also frequently called the "Holy Bath," because during the three hot months, since time immemorial, five to six hundred invalids come yearly, even from far distances, to bathe here in naphtha, seeking cure for all sorts of affections, more especially of diseases of the skin, wounds, rheumatism, gout, etc. The street hawkers of Persia and Asia Minor have always sold the naphtha as a remedy for men and animals.

Naftalan is an extract of this special crude naphtha, and contains the undoubted healing properties of the same, in concentration.

This ointment and the oil used with it are prepared without employing any acid or free alkalies, and without admixing any animal or vegetable fat.

The ointment is of stiff consistence, but can nevertheless be easily smeared; it is absolutely neutral, almost odorless, and does not undergo any change even if kept for years.

The high melting point of this ointment, which is 60° to 70° C., is of special importance, as it will therefore not liquefy at any body temperature; it covers securely and well, and retains its stiff consistence even in the highest summer temperature. The ointment has, when viewed in reflected light, a dark color; and in a transmitted light, a darkish yellow, clear, and shiny appearance, and does not leave any stains on the linen after washing.

Naftalan does not mix with water and glycerin, but mixes easily with fat, and is soluble in ether and chloroform. As it never decomposes or splits up, it is excellently suited as a basis for ointments, more especially as it easily mixes with other ingredients, and, contrary to vaseline, is easily and quickly absorbed by the skin.

Naftalan shows strong antiseptic action, in so far that bacteria and their spores can not exist in it. These are, in short, the so far known properties of the remedy in question. Dr. Rosenbaum supposes, however, that still further, up till now unknown, factors will come into consideration, explaining the intense and in some cases unique curing effect of this ointment.

Naftalan has been used extensively in St. Michael's Hospital, Tiflis, during the months of March, April, and May, with the following results:

1. The remedy proved in all cases to be completely harmless, as he never noticed any damaging consequences or by-effects.
2. It possesses wonderful soothing properties upon burns of the first and second grade, thereby preventing inflammation, and excels therefore in this respect all hitherto known remedies.
3. It acted excellently in various diseases of the skin, especially in acute and chronic eczema, pityriasis, seborrhœa capillitii, and psoriasis, in which cases the remedy produced a marvelous healing effect, even in cases where all other remedies recommended by science had failed.
4. It favorably influenced the progress of the disease in erysipelas of the face, checking the progressing inflammatory process and reducing the temperature to normal on the second and third days, the patient thereby feeling very well.
5. It develops an antiseptic, anti-inflammatory action, and accelerates the healing process, in inflamed wounds and abscesses.
6. It is soothing, is readily absorbed, and heals quickly in cases of bruising and sprains, even of long standing.
7. In rheumatic and gouty pains the patients experience quick relief of the severe pains, and if its use is continued a complete cure is effected.
8. It has reducing and soothing effect in cases of epididymitis, buboes, and inflamed lymph glands.
9. Lastly, naftalan was extensively employed as a basis in the preparation of our mercurial ointment (2 : 1), whereby it was found that the mercury could be more readily incorporated with naftalan than with fat and lanolin. The mercurial ointment prepared with naftalan was readily absorbed by the skin. It is sufficient to smear it on the parts, with slight pressure; strong pressure is apt to cause furunculosis, which may be explained by the fact of the sebaceous glands becoming blocked by the mercury. The symptoms quickly disappeared on treatment with the ointment prepared in this way.

The best method to use naftalan is to spread a layer—as thick as the back of a knife—on linen, and cover the diseased part with it; or the ointment may be placed directly on the diseased part and then cover with linen or cotton wool. Seeing that the ointment is quickly absorbed by the skin, it is recommended to use it twice a day.

The Pathology of Diphtheria Paralysis.—Dr. F. E. Batten (*British Medical Journal,* November 19th), in a paper read on this subject before the Section of Diseases of Children at the British Medical Association, states the following summary of the results of his investigations. He says that although various views have been held with regard to the pathology of diphtherial paralysis, it is at the present time generally recognized that the lesion most commonly found is a parenchymatous degeneration of the myelin sheath of the nerves, and Martin has shown that this condition affects primarily the finer nerve branches. More recently the work of Mouravjeff would tend to show that the primary alteration occurs in the cells of the anterior horn, and this was demonstrated by Nissl's method—a method which Martin did not use. The same condition had been previously described by Crocq, though he describes the primary condition as a myelitis. In the experiments of Mouravjeff the animals which had been allowed to live for the longest time after infection showed well-marked changes in the peripheral nerves, although no change could be demonstrated in the granules of the nerve cells. Some of the cells may, however, have undergone atrophy. In the present series of cases the cells, not only of the anterior horn, but also of the posterior root ganglia, appeared normal. It may, however, be that the cells in these cases had had time to recover.

With regard to the affection of the posterior roots, Meyer, in 1881, showed that they were degenerated, and also that this degeneration existed on both sides of the spinal ganglion. This has been noted again, more recently by Preiz, Crocq, and Mouravjeff, and among others by Bikeles, who describes the occurrence of masses of fat globules in the posterior root at its entrance into the spinal cord; this, however, is a normal condition certainly in children, and probably to a lesser extent in adults, and hence localized granules of fat in this region should not be regarded as evidence of degeneration.

The cranial nerves have been found affected by Meyers, Bristowe, and others; Crocq, however, failed experimentally to find any degeneration. The nerves described as being affected are the third, fourth, fifth, sixth, seventh, eighth (Moos), ninth, tenth, eleventh, twelfth.

In conclusion, then, it is probable that the dominant lesion in diphtherial paralysis is a parenchymatous degeneration of the myelin sheath of the nerves, and that this degeneration affects both motor and sensory fibres alike.

Actions for Malpractice.—Dr. G. W. Thompson (*Cleveland Medical Gazette*, November), in a thoughtful and interesting paper on this subject, says that the most dangerous question that confronts us as a profession to-day is that of liability to the public from a medico-legal point of view. The great misfortune is that we are powerless to defend ourselves so far as the law is concerned. There is no law in any of the statute books that justifies us in entering into a written contract with persons we are called upon to treat. In all other classes of business, contracts are written and signed by the parties who may enter into them, and each party to the contract is held responsible for the faithful carrying out of its covenants.

The physician and surgeon have no protection whatever in this respect that can be relied upon in the statutes. There can be no contract entered into between a physician and his patient that is binding in law. This being true, when we are called upon to treat and take charge of a case, it matters not of what character or what the prospects are for an unfavorable termination, we must do so at our own risk.

As regards the actually implied contract between the physician and his patient, Dr. Thompson points out that the law implies that a physician or surgeon, without a special contract for that purpose, is never considered as warranting a cure; that his contract as implied in law is, that he possesses that reasonable degree of learning, skill, and experience which is ordinarily possessed by others of his profession; that he will use reasonable and ordinary care and diligence in the treatment of cases committed to his care; that he will use his best judgment in all cases of doubt as to the best course of treatment; that he is not responsible for want of success unless it is proved to result from want of ordinary skill, or from want of ordinary care and attention; that he is not presumed to engage for extraordinary skill or for extraordinary diligence and care; that he is not responsible for errors of judgment or mere mistakes in matters of reasonable doubt and uncertainty.

Of malpractice the author points out that there are three divisions. The first division is classified as willful malpractice, or willful acts of the physician or surgeon toward a person under his care, the result being death or injury to the person. The second, acts forbidden by the statutes on the part of the physician or surgeon toward a person under his care, by which such person may suffer injury or death. The third, negligent acts upon the part of the physician or surgeon in treating a person by which such person may suffer death or unnecessary injury.

It will be of importance to note that the first and second divisions include the class of cases which makes the physician or surgeon liable to punishment in a criminal prosecution. The third division treats of that class of cases where suits are brought against a physician or surgeon for negligence whereby the person suffers death or unnecessary injury in consequence of such negligence.

It is, as the author points out, the hope of gaining money, generally under the prompting of some unscrupulous attorney, that induces patients to bring this class of cases into court, and such cases have multiplied with alarming frequency in late years. The only courses open to the physician when such a suit is instituted are either arbitration or litigation. The former the author opposes in all cases as being held by most people to imply either negligence, incompetence, or cowardice.

On the other hand, in court there is but little guarantee that, no matter how right the physician may feel himself to be, his defense will be successful. The sympathy of the jury is ordinarily with the plaintiff. He then records some cases, including an experience of his own, as tending to show the importance of putting forward all the proof possible of the propriety of his action, and he winds up with the following useful suggestions: 1. When called upon to defend such cases, secure the ablest legal counsel it is possible to obtain, for in this as in all else the cheaper in the beginning may prove the more expensive in the ending. 2. Obtain all the evidence possible to sustain your case. It is evidence, and not sympathy, that will win where suits are to be tried in courts of justice. 3. Do not arbitrate or settle a case for any amount, it matters not how small the amount may be, as when you consent to do this you pay money out of your own pocket to convict yourself. 4. Do not allow a case, if you can help it, to be continued from one court to another until your best and most reliable evidence is lost. 5. Do not reveal to the outside world what you propose to introduce as evidence. 6. Always take the plaintiff's deposition as soon as suit is entered against you. It may serve a double purpose. It will surely give you an insight into the case you are called upon to defend, and, should the plaintiff fail to remember his evidence given in the deposition, it may weaken his testimony given in the court during the trial of the cause. The law gives the defendant the opportunity to take the plaintiff's deposition in all suits for damages.

Acetanilide in Sunstroke.—Dr. Charles J. Barry (*British Medical Journal*, November 19th) relates a severe case of sunstroke in a boy aged sixteen, with intense hyperpyrexia, loss of power over the sphincter muscles, and difficulty in swallowing and articulation.

The temperature was 106.8° F., the pulse 130, jerky, and the respiration hurried. The usual text-book treatment was adopted without improvement. Delirium of an active character having set in, the author administered cautiously antifebrin, five grains, in powder every six hours, guarding against the supervention of cyanosis by ordering six ounces of port wine in the twenty-four hours. Before the administration of the first powder at 11 A. M. the temperature stood at 105.4° F., and on the doctor's evening visit, one hour after the second powder had been taken and four ounces of the wine, he found the temperature reduced to 98° F., or practically 0.4° below normal. No bad symptom appeared through the rapid decline of the pyrexia, and no inconvenience was experienced by the patient, with the exception that he felt the feet rather cold, a matter promptly corrected by a hot water with mustard footbath and wrapping the feet in flannel.

The recovery stage extended over six weeks, and whenever the temperature rose to 100° F. or over it was promptly reduced by administering from two and a half to five grains of antifebrin. The patient is now free from any sign of paralysis or mental aberration.

The Treatment of Diabetes by Intestinal Antiseptics.—Mr. F. A. Monckton (*British Medical Journal*, November 19th) says that more than twenty years ago, while surgeon to the Wallace, or Riverton, Hospital, New Zealand, some cases caused him to reflect that if diabetes mellitus is curable it should not be by further impoverishing the system through withholding necessary carbohydrates, or by destroying the assimilating processes with opium or codeine, but rather by seeking means to check the fermentative changes into glucose or grape sugar. In furtherance of this idea he experimented with sulphocarbolate of sodium, and was so far successful that several patients were discharged apparently cured. At all events, he never saw them again.

He refers to several cases treated without dietary restrictions, save the prohibition of sugar and of oatmeal porridge and the administration of the sulphocarbolate in varying doses, or with boric acid, modifying the doses to suit the symptoms. Under this treatment the weight of the patients increased, the excretion of sugar was lessened, and one of the patients so far recovered that he was able to lead an adventurous life—exploring, gold-mining, etc.—in British New Guinea.

Iodide of Rubidium.—The *Journal des praticiens* for October 15th has an extended notice of this drug, in which the writer states that iodide of rubidium is the only iodide which up to date has satisfied all those that have tried it in their search for a substitute which shall possess all the advantages of iodide of potassium without its disadvantages. Among those who extol it for its superior efficacy and its absence of disadvantages are Runge, Méring, Brunschweig, Leistikow, Wolff of Strasburg, Wogt, and Briquet. Colombini and Pasquini, of Sienna, whose researches into the action of the iodides upon the blood of healthy and of syphilitic persons are well known, have followed them up with further researches upon iodide of rubidium in that connection, and have published the following conclusions: 1. The action of iodide of rubidium upon the elements of the blood of syphilitics is altogether different from that of iodide of sodium. 2. The modifications induced by iodide of rubidium in normal blood and in the blood of syphilitics are practically identical with those of iodide of potassium. In short: *a.* Iodide of rubidium administered by the mouth before any other treatment, from the earliest period of syphilitic infection, produces a progressive and continued augmentation of the quantity of hæmoglobin and restores it to its normal proportion. *b.* The same progressive and continuous augmentation was manifested in the red blood-corpuscles in all the persons submitted to treatment with it. *c.* The white blood-corpuscles, which are in excess at the commencement of treatment, regain during treatment their normal numerical value. *d.* The body weight in a great number of cases is notably augmented. *e.* All these favorable modifications in the blood dyscrasia of syphilities due to iodide of rubidium are identical with those of iodide of potassium, which latter can therefore be replaced by the former, possessing in addition the not inconsiderable advantages of being more easily tolerated and less disagreeable to the taste. The experiments of Colombini and Pasquini were made by the daily administration sometimes of a constant amount of thirty grains (in divided doses), sometimes commencing (in divided doses) with seven and a half grains in a day, and increasing the total daily amount by three and a quarter grains, until the maximum of ninety grains was reached. All the patients during the treatment were submitted to exactly the same conditions of existence and to the same dietetic regimen.

The Bath Treatment of Graves's Disease.—Dr. W. Macphun Semple (*Bristol Medico-Chirurgical Journal*, June) records a case in which great amelioration followed after all other known methods had been unsuccessfully tried, by a modified form of Nauheim bathing. The patient, who up to the time of her illness eighteen months previously had occupied the position of lecturer and teacher in one of the best girls' schools in London, was short and inclined to stoutness. The thyreoid was enlarged, the right lobe being the larger, and both lobes were soft and pulpy. The hæmatic murmur was very loud. The white of the eye showed freely, the right eye being more prominent than the left. The heart was slightly dilated. The pulse was regular, full, and beat 98 to the minute. The skin was dry. There was much flatulence and general dyspepsia, with chronic constipation. The slightest task, sustained conversation, or mental effort increased the tachycardia. The skin was bronzed similarly to the appearance in Addison's disease.

As it was unadvisable for the patient to be moved to the bathroom, she was thoroughly sponged with the bath water (calcium chloride and sodium chloride) and almost from the first she experienced benefit. The bath water was prepared from the Schott formula for making a weak bath, and the temperature was 95° F., the area over the heart and around the gland and eyes receiving the chief attention. In ten days the patient's appetite improved rapidly, so that she was able to take two quarts of skimmed milk daily; the harshness of the skin became less troublesome, and the tachycardia improved. The gland and eyes both showed improvement. Lactate of iron and iodide of potassium were then added to the strophanthus and valerianate of zinc which the patient was taking. Rest in the recumbent position was strictly enforced.

In about two months the patient had recovered so far that it was thought wise to allow her to get up for a short time, and she was now able to be put in a bath. The first Schott bath was made weak—twenty gallons of water, one pound of common salt, and four ounces of chloride of calcium. The temperature was kept at 95° F., and the duration of the bath was at first six minutes. The first bath was a pronounced success, the patient experiencing a fresh feeling of renewed vigor, and she was further pleased to find that the exertion of the bath and the subsequent drying process, which partook more of the nature of shampooing with a rough bath towel until the skin was rosy, had not increased the heart's action to any marked degree. The baths proving useful, they were continued for four mornings; then a halt was called for two days, followed by a new series of baths, gradually increasing in strength. During this period the patient was able to read and sew in her lounge chair, to walk in her room, and converse as she pleased without experiencing the very slightest inconvenience.

The ordinary plain calcium bath was succeeded by a stronger effervescing bath formed by adding a quantity of hydrochloric acid and bicarbonate of sodium to the ordinary bath, the result being markedly beneficial. The patient was noticeably improved in every way, and has been able to walk in her garden for a considerable time without any disagreeable symptoms whatever.

The Medical Signatories of the Declaration of Independence.—The *British Medical Journal* for December 3d contains a note on an article which appeared on this subject in the *Journal of the American Medical Association.* After quoting the medical and political record of the representative Americans referred to, the *British Medical Journal* says: "Even those who hold—wrongly, as we think—that medical practice and politics are incompatible elements, will admit that the five doctors who signed the Declaration of Independence were politicians of whom the medical profession may well be proud."

A Roman Military Hospital.—The *British Medical Journal* for December 3d says that according to the *Journal des débats* a hospital has been discovered among the Roman ruins at Baden, in Canton Aargau, Switzerland. The excavations have laid bare a building containing fourteen small rooms, together with a number of articles, which it is thought served for the use of Roman surgeons, such as forceps, tubes, spatulæ, caustic holders, ointment boxes, measures, etc. The experts conclude that these objects show that the building served as the hospital for the fourth and fifth legions, which had their standing quarters at the place.

A Remarkable Wax Model of the Medulla Oblongata, Pons Varolii, and Mesencephalon.—At a meeting of the New York Neurological Society held on December 6th, Dr. Lewellys F. Barker, associate professor of anatomy in the Johns Hopkins University, Baltimore, showed a model which had been made by Miss Florence Sabin directly from serial sections, after the manner of His. The parts represented were those of a human fœtus near term. At the same meeting Dr. H. M. Thomas read a paper entitled A Statistical Study of Cases of Tabes Examined at the Johns Hopkins Hospital. The meeting passed a vote of thanks to Dr. Thomas, Dr. Barker, and Miss Sabin.

The Rocky Mountain Inter-State Medical Association will meet in Salt Lake City in the summer of 1899, at a time to be decided upon by the executive committee. The officers are as follows: President, Dr. C. P. Hough, of Salt Lake City; vice-presidents, Dr. Charles K. Cole, of Helena, and Dr. Clayton Parkhill, of Denver; treasurer, Dr. E. Stuver, of Rawlins; recording secretary, Dr. S. C. Baldwin, of Salt Lake City; corresponding secretary, Dr. S. D. Hopkins, of Denver.

The Surgery of the Stomach.—In the November number of the *Nordiskt medicinskt Archiv* J. Berg reports thirty cases of gastric operations, including those for ulcer with tumorlike infiltration perceptible on external palpation, for cicatricial pyloric stenosis with dilatation of the stomach, for pyloric stenosis with various other conditions, and for gastric abnormities of different sorts. He concludes that most cases of ulcer of the stomach are too far advanced when they come to the surgeon's notice for surgical intervention to be of avail; that recurrent symptoms of ulcer, with signs of perigastritis, especially in the pyloric region, and repeated symptoms of retention, are the chief indications for resorting to surgical treatment; and that a more intimate cooperation between the surgeon and the physician familiar with the diagnosis of diseases of the stomach is desirable if the treatment of gastric diseases is to undergo a sound development.

Circular of Information for Persons Seeking Appointment as Contract Surgeon in the United States Army.—Surgeon Kilbourne has issued the following circular:

The following requirements are exacted by the board of examiners: Evidence of graduation at a regular reputable medical college, diploma to be submitted to the board. Proof of hospital or other professional experience will be of benefit to the candidate. Candidates must be in good health, of reasonably sound physique, and citizens of the United States. The examination is of a practical nature, embracing hygiene, practice of medicine, pathology, and surgery. In addition a thesis on some professional topic will be prepared by the candidate. The following questions submitted to former candidates are published as a guide to applicants:

1. What chemical and physical qualities of water would lead you to suspect its potability?
2. What are the varieties and pathology of felon?
3. What is Widal's test?
4. What are the modern methods of treating diphtheria?

The pay of acting assistant surgeons is a hundred and fifty dollars monthly. The applicant must be free from physical defects which would incapacitate him from the military service.

For further information address Major H. S. Kilbourne, surgeon, United States Army, Army Building, 39 Whitehall Street, New York city, president of the board of examiners.

Free Diagnostic Examinations by the Memphis Board of Health.—In the *Memphis Lancet* for December the board gives notice that its chemist and bacteriologist will make the following examinations for the physicians of the city free of charge: Microscopical examinations of sputum from cases of suspected tuberculosis; microscopical and bacteriological examinations of blood for *Plasmodium malariæ;* the Widal-Johnston blood test for typhoid fever; Arehinard's blood test for yellow fever; uranalysis, when the urine is brought with blood for the detection of the *Plasmodium malariæ* or to be tested for yellow fever. For the convenience of physicians, sterile swabs, slides, and sputum phials will be kept by the board at a number of stations.

Original Communications.

THE RELATION OF CHEMISTRY TO PRACTICAL MEDICINE,

AND SOME OF THE METHODS AVAILABLE IN THE DAILY WORK OF PHYSICIANS.*

By R. H. CHITTENDEN, Ph. D.,
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In opening this discussion on the relation of chemistry to practical medicine, I am forcibly reminded of the fact that twenty years ago, even, it would have seemed a thankless task to attempt the presentation of a subject like the present one to an audience of practitioners, so little apparent bearing had chemistry at that time upon the questions of practical medicine. Then, physiological chemistry had only commenced to occupy its proper place in the scheme of medical studies. The first independent laboratory or institute of physiological chemistry had just been established in the reconstruction of Strassburg University under German *régime*, and the upholders of scientific medicine were only beginning to realize the immense possibilities which so-called physiological and pathological chemistry possessed for helping on the advance of scientific research in the medical sciences.

Scientific investigators and practitioners alike, I have no doubt, realize fully that advance in scientific medicine brings in due time a corresponding advance in our knowledge of the causation and treatment of disease. Every new fact which the laboratory worker in physiological chemistry, for example, brings to light will in due time contribute something to that fund of knowledge which is of direct use, and hence of practical value, to the everyday practitioner of medicine. The record of the last twenty years is full of illustrations of the general truth of this statement. Further, what a *widespread* advance in the application of chemistry to physiology and pathology these last twenty years have witnessed! Look to-day through the various journals of physiology, physiological chemistry, pathology, pharmacology, experimental and clinical medicine, and note the character of the work there presented and the part which chemistry is playing in the hands of both the scientific worker and the clinician. I believe it is no exaggeration to say that the most important advances in scientific medicine for the *next* twenty years will be along chemical lines, made possible through the application of chemical methods of research. I base this belief upon the close relation which chemistry to-day plainly bears to so many of the fundamental problems occupying the medical mind. What, for example, is our attitude at the present moment regarding that large class of infectious diseases whose origin is to be traced to certain specific micro-organisms? We know for a certainty that the micro-organisms are not directly responsible for the ills which they produce. The characteristic symptoms of this and that stage of the disease are but the outward manifestations of the physiological action of specific chemical substances (toxines, if you choose) produced by the growth and multiplication of the micro-organisms within the tissues of the body. Can there be any doubt of the general truth of this assertion? In true diphtheria, for example, we are well aware that the cause of the disease is the Löffler bacillus, but this germ is found only at the seat of inoculation, whereas the disease is characterized by a series of systemic disturbances most marked in character. These, as Löffler himself pointed out in 1887, must be due to soluble products, and, as you are well aware, we now know, thanks to the supplementary work of Brieger, Fränkel, Roux and Yersin, Behring, Ehrlich, and others, that the diphtheria bacillus produces a soluble poisonous substance of a proteid nature, readily separable from the bacteria, and that this substance when injected produces the characteristic symptoms of diphtheria, followed by death. But combined chemical and physiological study has advanced our knowledge still further, and made possible the production of a diphtheria antitoxine which has already proved of inestimable value in the hands of the clinicians. The antitoxic serum owes its antidotal action to chemical substances, and whether the immunizing effect is the result of a direct chemical neutralization—*i. e.*, a direct union between the toxine and antitoxine—or whether the process involved is a more indirect and complicated one, in no way alters the general trend of our argument that in the manifold results obtained from the chemico-bacteriological study of this typical disease we have a forcible illustration of the part which chemistry is playing in unraveling the mystery surrounding infectious diseases in general, and in providing the practitioner with the means of combating them. I can not refrain at this point from calling your attention to a fact which I think has an important bearing upon some of the theories advanced by Ehrlich in connection with diphtheria toxine and antitoxine, and perhaps has a wide bearing. As has been clearly pointed out by Park and Atkinson,* in a recent paper embodying work carried out in the research laboratory of the health department of New York city, it is now generally assumed on the strength of Ehrlich's researches that the diphtheria toxine is a single definite chemical compound with definite physiological and antitoxic properties only at its origin; that in reality it is an unstable substance readily losing its toxicity, while at the same time its affinity for antitoxine may be either increased or decreased. Certain it is that there are great variations in the neutralizing value of a fatal dose in different toxines, and there are many observations which tend to prove the readiness of the toxine to undergo deterioration, due possibly to its breaking down into related bodies of less toxicity. However this may be, chemical study has shown quite clearly that the growth of micro-organisms, both pathogenic and non-pathogenic, in suitable culture media is attended by the development of proteolytic enzymes which are, in part at least, responsible for the soluble proteid products which result. For it is true that whenever micro-organisms grow, the most prominent of the soluble products which result are albumoses or proteoses akin to those formed by the proteolytic enzymes of the digestive juices. These latter products, which are normal to the digestive tract, are, as you know, quite toxic when introduced into the blood current, causing fever, fall of blood pressure, narcotism, and even death. Further, as you are aware, when these soluble products of digestion are introduced into the blood current they are rapidly eliminated through the kidneys, just as other poisons are. In a similar manner, the albumoses which are absorbed from pus cavities, etc., are eliminated through the urine, giving rise to a typical "albumosuria." But the point which I wish to emphasize is this—viz., that in the decomposition of proteids by an ordinary digestive enzyme we have to deal with a progressive hydrolytic cleavage, in which the first formed products (primary proteoses) are transformed into secondary products (secondary proteoses), and these finally into true peptones. Now, these several classes of substances differ from each other physiologically as well as chemically, the primary products, as a rule, being much more active physiologically than the secondary products. Is it not, therefore, quite probable that in the zymolysis produced by many pathogenic micro-organisms we have to do with a corresponding hydrolytic cleavage, with consequent formation of a row of more or less toxic substances, the one formed from the other by successive hydration and accompanied by corresponding changes in toxicity or physiological power? There are many facts which might be cited in support of such a view, but I would merely call attention here to the general drift of the argument, which I think offers a partial explanation at least of the variability in toxines noticed at different stages of development and helps make clear why deterioration may occur. I would have you take these statements, however, mainly as an illustration of the general principle that all pathogenic bacteria produce a row of chemical substances endowed with more or less toxic power, and that these are chiefly responsible for the characteristic symptoms of the disease. Hence, in these chemical facts we have the key to the true cause of the disease, and are afforded thereby a clear insight into rational methods of prevention and treatment. Pneumonia, malignant œdema, glanders, cholera, typhoid fever, summer diarrhœa, suppuration, tuberculosis, tetanus, anthrax, etc., are all illustrations of infectious diseases in which more or less well-defined chemical substances are the true poisons. Moreover, there is hardly any doubt that in malarial fevers the true cause of the paroxysms is to be sought for in chemical substances elaborated through the action of the malarial parasites and distributed by the blood.

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* Read before the New York Academy of Medicine, Section in Medicine, October 18, 1898.

* *Journal of Experimental Medicine*, 1898, vol. iii, p. 513.

Another direction in which physiological chemistry has been bringing to light interesting and important facts of direct value to practical medicine is in connection with the internal secretions. Here we have a new and interesting chapter of scientific research, full of interest and suggestion for both physiology and practical medicine. The literature of the last two or three years bearing upon this subject is enormous, but running through it all is clear evidence of the existence of a row of chemical substances elaborated by the several ductless glands, of inestimable value to the organism, exercising in some cases, as in the secretion from the thyreoid, a controlling influence over the nutritional processes of the body, either counteracting or more likely preventing the formation of toxic substances of great power. No sooner had experimental physiology shown that extirpation of the thyreoidal tissue in animals was followed by a train of peculiar symptoms, leading in many cases to death, and that the feeding of thyreoidal tissue to animals so operated upon was sufficient many times to overcome the baleful influence of the removal of the glands, than the aid of chemistry was sought to explain these peculiar results. To-day, thanks especially to the pioneer work of Baumann and Roos, and to the more recent work of Hutchinson, we are able to obtain from thyreoidal tissue a specific substance—the iodothyrin of Baumann or the colloid of Hutchinson—characterized by containing iodine and endowed with marked physiological properties. Upon these chemical substances apparently depends such remedial action as the feeding of thyreoids produces in myxœdema, parenchymatous goître, cretinism, etc. In the suprarenals the chemical work done by Professor Abel* has afforded evidence of the presence of a peculiar basic substance, a pyridine base or alkaloid, upon which the well-known blood-pressure-raising power of the gland depends; while in the hypophysis cerebri, ovaries, testicles, etc., we are gradually acquiring knowledge of the existence of internal secretions likewise characterized by the presence of chemical substances of undoubted physiological power. Chemical research alone can show the exact nature of the substances which these physiologically active glands produce, and chemical methods must be relied upon to further our knowledge of these all-important bodies, which promise so much for practical medicine.

Of greater practical value to the physician in his everyday work is the chemical study of food, urine, and fæces in their bearing upon the general problem of nutrition. I refer here not to the simple testing of urine for possible pathological constituents, nor to microscopic examination of fæces for the presence of undigested food particles, but to the quantitative analysis of the urine and fæces, as well as of the food, with a view to ascertaining the true nutritive value of the latter, and the extent of proteid and other forms of metabolism, thus obtaining data which I am sure would prove of inestimable value in many questionable cases and afford a basis for accurate diagnosis. I am aware that the physician in general practice is considered as too busy a man to find opportunity for elaborate chemical examination of the urine, to say nothing of the fæces, sputum, gastric contents, etc., but I question very much if the time has not arrived when the physician must make use of this important aid in diagnosis. As Simon has well said in his excellent book on clinical diagnosis, "The time is at hand when the practice of medicine is becoming what it was long ago, but then unjustly, called, a true science and art. No continuing success can be built on empiricism or upon the proportion of guesswork which is inseparable from dependence upon the 'experienced eye.' Diagnosis is now the password in medical science. . . . It is inconceivable that a physician can rationally diagnose and treat diseases of the stomach, intestines, kidneys, and liver, etc., without laboratory facilities." A knowledge of chemistry sufficient for clinical purposes is just as important for accurate diagnosis as knowledge of electro-diagnosis, etc.; but how little use is made of this important aid, even in our larger hospitals! There are, it is true, some notable exceptions, but, as a rule, chemical diagnosis is kept within very narrow limits.

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* Abel and Crawford. *Johns Hopkins Hospital Bulletin*, July, 1897.

There is to-day no subject of greater moment in preventive medicine than the subject of nutrition, and it is of equal moment for the growing infant and the young mother, the patient with a wasting disease and the sufferer from some acute trouble. For all alike the same problem presents itself, and there is need of concise knowledge concerning the true character and dynamic value of the ingested food and the extent to which it is utilized by the body, both qualitatively and quantitatively. How little thought is given to the exact nature and composition of the food consumed by the patient! The very fact that our markets are flooded with food preparations, many of unknown composition and of questionable value, is in itself a sufficient commentary upon this point. Do you believe if every physician had the power to analyze these preparations, or to fully understand the import of analyses made by other persons, that so many of these compounds would flourish? I think not. But the time will come sooner or later when as much thought will be given to the exact composition of the ingested foods and to the extent of their utilization by the body as is now given to the remedies prescribed. That the time has not already arrived is to me inexplicable. There is far more attention given in the United States to-day to the nutritive value of the foods fed to our domestic animals than is expended on the food of mankind. The intelligent farmer, by the wisdom of a paternal government, is enabled through the various State experiment stations to obtain accurate and concise information of the composition of the rations he may desire to feed his stock. The experiment stations are continually furnishing gratuitous information regarding the digestibility, nutritive value, etc., of this and that ration. The farmer can not go astray, for the agricultural department at Washington will see that he obtains reliable information of any form bearing upon the nutrition of his stock. Why should not some similar system prevail in regard to the food of man? Why should not the physician demand a similar privilege in regulating the diet of his patient? It is not such a difficult matter. The chief problem centres around the proteid or albuminous foods, and to ascertain these requires only a determination of nitrogen.

To be sure, in careful work it is necessary to distinguish between the nitrogen of proteids and that of the simpler amids or amido-acids, but we now have, thanks to Professor Mallet * and Dr. Wiley, methods which promise to accomplish this with comparative ease. As to the determination of the nitrogen, the simple Kjeldahl method is readily applicable and yields results of great accuracy. The same method of analysis applied to the twenty-four hours' urine and to the fæces gives all the data necessary for comparing the income and output of proteid matter; tells us at a glance how far the proteid food is being utilized; whether it is sufficient for the needs of the body; whether digestion is proceeding at a normal pace, etc. Further, chemical analysis of the fæces will throw much light upon the utilization of fat by the body, and thus upon possible abnormities of the pancreatic juice and bile. Such helps as these to accurate diagnosis and in the careful watching of the patient's condition can not be ignored, and sooner or later will demand the attention of the conscientious practitioner.

Again, there is much to be learned in studying the different forms in which the nitrogenous waste of the body is eliminated through the urine. To be sure, the greater proportion of the proteid matter decomposed within the body is thrown off as urea, but, as you are well aware, a certain amount of nitrogen is excreted in other forms—notably as uric acid, alloxuric bases, preformed ammonia, etc. These have their own significance, and their determination by suitable methods may yield results of practical value to the physician. But they must be determined, not guessed at. Quite frequently the impression prevails that an undue production of uric acid is going on because the urine deposits crystals of this substance; but such a conclusion is oftentimes erroneous, since crystallization of the acid from

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* *Bulletin No. 54*, U. S. Department of Agriculture, Division of Chemistry.

urine is dependent mainly upon the reaction and concentration of the fluid and without any necessary connection with the amount actually formed. The only way to ascertain with any accuracy whether the acid is being excreted in large or small quantity is to make a quantitative determination. This may be done by the comparatively simple Hopkins method,[*] the results being quite accurate; certainly, sufficiently so for clinical purposes.

It is to be remembered that the normal ratio between uric acid and urea is 1 : 50 or 1 : 60, the proportion of uric acid, however, varying considerably with variations in the diet. The validity of this latter statement is well illustrated by some very carefully conducted experiments recently recorded by Jerome.[†] As you are doubtless aware, the view one time held that the formation of uric acid is due to an arrest of the process of oxidation of proteid matter which, if completed, would go on to the formation of urea, is no longer tenable. Uric acid has an origin quite independent of urea, plainly coming from a different source, as suggested originally by Horbaczewski. As Kossel pointed out some years ago, true nuclein is especially characterized by yielding on decomposition a row of xanthin bases, such as xanthin, hypoxanthin, adenin, guanin, etc., all of which contain an alloxan group and a urea group; hence the more modern name of alloxuric bases suggested by Kossel and Krüger. Now, uric acid is likewise an alloxuric body, containing an alloxan and a urea group, and one might naturally infer a genetic relationship between the alloxuric bases and uric acid, either direct or indirect. Experiments in this direction have led to somewhat conflicting results, but this much seems certain—viz., that the feeding of nuclein-containing foods tends to increase very markedly the output of uric acid. Thus, Jerome [‡] finds that feeding thymus glands, which, as you know, are rich in nuclein, increases very greatly the production of uric acid; and a long series of feeding experiments made on himself "teaches that the daily output of uric acid is so easily, so surely, and so largely controlled by the use of suitable articles of diet as to make it highly probable that the variations in the amount of uric acid excreted in health from day to day are chiefly due to the larger or smaller quantity of alloxur-holding bodies absorbed from the food." [#] Further, we are led to believe that the continued excretion of uric acid during prolonged fasting is due, mainly at least, to catabolism of the nuclein-holding cells of the organism. In conformity with this statement recent workers [‖] on the influence of muscular work on metabolism consider that a rise in the excretion of uric acid denotes nuclear destruction outside the muscles and signifies want of training. In this same connection the data obtained in the study of leucæmia are interesting, since they show that the great increase in the excretion of uric acid there observed is undoubtedly associated with the destruction of leucocytes rich in nuclein. Doubtless, the increased excretion of uric acid in febrile diseases is likewise associated with the breaking down of nuclear material.

The alloxuric and xanthin bases normally present in the urine are worthy of considerable attention, as they may have special significance when present in undue amount, but the subject has, as yet, hardly reached a stage where it can be given much clinical attention. The amount of nitrogen eliminated in this form can be approximately determined by the Krüger-Wolff method,[*] but the values are not strictly accurate.[†] A more reliable process is the silver method devised by Salkowski.[‡]

For the determination of urea in the urine the method almost universally used for clinical purposes is the hypobromite method originally proposed by Hüfner, and you are doubtless all familiar with Hüfner's, Marshall's, Green's, or some other form of urometer. It is to be remembered, however, that sodium hypobromite decomposes not only urea, but also the other nitrogenous constituents of the urine, in some degree at least, and that consequently the nitrogen collected and measured is not traceable wholly to urea. For clinical purposes, however, this error is not prohibitive, since the object in view is mainly the determination of the nitrogenous waste, of which urea is the chief. It would be helpful, however, and possibly instructive, if we had a series of comparative observations on a large number of pathological urines (free from proteid matter) in which the total nitrogen was determined by the Kjeldahl method and the urea (so called) by the hypobromite method.

Finally, we have in the urine as a normal constituent a nitrogenous base called creatinin, which is deserving of some attention. It is subject to pathological variations, but at present we know very little concerning its import, aside from the fact that a meat diet tends to increase greatly its output, while a milk diet and a diet rich in vegetable matter tends to decrease its excretion. Presumably there is some connection between the creatin of the muscle and the creatinin of the urine, but exact physiological knowledge on this point is rather scanty. Creatinin may be readily detected in the urine by what is known as Weyl's test—viz., adding to a little urine in a test tube a few drops of a dilute solution of sodium nitroprusside, followed by the gradual addition of a dilute solution of sodium hydroxide. In the presence of creatinin this is followed by the appearance of a ruby-red color, which soon changes to an intense yellow. On warming the latter fluid with glacial acetic acid a green color results. Albumin and sugar do not interfere with this reaction, but acetone will respond to the first part of the test.

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[*] *The Journal of Pathology and Bacteriology*, 1893.

[†] The Formation of Uric Acid in Man, and the Influence of Diet on its Daily Output. *Journal of Physiology*, 1897, vol. xxii, p. 146.

[‡] Jerome. *Loc. cit.*

[#] Jerome. *Loc. cit.*

[‖] Dunlop, Paton, Stockman, and Maccadam. On the Influence of Muscular Exercise, Sweating, and Massage on the Metabolism. *Journal of Physiology*, 1897, vol. xxii, p. 68.—Garratt. On the Sequence of Certain Changes in the Urine produced by Exercise and by Turkish Bath. *Ibid.*, 1898, vol. xxiii, p. 150.

[*] See Krüger and Salomon. *Zeitschrift für physiol. Chem.*, Band xxiv, p. 364.

[†] *Deutsche medicinische Wochenschrift*, 1897, No. 14.

[‡] *Archiv f. d. gesammte Physiologie*, 1898, Band lxix, p. 268.

As purely pathological constituents of the urine, leucine and tyrosine occasionally make their appearance. These crystalline nitrogenous bodies are, as you know, normal products of pancreatic digestion, and under ordinary conditions are carried, after absorption, directly to the liver, where they disappear, presumably undergoing decomposition. When present in the urine, these bodies are usually considered pathognomonic of acute yellow atrophy of the liver, although they are likewise stated to be present in the urine in certain rare cases of acute phosphorus poisoning associated with hepatic atrophy, and in hepatic atrophy due to typhoid fever, etc. Tyrosine, when very abundant, crystallizes from the urine as the latter cools. Ordinarily, however, urine must be concentrated somewhat, and then, on standing, both leucine and tyrosine crystallize out, if present, in characteristic forms, the leucine having the appearance of small balls somewhat resembling fat globules, but, unlike the latter, usually showing concentric striations and fine radiating lines. Tyrosine, on the other hand, crystallizes in fine needles and bundles of needles. The crystals can be filtered from the urine and, if desired, separated by the use of alcohol, in which the leucine is more readily soluble. Tyrosine can be tested for with several striking color reactions—viz., Piria's, Hofmann's, and Wurster's tests—while leucine sublimes in a white cloud when heated above 170° C., and causes a reduction of mercurous nitrate when heated with a solution of the latter salt. How far the presence of leucine and tyrosine in the urine can be relied upon as a proof or indication even of acute yellow atrophy of the liver is to my mind somewhat doubtful. An experience in my own family has made me skeptical of the validity of text-book statements in this direction. A lad, sixteen years of age, was attacked with what appeared to be catarrhal jaundice, but the case gradually took on a serious aspect, the patient losing the power of distinguishing external objects, while later delirium and unconsciousness alternated. At this time the urine was found loaded with leucine and tyrosine in addition to bile, and it was at once assumed that we had acute yellow atrophy to deal with. On palpation, however, the liver was found larger than normal, due doubtless to the pressure of bile. For two or three days both leucine and tyrosine continued in the urine, when finally the kidneys stopped action entirely and the patient rapidly passed into a comatose condition with incipient convulsions. Happily, after a time, repeated enemata of potassium acetate started up the kidneys, consciousness gradually returned, and after a long convalescence recovery was complete. Now, after four years, the young man is strong and sturdy. Obviously, there could not have been atrophy of the liver, but I have never before or since seen any case where the urine for a day or two held such quantities of tyrosine and leucine as this. Repeated examinations of the urine during recovery always failed to show the presence of these two amido acids. Personally, I see no reason why leucine and tyrosine may not appear in the urine whenever the functional activity of the hepatic cells is interfered with. We are led to believe that normally urea is formed in the liver, also that leucine, and perhaps tyrosine, are antecedent stages in the formation of urea. In acute yellow atrophy and in phosphorus poisoning leucine and tyrosine appear in the urine in the place of urea. Why may not the same thing occur, perhaps in lesser degree, whenever there is a profound disturbance of the metabolic power of the liver cells? If so, then the presence of leucine and tyrosine in the urine is no longer to be looked on as an infallible sign of acute yellow atrophy of the liver. The matter, I think, needs looking into, and I would recommend the careful examination of the urine for these substances in severe cases of jaundice, as well as in other cases in which the liver is involved.

In testing the urine for bile, clinically at least, it suffices to look for bile pigments. Of the various tests now in use for this purpose the Smith-Rosin test is perhaps the most convenient and delicate. To a little of the urine in a test tube about a third of its volume of a tincture of iodine diluted with alcohol is added in such a manner as to allow the iodine tincture to float on top of the urine. If bilirubin is present, a distinct emerald-green ring appears at the point of contact of the two fluids. Gmelin's test, as modified by Rosenbach, is also good, and where there are good laboratory facilities, Huppert's test is also to be recommended. In suspected urobilinuria Gerhardt's test for urobilin may be used, but it can be relied upon only when the amount of urobilin present is fairly large. Von Jaksch's test is perhaps more reliable, but in many cases, at least, recourse must be had to the spectroscope for positive proof.

Urines which, on standing, tend to grow dark or even become black in color are always open to the suspicion of containing melanogen, which on oxidation gives rise to the dark pigment melanin. Such a transition in color, however, is not proof of melanin, since other substances may be present in the urine which by oxidation furnish dark-colored products. Further, as you are doubtless aware, the detection of melanin itself is not positive proof of the existence of a melanotic tumor, since occasionally the same pigment makes its appearance in the urine in certain wasting diseases. This, indeed, is not strange, since melanins are products of the transformation of proteids. Indeed, this past year we have succeeded in my own laboratory in preparing artificially well-defined melanins through hydrolytic decomposition of certain forms of proteid matter. To test a urine for melanogen, a little of the fluid not yet colored is treated with bromine water, when, if the body is present, a yellow precipitate results, which gradually changes to black. Further, addition of a strong solution of ferric chloride to a true melanotic urine gives rise to a precipitate of phosphates having a gray color instead of the usual reddish brown. This latter reaction serves to distinguish also those dark-colored urines which are occasionally met with when large doses of salol and salicylic acid have been taken, the latter urines giving with ferric chloride precipitates which show more or less of a permanent violet color. These urines, coming under the general term of "phenol urines," may be quite normal in appearance when first voided, but gradually acquire a dark-brown or black color when exposed to the air. This same phenomenon of oxidation may also be seen in cases of poisoning with carbolic acid, and after large doses of hydrochinon, etc.

A chemical reaction concerning which much has been written of late years is Ehrlich's, or the diazo, reaction, originally thought to be pathognomonic of typhoid fever. Personally, I have had little experience with this reaction except in a general way, but careful perusal of the work of Simon * and of Greene † leads me to believe that the reaction, when properly tried and with sufficient experience to make one duly appreciative of the necessary precautions, may have considerable clinical value. I am aware that von Jaksch considers it of little or no value, and that he attributes the reaction, when obtained, to the presence of acetone, but on this point there is enough difference of opinion to render this conclusion somewhat questionable. It is true that the chromogen which is the cause of the reaction is met with not only in typhoid fever, but in other acute febrile diseases, and notably in pulmonary phthisis. Simon states, however, that "while the reaction may be observed in other diseases as well as in typhoid fever, it is usually not difficult to distinguish between these and the latter condition, excepting in certain cases of acute miliary tuberculosis. As the reaction, however, is obtained not later than the twenty-second day of the disease, and is usually present as early as the fifth or sixth day in typhoid fever, and while it generally does not appear earlier than the beginning of the third week, and then persists almost to the end in acute tuberculosis, its occurrence may be of decided value in diagnosis in many instances." The method of conducting the test recommended by Simon is to place a few cubic centimetres of the urine in a small test tube, when an equal quantity of the sulphanilic acid mixture (a saturated solution of sulphanilic acid in dilute hydrochloric acid, together with a little sodium-nitrite solution) is added, and the whole thoroughly shaken. One or two cubic centimetres of ammonia are then allowed to carefully run down the side of the tube, forming a colorless zone above the yellow urine containing the acid. At the juncture of the two fluids a more or less deeply colored ring appears in which the slightest carmine tinge may be readily seen. On now pouring the mixture into a porcelain dish containing water, a salmon-red color is obtained if the reaction is positive, while, if negative, the color is simply yellow or orange. I am inclined to believe that the reaction merits more careful study.

Among the normal chromogens of the urine indican takes first rank. Its significance in practical medicine lies in the fact that it is a product of oxidation of the indol formed in intestinal putrefaction. A large proportion of the indol so formed is absorbed and oxidized to indoxyl, after which it is combined with sulphuric acid in the liver, and eventually eliminated as a potassium salt of indoxylsulphuric acid, or indican. There is to-day, I think, no shadow of doubt that micro-organisms in the intestinal tract are solely responsible for the formation of indol and its ultimate appearance in the urine as indican. Naturally, the character of the material in the intestine—*i. e.*, the nature of the food ingested—has an influence upon the production of indol, just as the character of the culture media in general exerts an influence upon the growth and activity of all bacteria. The essential element, however, is the presence of the micro-organisms in the intestine, and the amount of indican to be detected in the urine may be taken as an indication of the extent of intestinal putrefaction, and indirectly of the acidity of the gastric juice, since the latter is the only agent between the mouth and the intestine which can destroy the ingested germs. In conformity with this statement, it is a matter of general observation that indicanuria is almost invariably observed in all cases where there is hypoacidity of the gastric juice. For the clinician I believe that the examination of the urine for indican is a matter of the utmost importance, and, as the necessary tests are exceedingly simple, there is no reason why they should not be made use of with as much frequency as the more common tests for albumin, sugar, etc. Jaffe's method, as modified by Stokvis, is to be recommended, and depends simply upon the oxidation, by means of concentrated hydrochloric acid and sodium hypochlorite, of the indican to indigo blue and its solution in chloroform. By using the same volumes of fluid each time comparative tests can be made with considerable accuracy. The presence of albumin offers no difficulty, but bile pigments must be removed when present. Exact quantitative methods, easy of application, for the determination of indican have been wanting, but within the last two months there has appeared a contribution from the pædiatric clinic at Christiania * indicating that the difficulty has been solved. The author has carried out twelve hundred quantitative estimations in a study of physiological and pathological indicanuria, and promises soon a detailed report of the results.

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* See Simon's *Clinical Diagnosis*, second edition, p. 447.

† The Diagnostic Value of Ehrlich's Diazo Reaction. *Journal of the American Medical Association*, February, 1894.

Other products of intestinal putrefaction liable to appear in the urine are skatoxyl, coming from the oxidation of skatol, phenol, and paracresol, all existing, like the indoxyl, combined with sulphuric acid. Consequently we may make use of the combined sulphuric acid of the urine as a measure of the extent of intestinal putrefaction, determining quantitatively in the twenty-four hours' urine the ratio between the total and combined sulphuric acid. This naturally requires more refined chemical methods.

Of special significance to the clinician is the presence of acetone and diacetic acid in the urine. These bodies owe their origin especially to the breaking down of the proteid matter of the tissues, and hence are most conspicuous in those conditions where inanition is pronounced. Physiological acetonuria is greatest when carbohydrates are entirely excluded and the proteid matters of the diet reduced to a minimum. In wasting diseases, and other pathological conditions where carbohydrates are naturally withdrawn from the diet, the acetone in the urine may become quite conspicuous. In the diabetic form of acetonuria constant examination of the urine for acetone is imperative. It is quite certain that the detection of acetone in appreciable quantity in conjunction with sugar warrants the diagnosis of diabetes mellitus, while in severe forms of the disease, where acetonuria and the attendant symptoms are prominent, it is surely a duty to follow most closely the excretion of acetone, and, as Hirschfeld † recommends, add at once large amounts of carbohydrates to the diet whenever the acetonuria approaches a dangerous height. The presence of acetone in large amount constitutes a danger signal which can not be safely ignored, and consequently the practitioner should have knowledge of the appropriate tests to be applied for the detection of this substance. Legal's sodium nitroprusside test may be used for acetone, applied directly to the urine, but it is safer to distill about a litre of the fluid with a little phosphoric acid and test the first twenty to thirty cubic centimetres of the distillate. With this distillate, Lieben's test with iodopotassium iodide in the presence of sodium hydroxide may be used, the formation of iodoform affording evidence of the presence of acetone. For the quantitative estimation of acetone Huppert's modification of Messinger's method may be advantageously employed.

In the testing of urine for sugar—*i. e.*, glucose—emphasis is to be laid upon the advantage of using the Böttger-Almen-Nylander test (alkaline bismuth solution) as well as the ordinary Fehling's or alkaline copper solution. The latter fluid many times shows an incipient reduction with samples of urine, due not to sugar, but to the creatinin and other reducing substances normally present in urine. With the alkaline bismuth solution, on the other hand, these bodies are less liable to manifest their presence, and erroneous conclusions are thus sometimes avoided. Further, the bismuth solution is the more delicate reagent for sugar. A test which all practitioners should now be familiar with is the phenylhydrazin test for sugar, since it is free from all fallacies and hence is absolutely reliable. The crystals of phenylglucosazone which result in the presence of sugar are exceedingly characteristic under the microscope, and the test is fairly delicate when properly conducted. Occasionally it is necessary to look for sugars in the urine other than glucose or dextrose, in which case careful scrutiny of the results obtained by use of the polariscope, fermentation, reduction, and phenylhydrazine tests will give the desired information.

The importance of chemical tests for the detection of albumin in the urine hardly calls for notice, it is so self-evident, but it may be well to emphasize the importance of looking more carefully to the nature of the proteid present. The tests ordinarily applied, such as heat coagulation, nitric acid, trichloracetic acid, acetic acid and potassium ferrocyanide, picric acid, etc., merely testify to the presence of albuminous matter without indicating the character of the proteid. To identify serum albumin, the urine is rendered neutral or faintly alkaline with sodium hydroxide, after which the fluid is saturated with crystals of magnesium sulphate, thereby removing any globulin present. The clear filtrate is then made decidedly acid with acetic acid and heated to boiling, when a flocculent precipitate of serum albumin will result if present. To identify serum globulin, the urine is rendered alkaline with ammonium hydroxide, the precipitate of earthy phosphates filtered off, and the clear filtrate mixed with an equal volume of saturated solution of ammonium sulphate, when the globulin, if present, will be precipitated. To test for albumoses or proteoses, fifty to a hundred cubic centimetres of the urine, freed, if necessary, from albumin and globulin by heat coagulation, are saturated while boiling hot with crystals of ammonium sulphate. Proteoses, if present, are precipitated in a more or less gummy form, although a precipitate at this point does not necessarily indicate their presence. The precipitate is next washed with alcohol to free it from urobilin,* after which it is dissolved in a little water, the solution made strongly alkaline with potassium hydroxide (a large excess is necessary), and a few drops of a very dilute solution of cupric sulphate added. A pink or reddish-violet color—the biuret reaction—is a proof of the presence of proteose. The removal of urobilin from the ammonium-sulphate precipitate is rendered necessary because this substance also gives the biuret reaction. To test for nucleoalbumin, the filtered urine, freed from coagulable proteids, if any are present, is treated with an excess of concentrated acetic acid by which the nucleoalbumin is precipitated. Histon, a peptonelike body, may also be found in the urine in leucæmia, and an analogous substance, possibly identical with it, has been observed in the urine in acute peritonitis, scarlatina, croupous pneumonia, etc. True peptone is apparently never present in the urine, so-called peptonuria being in reality albumosuria.

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* Wang. Ueber die quantitative Bestimmung des Harnindikans. Vorläufige Mittheilung. *Zeitschrift für physiol. Chemie*, 1898, Band xxv, p. 406.

† Ueber die Acetonuria. *Centralbl. für inn. Med.*, 1896, No. 24.

* See Ivan Bang. *Deutsche medicinische Wochenschrift*, 1898, p. 17.

Let us look now for a moment at another chapter of practical medicine, where chemistry has lent a hand in improving and extending methods of diagnosis and treatment. I refer to gastric digestion. I need hardly emphasize the part which chemistry has played in developing our knowledge of the digestive processes or the aid it has rendered in giving us an insight into the character of the changes which gastric juice and the other digestive fluids produce in the complicated act of digestion. All this has become a part of our everyday knowledge, and is referred to here only as indicating another line along which chemistry has rendered important aid to physiology and scientific medicine. Today, however, practical medicine reaps some of the benefits, and the practitioner dealing with disorders of the gastro-intestinal tract must needs pay attention to the methods of diagnosis which are afforded by our increased knowledge in this direction.

Normal gastric juice contains three distinct substances upon which its physiological power rests—viz., hydrochloric acid and the two enzymes, pepsin and rennin. Disturbance of gastric digestion may depend upon increased or decreased secretion of hydrochloric acid, more generally the latter, and sometimes upon decreased secretion of pepsinogen or pepsin, although experience indicates that the latter is of very rare occurrence. The well-known method inaugurated by Ewald of feeding a definite test meal and then withdrawing the stomach contents at a stated interval for chemical examination is now so widely practised that it hardly needs mention, but it furnishes another illustration of the intimate relation between chemistry and practical medicine. The determination of total acidity, of the relative proportion of free and combined hydrochloric acid, of the presence of lactic or other organic acid, together with a determination of the presence or absence of pepsin and rennin, must all be carried out by appropriate chemical tests, for in no other way can the information be obtained. The methods at present available, although numerous, are by no means perfect, especially those which have to do with the determination of free and combined hydrochloric acid, still, they suffice to give us valuable and practical results. Total acidity, meaning thereby the acidity due to free hydrochloric or organic acids, combined acid, and acid salts, is advantageously determined by titrating with a decinormal solution of sodium hydroxide, using phenolphthalein as an indicator. *Free* hydrochloric acid may be determined by Töpfer's * method, using dimethylamidoazobenzol as an indicator, while by titrating another portion of the juice with alizarin as an indicator we obtain the acidity referable to free acids and acid salts. Since alizarin does not react with combined hydrochloric acid, by simply subtracting the last values from the total acidity, as indicated by phenolphthalein, we obtain the proportion of combined hydrochloric acid contained in the sample. Long-continued use of Töpfer's method in my laboratory has given very satisfactory results, but, as in most methods involving color changes, it is very necessary to become familiar, through frequent experience, with the tones of color to be sought for. Where only small quantities of fluid are available for examination, it is possible to combine the titrations with phenolphthalein and dimethylamidoazobenzol, as recommended by Einhorn,† the values being the same as when two distinct titrations are made. We have also found, in conformity with Hari's ‡ observations, that in the absence of free hydrochloric acid—that is, when no reaction is obtained with dimethylamidoazobenzol—the quantitative determinations of hydrochloric acid by the Töpfer method cease to be accurate, and under such conditions it can not be employed. But there are many other methods at hand—although for clinical purposes Töpfer's method, when available, has many advantages—such as the Hayem-Winter method, the Mintz method, the Hehner and Seemann's process, the method of Martius and Lüttke, etc. Dr. Thacher, in the recent report of the Presbyterian Hospital,# has given an exceedingly interesting comparison of these various methods. Further, there are, as you know, many indicators which can be made use of, some in the form of test papers, if desired, as simple tests for the presence of free hydrochloric acid in the gastric contents, such as phloroglucin-vanillin or Günzberg's reagent, methyl violet, tropæolin oo, Congo red, benzopurpurin 6 B, etc., all of which have more or less clinical value.

In testing for lactic acid, the direct application of the well-known Uffelmann's test to the stomach fluid is no longer practised, but instead a little of the filtered gastric juice is extracted with ether, the ethereal extract evaporated, the residue dissolved in water, and this solution tested, making use of the ferric-chloride and carbolic-acid reaction. Kelling's method may also be employed, in which case a few cubic centimetres of the gastric juice are diluted with twelve parts of water, and one or two drops of a five-per-cent. solution of ferric chloride added. If lactic acid is present, the fluid shows a green color by transmitted light. It is likewise advantageous to determine the proteolytic power of the stomach contents—in the presence of sufficient acid—thus obtaining light on the amount of pepsin secreted. Furthermore, familiarity with the pepsin test is desirable from another point of view—viz., the ability to determine, approximately at least, the digestive power of a pepsin preparation, so as to form an intelligent opinion of the value of a given product. Similarly, familiarity with the tests applied for the detection of the milk-curdling enzyme, and the ability to make comparative trials of strength, are desirable additions to one's knowledge of chemical methods of value in a practical way.

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* *Zeitschrift für physiol. Chemie*, Band xix, p. 104.

† *New York Medical Journal*, May 9, 1896, p. 603.

‡ *Archiv für Verdauungskrankh.*, ii, pp. 182, 332.

# Dr. J. S. Thacher. *Medical and Surgical Report of the Presbyterian Hospital in the City of New York*, 1898, vol. iii, p. 14.

But I have already spent more time in this rambling discussion of the subject than is perhaps justifiable, although there still remain many other lines of thought bearing upon the relation of chemistry to practical medicine. It has been my intention, however, merely to place before you, even though in disconnected fashion, a few illustrations of the ways in which chemistry can lend aid to the practitioner in his daily work, and to emphasize the desirability of extending, so far as practicable, this line of diagnosis. Physiological chemistry and pathological chemistry stand in close touch with physiology and pathology. We must needs have a full understanding of the normal, in order to fully appreciate the significance of the abnormal, and the line of demarcation between the two is exceedingly thin and wavy. Chemistry alone can unravel many of the mysteries which surround us in our steady advance toward a more complete knowledge of life, and, as I believe, chemistry alone can make clear many of those deviations from the normal which are the forerunners of disease and death. Let us hope, therefore, for a fuller appreciation of the intimate relation which chemistry bears to scientific and practical medicine, and for a more extended use of the many practical methods which chemistry offers as an aid to accurate diagnosis.

THE PATHOLOGY AND TREATMENT OF ACUTE PNEUMONIA, VIEWED FROM THE STANDPOINT OF NERVOUS DEVELOPMENT.*

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In the light of modern biology we can no longer be content with the belief that every disease is a clean-cut, separate entity, produced by a single independent cause, but are forced to admit that frequently this complex phenomenon is but one of a group of superficial morbid manifestations which owe their origin to a common underlying cause. Just as a shallow-minded observer who, in watching the fury of a storm at sea, unmindful that the wind and the waves are only surface indications of the imperative influence of the heat of the sun, which gives life and being to every storm by sea or land, attributes the final cause of commotion in the water to the action of the wind; so we, by mistaking effect for cause, are frequently led to overlook the important general bond which binds together many otherwise inexplicable phenomena of disease.

Disease, like health, is a simple affair in the simpler forms of life; but as the simple organism is developed into a body composed of many organs in the higher stages of animal existence, and as it becomes vitally important to the conservation of the whole body that the various organs should be brought into intimate functional relationship with the body as a whole and with each other, through an independent coordinating apparatus like the nervous system, it is quite obvious that under these conditions disease presents a very complex aspect. The effects of disease are now reflected on other organs through the medium of the nervous system, while disease of the latter, on the other hand, implicates every organ in the body that receives its tributary fibres.

Thus, for example, a local disorder like cystitis, due to the presence of a foreign body, has its greatest centre of activity located in the involved organ, although the abnormal impulses which radiate from it bring about general disturbance of a lesser degree throughout the body. But, on the other hand, disease of a high and important nerve centre, like that which is produced by the pressure of an insignificant blood-clot on the brain, gives rise to serious disorder in most of the important organs of the body. Under these circumstances the function of the eye is disturbed; there is paralysis of the face, chest, arm, and legs; the tongue is weakened; swallowing is difficult; speech is impaired; the pulse is slow, the respiration shallow, and the temperature is low in the early stage of the attack; the bowels and the bladder are paralyzed; and the pulmonary organs almost invariably show morbid changes. In certain respects the conditions which obtain here are so opposite in character that they may be compared to the shape of a cone—in the former the greatest activity of the disease, which is located in the bladder, is represented by the base, and the apex represents its vanishing effects; while in the latter the apex is represented by the original lesion in the brain, and its widespread disturbance by the base of the figure.

That which is true of disease in general is specially true of disease of the lungs. The author believes that we are too much inclined to regard pneumonia strictly as a local disease of the lungs, and overlook the fact that its fountain head often resides in some important central nerve tract, and hence this paper is written with the purpose of showing (1) that acute pneumonia is largely a developmental disease; (2) that the fundamental element in the life history of this disease is not so much disease of the lungs as it is disease of the nerve supply of these organs; and (3) that its complications and varying manifestations correspond in a great measure with the various developmental changes which occur in the nervous system.[*]

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* Lecture delivered before the Polyclinic Class.

Experiments have satisfactorily shown that acute pneumonia may be produced in animals by section of the pneumogastric nerves. Clinical literature also comprises the records of many cases in which injury or disease of these nerves led to pneumonia in man. Cases in which injury or disease of these nerves was followed by pneumonia are reported by Demme,[†] Fearn,[‡] Riedel,[#] Pelizaeus,[‖] Riegel,[△] Maixner,[◊] Weil,[↧] Goodhart,[↕] Lecorehé,[⇞] Hewson,[**] Ferguson,[††] Eger,[‡‡] Wilks,[##] Johnson,[‖‖] Bülz,[△△] Bianchi,[◊◊] Sehech,[↧↧] and Thomas.[↕↕]

Dr. Hughlings Jackson[⇞⇞] states that he regards acute pneumonia as a form of herpes zoster of the pneumogastric nerve. Dr. Fernet[***] declares that the so-called fibrinous pneumonia is a herpes of the lungs produced by neuritis of the pneumogastric nerves. Professor Baelz,[†††] of the Tokyo University of Japan, teaches that acute pneumonia is an exudation neurosis.

Abundant pathological evidence can also be furnished to show that disease or injury of the brain, and especially of its base and of the oblongata, points which have a direct vital relation with the respiratory organs, is very liable to produce pulmonary engorgement and to lead to pneumonia. This is particularly true if such diseases and injuries are violent and sudden in their onset.

Having seen, then, that there is sufficient reason for believing that disintegration of the pulmonary nerve supply bears a causative relation to acute pneumonia, evidence will now be offered to show that the development of this disease, like every other natural phenomenon, accords with the general laws of evolution in the living world. In more definite language, an effort will be made to prove (1) that acute pneumonia has its age periods, which are largely governed by an instability or a want of resistance on the part of the nervous system; (2) that other diseases arise as complications of pneumonia because the morbid impulses of the latter radiate through and compromise neighboring nerve tracts; (3) that the relative frequency with which these complications arise depends probably on the difference in the biological ages of the nerve centres which are involved; and (4) that the pathology, physical signs, and symptoms of pneumonia vary at different ages on account of the varying irritability of the nerve tracts which are implicated.

It is not necessary to draw attention to the fact that the brain and the higher nerve centres are extremely complicated organs. The oblongata, to which reference is frequently made in this lecture, is composed of parts which are most diversified in structure and in function. It is the organ which Foster defines as the link between the brain and the spinal cord, yet it comprises the respiratory centre, the convulsive centre, the cardio-inhibitory centre, the vasomotor centre, the deglutition centre, the motor centre for the stomach, and at least two or three heat centres. In a measure, each of these centres has an independent functional existence, and controls the function of the organ over which it presides.

INFLUENCE OF BIOLOGICAL AGES OF ORGANS.—In considering the pathological aspect of this subject it must be remembered that different organs of the body, as well as different parts of the same organs, mature or attain full development at different biological periods, and that immature organs or parts of organs do not resist disease as readily as those which are more fully developed; and hence we find that the various organs and structures of the body are more liable to disease at one time than at another. Thus, before the age of seven, the period during which there is the greatest activity in the growth of the brain, convulsions, pneumonia, tubercular meningitis, hydrocephalus, rickets, etc., are most liable to occur; from seven to fourteen years, when, according to Clouston, "muscular motion becomes co-ordinated fully with emotion," chorea, asthma, epilepsy, megrim, strabismus, are most likely to develop; while after fourteen, during the period of the beginning of reproductive activity, hysteria, chlorosis, insanity, phthisis, dipsomania, acute rheumatism, valvular diseases of the heart, etc., are most prone to come to the surface.

GREATEST PNEUMONIA MORTALITY IN EARLY INFANCY.—So far as pneumonia is concerned, statistics show that by far the greatest number of deaths occur from this disease before the age of five. According to the Report[*] of the Board of Health of Rhode Island, of the 5,425 decedents from pneumonia during twenty years, from 1865 to 1884, 1,723, or thirty-two per cent., were under five years of age.

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[*] No question is raised here concerning the production of acute pneumonia through the agency of bacterial life. In fact, this power is taken for granted, although it is held that such an effect is brought about through the disintegrating influence of these organisms on the nervous system.

[†] *Allgemeine Chirurgie der Kriegswunden, nach Erfahrungen in den norditalienischen Hospitalern von 1859*, Würzburg, 1861, Bd. ii, S. 83.

[‡] *American Journal of the Medical Sciences*, 1848, p. 266.

[#] *Fortschritte der Medicin*, 1883, S. 499.

[‖] *Inaugural Dissertation*, Würzburg, 1880.

[△] *Berliner klinische Wochenschrift*, 1875, No. 31.

[◊] *Prager Vierteljahrschrift*, 1887, 1, S. 87.

[↧] *Archiv für klin. Medicin*, Bd. xiv, 1876.

[↕] *British Medical Journal*, vol. i, 1879.

[⇞] *Centralblatt für d. klinische Medicin*, Bd. i, S. 282.

[**] *Pennsylvania Hospital Reports*, 1868, p. 219.

[††] *American Journal of the Medical Sciences*, vol. iii, 1842, p. 221.

[‡‡] *Archiv für klin. Chirurgie*, Bd. xviii, S. 502.

[##] *Transactions of the London Pathological Society*, vol. x, p. 159.

[‖‖] *Ibid.*, vol. xxiv, p. 42.

[△△] *Centralblatt für d. med. Wissenschaften*, 1872, S. 668.

[◊◊] Pneumonia in Paralytics, with Degeneration of the Vagi. *Neurologisches Centralblatt*, 1890, S. 249.

[↧↧] *Archiv für klin. Med.*, Bd. xxiii, S. 2.

[↕↕] *Boston Medical and Surgical Journal*, 1898, pp. 76, 97, and 123.

[⇞⇞] *Proceedings of the London Medical Society*, vol. xi, p. 95.

[***] *Praktische Heilkunde*, 1879, 1, S. 18.

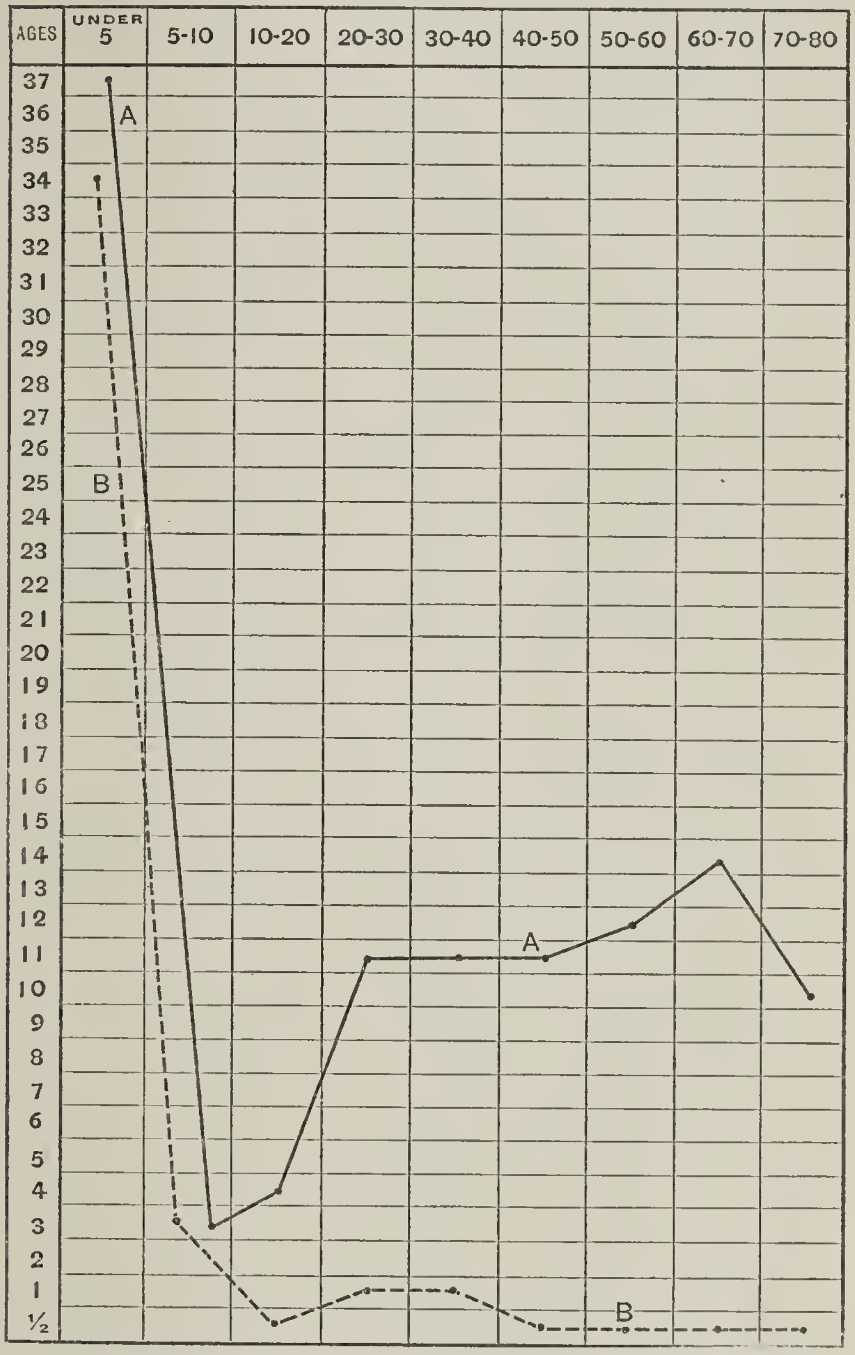
[†††] *Centralblatt für klin. Med.*, 1888, S. 883.

What is the cause of this excessive death-rate from pneumonia in early life? Is it because of the immaturity and greater sensitiveness of the pulmonary epithelium in infantile life, which entails a disposition toward all kinds of catarrhal disorders during this period? This may explain a part of the problem, but we must remember, too, that at this time the child's brain and nervous system are also in a very unstable and impressible condition, and that a very important relationship obtains between the nervous system and catarrhal diseases. This connection is especially marked in catarrhal affections of the skin—a fact which has been well established by the studies of Dr. L. Duncan Bulkley, of New York, and of others.

That the greater impressibility of the infantile nervous system probably plays a prominent rôle in the production of pneumonia at this time of life is shown in the following table, where the distribution of this disease is compared in age-periods with that of convulsions —a disease the nature of which is well known to be exclusively neurotic. Here it is demonstrated that both diseases reach their maximum death-rate before the age of five, and their minimum death-rate between the ages of five and ten. Now, the death-rate of these diseases up to seven years corresponds exactly with the rapidity of growth in the child's brain; for the size of this organ increases rapidly from birth until the seventh year, when, according to Boyd, it has attained ninety per cent. of its bulk. During this period of rapid structural development the brain and higher nerve centres are unstable and immature, and are therefore also very liable to disease. At a later life period other disturbing agencies are encountered which act as causes of pneumonia, and for this reason the frequency line of this disease diverges upward from that of convulsions at this time, as is seen in the table.

Logical Complications of Pneumonia.—Viewing the genesis of pneumonia in the light of the development of the nervous system, we also see the reason why certain other affections necessarily become contemporaries with the pneumonia of childhood. In the first place, it has already been noticed that convulsions go hand in hand with infantile pneumonia. Why this intimate relationship at this time of life? Is it not because anatomically the respiratory centre and the centre which coordinates muscular motion are in such close proximity, and that, on account of the instability of both, disturbance of the function of the former readily radiates to that of the other? So far as I can see, there is no escape from such a conclusion. Whether the degree of instability is exactly the same in these centres, and whether a disturbance in either is propagated with equal facility to the other, are questions which will be considered hereafter.

In the second place, it is well known that a sudden and often an enormous rise of temperature occurs as a constant concomitant of infantile pneumonia and convulsions. Now, the argument which seeks to establish that the greater immaturity and irritability of the child's nervous system are responsible for the development of the two latter diseases applies with equal effect to the want of equanimity in the centres which control the production and dissipation of heat at the same time of life. The coordinating power of these centres—the most important of which are located at the base of the brain—is disorganized by the wave of disturbance which spreads from the centres already diseased, and results either in an overproduction or retarded dissipation of heat, or in both.



Distribution of acute pneumonia and convulsions in age periods in the city of Philadelphia for a period of three years, the number of cases in each period being reduced to the least common multiple.

In the third place, the pulse rate is enormously increased in infantile pneumonia. In explanation of this phenomenon it may be stated that electrical irritation of either vagus produces temporary inhibition of the heart's movements. In a short time, however, the inhibitory effects will pass off, even though the irritation is continued, and the heart resumes its beats with greater frequency than before, although it sustains a loss in tone and vigor. Now, that which is true of the heart's movements under these general conditions is also true of its behavior in infantile pneumonia. Irritation of the cardiac centre, radiating primarily from the respiratory centre, is reflected along the course of the cardiac branches of the vagi to the heart, but, owing to the greater excitability of the undeveloped nerve control of the infantile heart, the inhibitory effects of the irritation are less marked than the accelerator. In the adult, however, where these influences are more stable, the inhibitory effects, as shown in the slow pulse, are usually pronounced in the early stage of pneumonia; but at a later period the inhibitory power is likewise lost, and, as in the child, the heart gives way to the predominating accelerator impulse.

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[*] *Thirty-second Report upon the Births, Marriages, and Deaths in the State of Rhode Island, for the Year ending December 31, 1884*, p. 144.

Then, in the fourth place, is the vomiting which so frequently ushers in acute pneumonia, or accompanies its earlier stages, especially in childhood. It is very probable that this symptom is of central and not of peripheral origin, for, according to Foster, the vomiting centre is located in the oblongata, and is closely related to the respiratory centre. Given, then, disease in the latter centre, it is easy to conceive that its impulses will readily communicate themselves to the former.

In the fifth place, is the rapid respiration-rate of acute pneumonia, and especially of infantile pneumonia, due to infiltration of the lungs and a consequent interference with the process of aeration of the blood, or to some other cause? It is known that a dog pants to cool himself through his lungs; that a fevered person breathes more rapidly than a non-fevered one, and that it is not always those cases of pneumonia with the most extensive infiltration in which the greatest difficulty of respiration obtains. It is quite probable, therefore, that the accelerated respiration-rate of acute pneumonia depends less on pulmonary infiltration sometimes than it does on an irritated and semiparalyzed condition of the respiratory nerves. Richet, Ott, and other physiologists hold that the rapid breathing under these circumstances is due to the fact that fever heat irritates an independent nerve centre at the base of the brain which has the power of accelerating respiration, and which they call the polypnoic centre. Whether the special polypnoic centre or the respiratory centre is involved in this phenomenon, the fact remains that respiration is more rapid in the infant than in the adult, on account of the imperfect development of the nervous system in the former.

INFLUENCE OF ORGANIC RESISTANCE. — Granting that the basal nerve centres in the child's brain are so irritable and unstable that disturbance of one may lead to pneumonia, and simultaneously involve the equilibrium of the convulsive, vomiting, fever, dyspnoic, and circulatory centres, the interesting question arises whether in the adult, in which some of these accompanying disorders of pneumonia are wanting, or exist in a much milder degree than in the infant, some of these centres acquire a greater resistance to the influence of morbid forces than others, and are therefore less liable to fall a prey to disease? Reference has already been made to the general biological law that, on account of a firmer equilibrium, the older organs are less liable to disease than the younger ones. What evidence is there, if any, to show that the biological ages of these centres differ? On the surface it seems as if nerve areas in such close proximity to each other could not differ much in respect to their ages. This may be true, or at least it is difficult to prove that it is not true, yet notwithstanding this it is quite clear that the organs over the functions of which these centres predominate are of different biological ages, and it seems that this difference must naturally be reflected on each controlling centre.

It is well known that in skull-less animals, or in animals without brains, the important organs of the body, like those of circulation, digestion, and respiration, are controlled by separate ganglia with intercommunicating nerve fibres; while in the skulled animals, these ganglia, although not being deprived of their influence on these organs, are brought into direct relationship with the brain through the medium of the pneumogastric nerves. These viscera are therefore under the domination of a double nerve influence—viz., that which comes from the ganglionic or spinal nervous system, and that which comes from the highest coordinating centre in the body. Now, there is no question that biologically the organs of circulation and digestion precede those of respiration, and hence, in accordance with the doctrine that the older organs are less liable to disease than the younger, provided other things are equal, it follows that the lungs offer less resistance to adverse forces than the heart and stomach. It is also very probable that this difference of vital resistance is impressed on their nerve supply by these organs; for, while the nerve influences the organ to which its fibres are distributed, the organ reciprocates this favor by modifying the growth and function of its nerve. This is certainly shown in the evolution of the phrenic nerve in the embryo of the higher animals. This nerve, as is well known, arises in the cervical division of the cord, but, according to the highest authorities, it is very short in its earliest stages of development, because the diaphragm is located very near the exit of the nerve at that time. Gradually the diaphragm recedes downward and is followed by the elongating nerve until it reaches its permanent destination. Here, then, is an instance in which the length, course, and function of a nerve have been markedly modified by the change of position of the organ to which it is distributed, and there is every probability that other nerves, among which may be included the pulmonary branches of the pneumogastric, have also undergone a somewhat similar modification. From this and other reasons it may be inferred that an organ as a whole reflects its impress on the nerve centre from which it derives its impulses, and that the strength and weakness of the one become the strength and weakness of the other.

From what has thus far been said it is evident that the widely accepted idea that the heart is very much more liable to disease than the lungs runs counter to the recent biological doctrine that the heart, being older than the lungs, offers greater resistance to disease than the latter. Viewed from every standpoint, it is indeed very difficult to account for the origin of this erroneous belief concerning the greater immunity of the lungs from disease, for it is neither supported by experimental evidence nor by clinical experience. Ample evidence demonstrates that narcotics, like ether, chloroform, alcohol, opium, etc., the acute intoxication of which is confined more to the brain than it is to the peripheral nervous system, as a rule, arrest the action of the lungs before that of the heart. The same general relation holds true between disease and injury of the brain and the vitality of these organs. Dr. Sawkins and Dr. Vallach report * six cases of central respiratory paralysis caused by injury to or disease of the brain in which the heart continued beating from ten minutes to two hours after the function of respiration had ceased. A paper † by Dr. Dyce Duckworth contains the history of four cases of cerebral disease in which the function of respiration entirely ceased for some hours before that of the circulation. In the discussion which followed the reading of this paper, Dr. Macewen, of Glasgow, said that cases of abscess of the cerebellar fossa lead to death from pressure on the respiratory centre, the pulse remaining quick and strong. Mr. Victor Horsley also called attention to the fact that patients suffering from cerebral tumors, depressed fracture of the skull, and sudden and violent concussion, especially when applied to the occipital region, die from respiratory and not from cardiac failure, as is often supposed. He referred to Dr. Hilton Fagge's observation that some patients with cerebral tumor or abscess die from failure of respiration, and pointed out that Leyden demonstrated in 1866 the effect of increased intracranial pressure in slowing the pulse, causing stertorous respiration and arrest of the latter. He also offered the suggestion that in cases where patients fall apparently dead after sudden blows on the head, and are believed to die from cardiac failure, the real cause may be an arrest of the respiratory function, and possibly remedied by artificial respiration. In his closing remarks Dr. Duckworth said the occurrence of suspended respiration for several hours in the highest mammalian organism, together with the continued circulation of the blood for long periods, is very remarkable, and shows that the respiratory centre, although in such close proximity to the cardiac centre, is clearly much the more sensitive of the two, and lesions involving both tell primarily and with much force upon it. We may take it, then, that the respiratory centre is the first to give out, and is the most vulnerable of all the great organic nerve centres—the first to resent undue intracranial pressure.

The practical question of the relative viability of the heart and lungs in pneumonia is one of great importance, on account of the evident tendency of the present day to direct more attention toward a prevention of cardiac than of pulmonary collapse. Indeed, so strong is the trend in this direction in some quarters that one might be led to infer from it that pneumonia is a disease which pertains more to the heart than it does to the lungs, and that all that is required to resolve the pneumonic consolidation is to goad the heart with stimulants to pump the blood through the obstructed and impervious pulmonary capillaries. However, it does not require a very comprehensive study of the lethal tendency of this disease to convince one that this is a harmful and an erroneous view, and that the most threatening danger in pneumonia comes from a defective supply of nerve force to the lungs—from a pulmonary nerve exhaustion, which manifests itself not so much in a simple frequency of breathing, as it does in a frequent, laborious, and shallow respiration.

That which is true of the greater resistance of the heart to disease on account of its greater biological age than the lungs, is also true of the stomach and the balance of the digestive organs, which are differentiated earlier indeed than the heart in the process of development. This is very well shown by the fact that, as a rule, after the first wave of disturbance, emanating from pneumonia, has passed over these organs and their nerve supply, and has caused vomiting and sometimes diarrhœa, they settle back to their wonted stability and discharge their functions almost as perfectly as they did before the attack, while neighboring functions continue in a state of perturbation.

Having thus far given grounds for the belief that pneumonia is primarily a disorder of the respiratory nerve supply, and that fever, convulsions, embarrassed circulation, vomiting, etc., are among its indirect effects, it is pertinent to draw attention to the fact that, on the other hand, primary lesions or diseases of centres that are in close anatomical affiliation with the respiratory centre are liable to engender pneumonia or some other form of lung disease. Indeed, it has already been observed that convulsions are very apt to be accompanied or followed by pneumonia in infancy. Epilepsy is also excessively prone to be complicated by pneumonia. The same is true of cerebro-spinal meningitis and of influenza, both being diseases which involve the basal ganglia. It is also well known that idiots and deaf-mutes, in

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* *Lancet*, August 31, 1895, p. 517.

† *Edinburgh Medical Journal*, February, 1898, p. 145.

whom exists a lack of resistance in the higher nerve centres, are specially liable to acute pulmonary complications, like pneumonia, etc.

Influence of the Varying Irritability of the Nervous System on the Symptoms and Physical Signs of Acute Pneumonia.—It is a well-known clinical fact that the symptoms and physical signs as well as some phases of the morbid anatomy of pneumonia vary widely under different conditions. Thus latent or senile pneumonia is as far apart in this respect from the pneumonia of childhood as night is from day, and the difference between the pneumonia that accompanies influenza and that of a typical croupous or catarrhal pneumonia is also frequently pronounced. Pneumonia is therefore a protean disease in its outward showing; but, no matter how divergent its manifestations may be in these particulars, it must be remembered that there exists one pathological groundwork which is primarily present in every form of this disease—viz., engorgement of the pulmonary capillaries. This may be said to be the soil from which, under the influence of varying internal and external conditions, develop the different forms of this affection.

It has been stated at the outset that section, injury, or disease of the pneumogastric nerve, or of the base of the brain, frequently if not invariably leads to some pulmonary disease, or at least to some disturbance in the pulmonary circulation, and now an effort will be made to show that the varying manifestations of pneumonia just referred to are also largely due to the varying irritability of the nervous system at different age periods and conditions of life.

Let us contrast, for example, the symptoms of pneumonia in the aged with those of the same affection in infancy in these respects. In the former, as a rule, the temperature is low, and of irregular rise and rhythm; the cough is slight and inconsequent; the expectoration is scant and of a rusty or prune-juice color; breathing is not greatly accelerated; the pulse is usually pectoration may be wanting, but if present, is of a low, muttering character. In the latter the fever rises suddenly and maintains itself at a constant and exalted elevation; the cough is persistent and frequent; the expectoration may be wanting, but if present, is of a frothy character and is rarely discolored; respiration is exceedingly active, often reaching a rate of sixty or seventy in a minute; the pulse is small and so rapid sometimes that it becomes uncountable; and active delirium and convulsions are frequent complications. In the one the nervous system seems to be narcotized, as if overcome by opium, or laboring under a profound shock, and all its symptoms appear to be subdued and passive; while in the other the nervous system is apparently suffering from a wave of excessive irritability and behaves as if it were under the control of large doses of strychnine, and all of its manifestations are presented in a virulent and active form. This implication of the nervous system was plainly recognized by Barthez and Rilliet in so far as infantile pneumonia is concerned, for they named its nervous concomitants cerebral pneumonia.

That the difference between these two forms of pneumonia is largely accounted for by a difference in irritability of the brain and nervous system at the two extremes of life becomes still more evident when we consider the evolution of some of their most prominent symptoms more in detail. In general terms it may be stated that fever is one of the forms of expression which emanates from an irritated nervous system, and that the degree of fever is measured by the irritability and sensitiveness of the latter. In other words, if the nervous system is very active and unstable, the fever, if other conditions are the same, will be high; if, on the other hand, it is blunted or depressed from any cause, the fever will be low. The truth of this proposition is confirmed by the fact that in chronic alcoholism, or in the pneumonia which so often follows in the wake of this form of inebriety; in chronic opium poisoning, or in diseases which accompany it; in the pneumonia of the chronic insane, of the feeble-minded, and of deaf-mutes, fever, as a rule, is low or of a latent character. The poisonous action of alcohol and opium destroy the irritability of the nervous system and reduce its physical level to that which obtains in chronic insanity, idiocy, etc., and which is analogous to that which is found in the aged. We may therefore expect that in pneumonia of the child, with its immature and restless nervous system, the fever will be higher than when the same disease occurs in the passive and more or less obtunded nerve state of the aged.

It is thus seen that a variation in the irritability of the nervous system is chiefly responsible for the different ranges of temperature found in senile and infantile pneumonia, and what is true of fever in this respect is also true of many of the other symptoms which obtain in these two forms of this disease, principally among which are the pulse, respiration, vomiting, convulsions, etc., already referred to. Differences in other forms of the disease are also traceable to the same source. Gangrene of the lungs, for example, is more prone to follow pneumonia in persons with a depraved and vitiated nervous system than in those of opposite conditions, as is experienced in the case of the aged, the alcoholic, and of others whose nervous system is undermined and exhausted.

From what has been thus briefly and imperfectly said, it is obvious that by viewing acute pneumonia from the standpoint of development of the nervous system, and not from that of its local origin in the lungs, its true pathological relation, together with many of its therapeutic bearings, receive a scientific and truthful interpretation. So far as I can see, no other theory can unify and harmonize the varying factors of this disease so well; can so satisfactorily account for its preponderating death-rate in early infancy; can so definitely explain the evolution of many of its prominent symptoms, and the orderly succession of many of its nervous concomitants; can so clearly show why some of these appear early and others late in the course of the disease; why some are associated one with the other at one time and not at another; why its form varies at different ages and under different conditions; why some of its symptoms are prominent at one age, and perhaps latent or absent at another; and, finally, no other theory points out so forcibly that the fundamental position of pneumonia naturally belongs to the family of neurotic diseases.

THERAPEUTIC INDICATIONS.—What, then, are the practical advantages that may be deduced from the foregoing considerations concerning the treatment of acute pneumonia? If the primary fault of this disease lies in a disordered nervous system, then it is quite evident that this defect should receive primary attention; but this preliminary stage is ushered in so precipitately, and is usually of such short duration, that pulmonary engorgement and even infiltration may exist before the disease is properly recognized. Obviously, therefore, its secondary effects demand as much urgent therapeutic attention as its primary lesion; and our remedial efforts resolve themselves accordingly into (1) those which seek to allay perturbation of the brain and nervous system, and (2) those which counteract and prevent pulmonary engorgement and infiltration.

1. *To Allay Nervous Irritability.* — The nervous symptoms which mark the initial period of acute pneumonia are rigor, headache, fever, restlessness, dyspnœa, vomiting, convulsions, etc., and whenever a number of these are associated, especially in children who are entering on or who are passing through dentition, the likelihood is that pneumonia is impending. Now, what measures are most appropriate to combat this tendency? Both experimental and clinical data show that cold has the power to reduce nervous excitability, and that no remedy meets this indication better and more effectively than cold applied to the head and chest in the form of ice. At least two rubber bags filled with ice should be applied to the head, and an equal number to the chest—one on each side—as a preliminary step. As a result of this treatment the fever abates, the respiration-rate is reduced, sleep follows, restlessness subsides, and there is good evidence for believing that in certain cases where the cold is applied early enough the disease is strangled in its incipiency.

2. *Measures to Control Pulmonary Engorgement and Infiltration.*—In addition to the direct sedative influence of cold on the nervous system, which has been noticed already, it possesses the property of contracting the walls of blood-vessels and of allaying circulatory excitement, and for these reasons it is the most efficient measure to dissipate and to resolve the local fullness and infiltration in the lungs when so administered. Objections have been raised against cold when used in this way on the illogical basis that its refrigerating effects do not extend deep enough to influence the underlying lung condition, and that for this reason the effects of cold general baths are preferable to its local application. Any suspicion of this character should be allayed, however, by the evidence gathered from the experimental work * of Dr. Schlikoff, which shows that if a thermometer is introduced into different organs and cavities of the body and ice applied externally at the same time, the local temperature sinks a number of degrees in most instances, as will be seen from the following references, while the axillary temperature either remains stationary or falls but slightly. Thus, by applying the ice-bag to the cheek, while the thermometer was in the mouth, the temperature fell nearly four degrees in an hour. In the hollow of the hand, while the ice was applied on the back, it fell five degrees in an hour. Introduced through a fistulous opening into the pleural cavity, while the ice was applied to the chest, it fell over three degrees in an hour. In the vagina, when the ice-bag was applied over the pubic arch, the distance between the thermometer and the ice being seven centimetres, it fell nearly a whole degree in an hour and a half.

These observations show that cold penetrates deep enough into the tissues of the body to reach the lungs, and that its local application differs materially in its physiological action from that of general baths. Moreover, statistics confirm the idea that cold locally applied over the inflamed pulmonary area, in conjunction with other medication described below, yields practical results that are superior perhaps to any other form of treatment. Thus, in three hundred and seventy-six cases of pneumonia treated with cold locally which have been gathered by the lecturer during the last five years there occurred sixteen deaths, giving a mortality rate of 4.25 per cent.

In thus viewing the action of cold on the nervous system in acute pneumonia from a developmental standpoint, it will be seen that, owing to its sedative influence, it supplies the stability and steadiness which are wanting in the overwrought and often immature nervous system under these circumstances.

Now, when we come to consider the drug treatment of this disease, it will also be found that the most serviceable agents are those which address themselves to and act on the nervous system. Among these strychnine stands preeminent, which not only stimulates the nervous system in general, but invigorates the respiratory nerve supply in particular. It is also as efficient as digitalis in enhancing the action of the heart, and in this double rôle of respiratory and cardiac stimulant it tends to overcome some of the most serious tendencies to death in this disease. To get its best effects it should be given in one-thirtieth or one-twentieth-grain doses four times a day from the beginning, and increased until the line of its toxic action is approached. In alcoholic pneumonia larger doses are well borne from the very outset of the treatment. Capsicum is also very useful. It is one of the most effective diffusible nerve stimulants, and is of special advantage in that stage of pneumonia which is marked by a low, muttering delirium, accompanied by a tendency to coma, picking at the bedclothes, etc., and which is very frequently associated with a dry and sometimes a black crusty tongue. It should be given in doses ranging from ten drops to a teaspoonful of the tincture in water every three or four hours. In alcoholic pneumonia the latter dose may be repeated every hour with benefit. Sleep is very important in this disease, and a quarter of a grain of morphine sulphate or a ten-grain suppository of asafœtida at bedtime will suffice to bring this about. Other agents which are of value in combating this disease are oxygen by inhalation for the purpose of overcoming dyspnœa and cyanosis, the salicylates, to antagonize any rheumatic tendency which may be present, and in extreme cases venesection should be resorted to with a view to aid the cold applications in unloading the overdistended cardiopulmonary circulation.

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* *Deutsches Archiv für klin Medicin*, vol. 18, p. 577.

THE UVULA IN ITS RELATIONS TO VARIOUS ABNORMAL CONDITIONS.*

By GEORGE B. HOPE, M. D.

Not only do the standard text-books devoted to the special subject of throat affections, as a rule, contribute the most meagre description of this appendage to the soft palate in disease, but the anatomy itself is dealt with to such a minor degree as to obscure rather than suggest whatever plausible functions it may control. It is reasonable to imagine that the pendent and exposed position of the uvula would render it peculiarly subject to abnormities sufficient to provoke, more or less, some response on the part of its neighboring and parafunctional structures, either directly or through reflex channels.

In the main, the present intention is to emphasize well-known facts without in any way laying claim to observations that are in their major bearings entirely familiar to the largest number of practitioners. In this connection it may not be amiss to quote somewhat in full from Prosser James, who, in his book on *Sore Throat*, published more than twenty years ago, refers to the uvula cough as follows: "It is important to recognize the liability of the uvula to these conditions—*i. e.*, affections of the soft palate and uvula—in order to prevent errors. Practitioners who never inspect the throat, unless complained of, may often be lulling fear in the midst of danger, or exciting alarm without due cause, and in either instance losing reputation. The uvula cough, as it has been called, is peculiar, and may often be recognized by its quick and ineffectual hack; yet not always. It is, for the most part, worse at night, or when the patient lies on his back. Often he is woke up [*sic*] suddenly with the sensation of being choked, even when he takes a nap on the sofa. Catarrh, relaxation, dyspepsia, want of tone, etc., are sure to aggravate the symptoms. The peculiarly troublesome cough sometimes gives rise to pains in the chest; and in long-standing cases many of the symptoms of consumption may be assumed. Dr. Stokes declares he has seen all the symptoms of phthisis, except physical signs, thus produced. Furthermore, neglected conditions of this kind may even rouse up to activity pulmonary disease, which had otherwise long lain latent. This is the less to be wondered at, inasmuch as a strumous diathesis is a most powerful predisposing cause of diseased uvula; an observation which will be of value in deciding on constitutional treatment." This extract has been selected for the reason that Prosser James appears to have been a pioneer in the recognition of the importance of the most careful examination with reference to this one feature of clinical work, and also on account of the deductions pointing to the early elimination of a predisposition to more formidable results. As a sum of some particular attention paid to reflex symptoms produced by uvular irritation, however paradoxical it may appear, the writer has been led to conclude that no intrinsic size or shape, beyond the strikingly abnormal, can in every instance be depended upon to furnish a visible guide in estimating the extent to which the uvula should be held responsible for the production of some one of its rational symptoms. The known subjective nervous developments of individuals is a large factor in the cultivation of sensations that seem to arouse the element of reflex irritability. It is notable that following some congestive attack all the discomforts of an appreciated uvula suddenly assert themselves, and continue, if not increasingly, at least with a standing obstinacy. It is not uncommon to hear a specific date fixed when the "fall of the palate" was first detected, with an account of occasional remissions as definitely described. Is this due to the manifestation of a local paresis in the course of an acute attack, or to certain congestive conditions that do not entirely resolve themselves, or to the violent strains of coughing or throat clearing, or more likely as a sequel to the abuse of concentrated or irritating gargles that may have been employed? It is probable enough that any one of these may be responsible in many instances, but in a fair proportion of cases it would seem as if the initial element lay in a purely accidental discovery on the part of a nervous and susceptible disposition.

The normal size and length of the uvula may vary relatively to that of the oropharynx, which includes the height of the tongue and the capacity of the nasopharynx. This proportionate size of the uvula is incident to its functional purposes, that at once preside over the careful regulation of the voice and the act of perfect deglutition. In paralysis of the controlling muscles of the uvula the voice is notably lacking in resonance and a partial regurgitation of fluids is apt to occur. It was once forcibly demonstrated in the instance of a patient possessing an unusually capacious nasopharynx, whose uvula had been completely ablated by a very distinguished surgeon, with the result of creating a quality of voice similar to that accompanying a fissured palate, and, moreover, compelling him for long after the operation to arrest an uncontrollable regurgitation of fluids swallowed by pressing a handkerchief to his nostrils.

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* Read before the American Laryngological Association at its twentieth annual congress.

The most common type of disturbing uvula is the simple relaxed or elongated, without hypertrophy of the azygos muscles. The flaccid tip can be folded back upon itself in a manner indicating a complete loss of resistance, and resting on the tongue becomes flattened and clings to its position until pushed aside by a clearing effort. Much less noticeable as a standard, but provoking to an equal if not greater extent a hacking, irritable cough, is an elongation that assumes an acutely pointed tip. The symmetry may be so little altered that without well-marked subjective symptoms it might easily pass unnoticed. In a sufficient number of cases, however, it has been demonstrated that with the excision of the filiform lip the symptoms complained of have been at once radically arrested. The latter condition is not infrequent with the association of thin and anæmic palatine structures, and the subject corresponds to this type. The extremes of hypertrophy, varying between the enormous length of a reported case in which the uvula could be seized between the incisor teeth and those that are easily classed within this category, require no comment, as their appreciation would be clearly manifest both on the part of the subject and the attendant. In order to secure a value as to the part played by the uvula in the production of abnormal symptoms, it has been proposed to effect its exclusion by means of an application of a cocaine solution. While this does relieve temporarily an irritation of a throat long excited by a pendent uvula, it may nevertheless introduce a chapter of new sensations that would tend to confuse the patient; consequently, it is not to be relied upon as a negative or affirmative answer as to the merits of topical treatment.

Among the reflex nervous symptoms, independent of cough, that occasionally arise through uvular excitement, are vomiting and the aura ascribed to so-called laryngeal vertigo. This is scarcely surprising when one considers the frequency with which purely nervous attacks concentrate themselves in the region of the oropharynx, and as a corollary Dr. C. L. Dana has described a diminished reflex of the uvula to be one of the early signs of impending nerve degeneration.

Whatever method is selected for this very minor operation of uvular excision, it is suggested that due care be taken to preserve, so far as possible, the normal outline. The simple method perhaps most in vogue of employing long dressing forceps and scissors, the tongue depressor controlled by the patient's own hand, is no doubt as efficient and leads to as good results as any. After the line of incision has been fixed the extreme tip of the uvula is seized and drawn down strongly and evenly; the cut surface will be found to correspond to the familiar shape, and without the truncated appearance indicative of the careless or inapt operator.

A curious feature among those occurring in cycles has been the occasional report some years since of a primary or secondary hæmorrhage following staphylotomy, one such instance happening in the writer's own experience. This is so rare, and after all of such simple treatment, that the fact is merely recalled as a matter of interest and practically without bearing on the merits of the operation.

TUBERCULOUS MENINGITIS.*

By HENRY WALDO COE, M.D.,

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Gussenbaur has reported a case of tuberculous pachymeningitis, and although that disease must indeed be rare, I can see no reason to doubt that infection may take place in the dura, and certainly after trauma the opportunity for such an occurrence is not uncommon. For practical purposes, however, tuberculosis of the meninges may be discussed as a disease, under some form of leptomeningitis, being confined to the arachnoidea—that is, to the arachnoid and pia, or to one of these latter membranes.

Tuberculous meningitis is by no means a disease confined to childhood, and, as pointed out by Mills in his recent work, is to be found in patients of all ages, this author saying that he has met the disease in those aged from a few months to seventy years. I have myself seen it present in several adults in middle life, and remember to have seen evidences of the disease in the dead house, in the body of a person who must have been above sixty-five years of age at time of death, where there was no history attainable. Yet it is comparatively a rare affection in older people, and when suspected in a patient beyond the age of childhood, the diagnosis needs to be made with an extreme degree of care, and after a most thorough examination of every symptom presentable, subjective and objective.

Gowers has aptly called attention to the fact that meningeal tubercle and tuberculous meningitis are not subject to identical conditions, for in general tuberculosis miliary tubercles may be present within the meninges, where no symptoms of meningitis may have ever been present, although there may have been symptoms of meningeal irritation. Herter reports a case where a tuberculous growth of the size of a half dollar upon the side of the cerebellum had produced no symptoms during life; and many other observers have given similar testimony. Eskridge reports an interesting case in which no macroscopical evidences could be discovered after death, although tubercle bacilli were found microscopically in the cerebro-spinal meninges. Purulent infection found post mortem is not conclusive that tuberculosis has not been an important factor in the course of the disease and the death of the patient. Yet, on the other hand, following such a round of serious brain symptoms as is usually coincident to a case of tuberculous meningitis, the macroscopical evidences, as stated, may be most disappointing to the one making the autopsy. Dilatation of the vessels of the pia may be all that will appear, while an occasional extravasation or clot may occur in other cases, or perhaps a general œdematous condition will be present. In most cases, miliary tubercles may be noted here and there, and in the young this is especially noticeable at the base of the brain, where the membranes show greater infection and where the pia is often markedly congested. These tuberculous deposits are in size about as large as a pinhead, and may sometimes be found in considerable numbers in the upper cord chambers. The ventricles are much distended and the fluid is usually clear, although turbidity occurs in cases involving a large area of surface in the ventricular regions.

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* Read in a discussion upon the general subject of tuberculosis before the Idaho State Medical Society, at Moscow, September 6 and 7, 1898.

Death from spinal tuberculosis was recorded by Schlesinger in a case in which a large tuberculous deposit occupied almost the entire space of the cord, the fatal result occurring within a short time after the first symptoms were noted. Motor and sensory disturbances were marked with pain in the face and vertigo, and later complete ataxia. The tumor was situated in the cervical region, its thickest portion being at the third cervical vertebral segment.

Eskridge has clearly demonstrated that meningeal tuberculosis may first occur within the coverings of the cord and thence extend to the brain, although extension is usually from brain to cord. He also shows the reasonableness of the belief that long-standing cases of cerebro-spinal meningitis, ending fatally after many months' duration, are tuberculous in origin. Mills points out that there is no need for macroscopical evidences to be present in several forms of meningitis, and that death often occurs from the intense toxæmia resulting from infection of the arachnoidea, and in such cases, as in one in which a patient died from an acute delirious mania, although no macroscopical evidences were present, cultures demonstrated the pneumococcus and the *Staphylococcus aureus* and *albus*. It is well enough to remember in this connection that the meningitis of tuberculosis may be also one of mixed infection, and that the micro-organisms, which in such a case may be operative, may also include the *Staphylococcus pyogenes aureus*, the *Streptococcus pyogenes*, the *Diplococcus intracellularis*, and the *Micrococcus lanceolatus*.

There are usually no premonitory symptoms, although, after the disease has become fully established, it may perhaps be remembered that the patient was peevish and fretful for some days or weeks. The first real symptoms are nutritional in character. The patient is seen to be in a condition below par. He is paler than usual, sleeps poorly, and evidences signs of digestive disorder. He vomits, or at least suffers from nausea, while constipation or diarrhœa are usually present, or these conditions may alternate. He is languid and cries easily, and may declare that he suffers from headache, and this, too, confined to a special location in the head. If the temperature is now taken, it will show a range of from a degree and a half to two and a half above the normal. These symptoms soon pass into others more pronounced. The temperature reaches a slightly higher mark, and may occasionally rise to 105° and 107° F., while the abdominal symptoms increase. The abdomen shows the retracted condition which is found at this stage, and which alone sometimes determines a diagnosis to the initiated. The pulse becomes somewhat irregular, and its weakness is quite in line with the general state of nervous asthenia, which now becomes marked. Constipation is now the general rule, unless there should be a concurrent intestinal mucous tuberculosis. Convulsions may have been present early in the attack, but at any rate they are usually present when the disease is fully established, although only local muscular spasms may exist. Loss of power in certain groups of muscles, or even of the extremities, may occur at this stage, while ocular or orbital paralysis is frequent. Facial paralysis in some group of muscles is present in a large number of cases. I have in mind at this time a case in which total blindness was a somewhat early symptom. Irregular dilatation of the pupil is a common symptom, and photophobia is almost as frequent. Trousseau's mark is generally present, which is a reddish blush following slight irritation. Hyperæsthesia, which may have been early manifested in a slight degree, is quite a common manifestation in circumscribed areas when the disease is fully developed. Retraction of the head, opisthotonus, and nystagmus are not uncommon. In the late stage of the fully developed disease the paralysis may become profound, coma be extreme, and the breathing take on the Cheyne-Stokes form, indicative of the extreme intracranial disturbance in the disease, and also that the base is involved, as in most cases it is, especially with the young. The abdomen now usually becomes altered in appearance, and is much distended.

Much stress has been laid upon the eye symptoms in the various forms of meningitis, but, as stated by Davis, there is little value in eye symptoms as a point of differentiation in the various forms of the affection. Regarding the claim that frequently tubercle can be detected in the chorioid in these cases, Dr. Reynold W.

Wilcox is quoted as having examined more than two hundred cases of tuberculosis with the ophthalmoscope, without finding a single case of affection of this kind in the chorioid. Neither does Davis believe with Lechtenstern that in tuberculous meningitis we are apt to have the pupils dilated and sluggish more often than in epidemic cerebro-spinal meningitis. My own experience leads me to approve with emphasis the conclusions of Whittaker, also indorsed by Davis, that ætiological relations of the disease are more to be depended upon to determine a diagnosis than differences in symptomatology.

Herpes labialis has been said by Klemperer and others never to be found in tuberculous meningitis, but Habel reports a case in which it was present. Habel also affirms that the bacilli may not be found in the cerebro-spinal fluid, although mucous coagulation is indicative of tuberculous meningitis whether the bacilli be found or not, and Chantemesse reported before the Paris Academy of Medicine, June 15, 1897, that he had noticed an agglutinating reaction in serum taken from a patient with tuberculous meningitis. Death is the usual outcome, and an author with as large a personal observation as Landon Carter Gray says that he has never seen a patient recover.

Dr. Daniels reports fifty-nine cases, in all of which the patients died, and points out the fact that the so-called prodromal state did not occur in any of these subjects under two years of age.

The cause of death in the disease has been claimed by Hirschberg to be not from the tubercle, but from pressure, and Ord and Waterhouse have helped to confirm this belief through the recovery of a patient under their care, which occurred after a trephine opening and subdural drainage had been made at a point midway between the external occipital protuberance and the mastoid process. Quincke has had much to say recently about subdural drainage, both as a diagnostic and a curative measure, and his method of lumbar puncture would seem to offer a means of gaining knowledge and relieving pressure much more advantageous than the more radical procedure of Ord and Waterhouse.

As to its diagnostic value in two cases of cerebral effusion and as a therapeutic measure in one, I can give evidence. A diagnosis of tuberculous subacute hydrocephalus had been made in one case, in which after two punctures made by me, and a careful examination of the fluid in both instances with negative results, a hopeful prognosis was made and subsequently confirmed by improvement in this case. In one of these cases, examination was further made by Professor A. E. Mackay, of the bacteriological laboratory of the medical department of the Oregon University, confirming the more elementary examination of the fluid in my own hands, and that it was not tuberculous. One of these cases also aptly exemplified the fallacy of classing acute hydrocephalus and tuberculous meningitis as the same disease. In this case, that of a child well grown, in whom enlargement had taken place within the year, the head was extremely large, yet the patient was not tuberculous, as the examination of the fluid showed, and as the subsequent favorable issue of the case confirmed. We must not forget that not every subject of tuberculosis of the meninges is dropsical, for in occasional cases there seems to be even less than a normal amount of the cerebro-spinal fluid present.

Tuberculous tumors of the meninges may attain considerable size, and their macroscopical appearances are sometimes such as to make them difficult to distinguish from gummata. They are usually multiple, and if so, are often situated in regions remote from one another, their favorite site being along a fissure or some one or more of the principal arteries. They have a cheesy appearance in their interior, and are generally closely adherent to the membrane, or may be imbedded in broken-down brain substance. Because the bacilli are so few, it is sometimes necessary to employ cultures to demonstrate their presence, and in a few cases it would seem that these ætiological factors in the case have been entirely destroyed. Tuberculous meningitis may exist with or without tuberculous nodules, as before stated, and tuberculous nodules or tumors may exist with or without meningitis.

Spiller refers to a case of solitary tubercle at the exit of the second and third sacral nerves, in which the diagnosis was accurately made by the observer who reported it, Marfan, of Paris. In this case, although tuberculosis was not present elsewhere, paralysis came on suddenly, reflexes were exaggerated, sensation was normal, and the lower limbs showed trophic lesions. The autopsy revealed a solitary tubercle, hæmatomyelitis, and diffuse pial phlebitis.

Bramwell refers to the fact that in several cases he has found tubercle of the cord upon autopsy where nothing of the kind had been suspected.

Anders tells us that in not less than fifty per cent. of the cases of miliary tuberculosis tuberculous meningitis is present, and, as is well known, it is nearly always secondary to tuberculosis of other organs, the disease in other localities being in abeyance when the meninges are involved.

Osler says that in obscure cases the arteries of the anterior and posterior perforated spaces should be carefully withdrawn and searched, as upon them nodular tubercles will be found when not present elsewhere.

The prognosis in tuberculous meningitis is almost absolutely unfavorable, and Sachs says a diagnosis of this disease is almost equivalent to signing a death warrant, yet in a few cases the patients recover.

A case is reported by Jansen, where undoubted tuberculous meningitis was cured by the daily administration of nine hundred grains of iodide of potassium, and the autopsy three years later demonstrated a former tuberculous meningitis. Dr. W. Hale White, in *Brain*, has also recently reported a case of tuberculous meningitis of undoubted authenticity, in which recovery occurred. In these cases the less virulent variety of tubercle bacillus was probably present. It might be said that the chronic cases alone offer an opportunity for a thorough course of iodide, and that it is probably the best remedial application; and, if it is used, it should be in heroic doses.

In surgery, however, we must look for better things than medicine has heretofore afforded us in this disease. To open a tuberculous peritonæum has often proved its cure, and perhaps opening the meningeal cavity may also have a similar effect, independent of the question of drainage and the removal of pressure. Some of the things which Abbe has had to say about the reason for recovery following incision in abdominal tuberculosis may be made applicable in the condition discussed by this paper.

Free drainage of the meningeal spaces in tuberculous meningitis has been advocated by Lanphear, who based his opinions upon the results attained in a similar procedure in tuberculous peritonitis. Sokolow has opened the meninges for this affection in two cases. Both patients died, but the improvement, in his opinion, justifies further trial of the procedure. He advocates cerebral trephining and lumbar puncture.

The same procedure was ably advocated by Dr. George W. Jacoby in a paper which I heard him read before the New York Neurological Society four years ago.

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THE BED TREATMENT FOR THE VIOLENT INSANE AT THE SAINTE-ANNE ASYLUM, PARIS.

By LOUISE G. ROBINOVITCH, B. S., B. L. (PARIS), M. D.

THE bed treatment for the violent insane is no longer an experiment here. This treatment, first tried in Paris by M. Magnan in his wards, has proved so absolutely satisfactory that in every violent case the patient is put to bed immediatey upon his arrival at the asylum.

The main advantages of this treatment seem to consist in the moral and physical effect upon the patient.

The moral effect consists in the impression forced upon him that he is ill, and must, therefore, rest in bed. As the most incoherent and violent insane are open to mental impressions, the effect of any method which will tend to give the patient an impression of his own illness is, obviously, priceless. It would be necessary to go into the subject at length to show the advantages of this treatment for patients having violent manifestations and suffering with organic lesions at the same time. It is self-apparent that even in these cases this treatment is preferable to allowing the patient to be at large. Taking the physical value of this treatment alone, in these cases, experience has proved the invaluable benefit following its adoption.

The physical advantage in treating obstreperous patients by the "rest" method may be realized by considering that much of the patient's energy is saved by this rest, and that a great deal of actual tissue waste, such as occurs in acute mania, is prevented.

It may be of interest here to note that M. Magnan is of the opinion that the placing of a violent patient in a ward holding a number of other violent and noisy patients does not, necessarily, excite him into vociferation. On the contrary, this distinguished alienist rather sees an advantage in having a number of noisy patients gathered in the same hall. He holds that one patient hears another talk, shriek, and shout in an incoherent manner, and recognizes the other's insanity. Being himself in bed and under treatment, he reflects upon the condition of his companions and is ultimately led to believe that there must be some truth in the allegation that he, himself, is suffering from a kindred disease.

This helps him control himself at the moments when he is inclined to incoherent and noisy behavior.

From the economic standpoint, it is interesting to note that in one of these wards, holding ten most violent patients, chosen on purpose for the experiment, only three attendants are necessary to exercise full control. The bed treatment can not, therefore, be considered a very expensive one.

Regarding the effects of this treatment, in my personal experience, I have never failed to witness considerable periods of absolute silence in a ward of some ten or twelve most violent, dangerous, and destructive patients. This has occurred almost invariably during my daily visits to these wards with M. Magnan.

It is curious, too, that when the patients all become quiet at the same time they maintain absolute silence, as if one patient were in fear of disturbing another. Hypnotics are used very rarely and in very exceptional cases in the course of this treatment, the largest dose of hyoscine being two milligrammes (0.0308 grain) in twenty-four hours. The food is extremely good, including fresh milk, fresh eggs, fowl, chocolate, and other nutritious staples. In addition, the patients are given baths in lukewarm water, these lasting from one to three or five hours each every day.

Dr. Nikitine, an alienist from Moscow, who visited these wards, informed me that this treatment has been employed at the Alexeevski Asylum at Moscow for the last three years, and that the "rest" cure has been in use in the St. Petersburg Asylum for more than two years.

In speaking of this department of the service, M. Magnan said to me the other day that were he to construct a new asylum he would exclude from it the "cells," as they are no longer of any practical value. As for the feasibility of putting, say, ten or twelve cases in one hall, it has been demonstrated that this may easily be done with about three competent nurses in charge, aided by as many convalescent patients.

Clinically, this mode of treatment is free from the possible imputation of the effect of association of a number of noisy patients. In the case of patients mentally capable of receiving impressions from their surroundings, the results already above noted have been remarked. To describe a different phase, however, one of these patients whom I have been studying said to me after her recovery that the noise around her "sounded more than anything else like music," and that it was utterly immaterial to her whether she did or did not hear that "music." Another patient, who has also recovered, and is in a perfectly normal condition at the present time, told me that the noise around her did not have the least effect upon her. "I was preoccupied with my own thoughts and myself," she said, "and nothing else could possibly have held my attention." "The patients' faces," she said, "looked queer to her, as also did her surroundings, but outside of this she was not affected at all by the noise of the twelve or thirteen patients in the same hall." These two patients were both suffering from intermittent insanity.

Finally, it is worthy of note that there are no bars in the windows of this asylum, the violent wards being furnished with thick glass, twelve millimetres in diameter. This is simply a little detail, showing the general trend of this modern and humane course of treatment as applied to the mentally diseased in this service.

A CASE OF
CHRONIC URTICARIA OF THE LARYNX.

By W. FREUDENTHAL, M. D.

As frequently as we see urticaria of the skin, so rarely do we meet with this condition affecting the mucous membranes of the upper respiratory tract. It usually affects the tongue or the uvula, or even the larynx; but so far there have been but few exact observations made regarding its appearance in the larynx.

A. Rosenberg, in his text-book, mentions the occurrence of urticaria in the mouth, throat, and on the epiglottis; and Moritz Schmidt considers this disease a vasomotor neurosis, a view in which we also concur. A collection of all the cases—twenty-five in number—of urticaria of the upper air-passages has been published by Delbrel (*Contribution à l'étude de l'urticaire*, etc. Thèse, Bordeaux, 1896).

Asphyctic conditions and dyspnœa were the principal symptoms in all these forms of acute urticaria. But, so far as I know, *chronic* urticaria of these parts has never been described. The following case may, therefore, serve as an illustration thereof:

Mr. C., fifty-nine years of age, consulted me first in 1891, complaining of vague symptoms in his throat, which at times became more marked, so that he felt pain, which ceased during eating and at night. At that time I found, in addition to a somewhat enlarged lingual tonsil, a diffuse redness of the laryngeal surface of the epiglottis with a slightly œdematous elevation on its right side.

The patient never had a specific infection and had no other complaints, nose, throat, and lungs being free, so that then (1891) his condition was not at all clear to me. Treatment for eight months at longer or shorter intervals with various local and general medicines had no visible effect on his larynx, and cure resulted only after a two months' sojourn in the country. Five years later (1896) another attack came on. This time he mentioned the fact that he suffered from general urticaria, and now everything was clear to me. Three weeks later, with the disappearance of the urticaria of the skin, his laryngeal condition improved, and I did not see him again until March, 1898, when he had a third attack. This time he described a constant sensation in the right side of his larynx, as if there were something there which he felt like pulling out. Of course, he had his general urticaria, which annoyed him greatly, and for which he consulted several dermatologists. Again I treated him locally with different drugs, but without result. In fact, he never felt the applications.

For example, when I applied even a fifty-per-cent. solution of lactic acid, he felt it on his left side, but not on the right, and he generally said: "Doctor, you did not get to the right side, where I have all the trouble." In other words, this spot was insensitive to very strong solutions. He then went to the seashore, and with the disappearance of the general urticaria his throat improved.

Now, I ask, what else can this condition be but chronic urticaria of the larynx? Before answering this question, let us review the history of the patient for further details: As early as 1866 Mr. C. had his first attack of urticaria, when he consulted Professor Koranyi, of Budapest. He received a box of pills which made his urticaria disappear. He afterward came to this country and had to struggle hard for a living; later on he succeeded in business, and in 1889 he was in good circumstances, ate much rich food, and commenced to suffer from indigestion. It was then that he had the first attack of urticaria in this country. A box of Professor Koranyi's pills helped him at once. He, however, went on living in the same way, and in 1890 he had to take two boxes of pills in order to get well, and in 1891 these did not help him at all. In this year the laryngeal affection appeared for the first time, and this, as I have mentioned, disappeared only after I sent him to the country, where he lived in a plain boarding house, eating very frugally, and in this way unwittingly curing his indigestion. With the disappearance of the indigestion his throat affection left him. He remained well for five years, when in 1896 his throat trouble reappeared, together with his indigestion and general urticaria, and was cured only as these disappeared. This year (1898) his urticaria set in worse than ever before, and at the same time his throat affection made its appearance. He is, however, not perfectly cured, although he was in the country for about two months. The reason is that he lived in a cottage with his family, where the rich food, which always was an ætiological factor in producing urticaria, prevented a complete recovery.

Thus we have seen that with the more obstinate appearance of the urticaria of the skin in 1891 the affection of the epiglottis appeared for the first time, and disappeared completely with the disappearance of the former. Exactly the same thing occurred in 1896 and again in 1898. During this last attack I had ample opportunity to study the slightly œdematous elevation on his epiglottis, and I am convinced that this is nothing else but a wheal, as is so frequently seen on the skin.

His sensation of some foreign body in the larynx, which he wished to pull out, was nothing else but itching. I may mention incidentally that now, since he knows that the affection is urticaria, he himself describes the sensation as itching.

The picture we see now on the epiglottis, which is the only part involved, varies very much. At one time we see one or more herpetiform prominences with œdematous surroundings, at others the epiglottis shows a deep-red color, and again it is perfectly pale—all this in accordance with the neurotic character of the disease, and all pointing to the one diagnosis: chronic urticaria of the larynx.

Therapeutical Notes.

For Ovarian Neuralgia.—The *Gazzetta degli ospedali e delle cliniche* for November 22d gives the following prescription on the authority of Martin:

℞ Extract of belladonna	3¾ grains;
Extract of stramonium	4½ "
Lactophenin	90 "

M. Divide into twenty pills, of which two or three may be taken daily.

Chloral in the Treatment of Uterine Spasms.—The Quebec *Revue médicale* for November 2d ascribes the following formula to Spondly:

℞ Distilled water	200 parts;
Syrup	50 "
Chloral hydrate	4 "

M. S.: A tablespoonful every two hours.

Urticaria.—According to the *Louisville Journal of Surgery and Medicine* for December, Rotch recommends:

℞ Powdered calamine	2 drachms;
Limewater	8 ounces;
Carbolic acid	½ drachm.

M. Use as a lotion. If not sufficient to allay irritation and the burning is extreme, the following ointment is advised:

℞ Menthol	10 grains;
Lard	1 ounce.

M.

Expectorant Mixture.—Beck (*Revue médicale*, November 30th) recommends the following:

℞ Hydrochloride of apomorphine	1½ grain;
Dilute hydrochloric acid	25 minims;
Simple syrup	750 "
Distilled water	3,000 "

M.

For an adult a tablespoonful, for children a teaspoonful every two or four hours.

For Infantile Convulsions.—The *Revue médicale* for November 30th gives the following formula:

℞ Tincture of colchicum	120 minims;
Syrup of rhubarb	900 "
Pure gum arabic	900 grains;
Water	3,750 minims.

M.

A teaspoonful every two hours.

An Ointment for Chapped Hands.—*Nouveaux remèdes* for November 24th attributes the following formula to Comby:

℞ Menthol	1 part;
Salol	2 parts;
Olive oil	10 "
Lanolin	30 "

M. To be applied night and morning.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 31, 1898.

THE PLASTERING OF WINE.

The *Lancet* for October 29th contains an encyclopædic article on sherry wine, being a report of its analytical commission. One of the most interesting points on which the writer touches is that of the so-called plastering of wine—that is, the addition of calcium sulphate to the must.

As regards sherry wine, it seems that the practice has been followed from a very remote period, since classical authors refer to it as an ancient one. It is stated that the sherry growers find that, as a rule, they do not produce a good article of sherry if they omit to resort to this addition of calcium sulphate.

The writer mentions several theories to account for the improving effect of the plastering, but the one to which he inclines is that of the decomposition it causes of the tartrates contained in the grape juice, whereby tartaric acid is set free and attacks the ethyl of a portion of the alcohol, giving rise to the production of an ether, ethyl tartrate, to which in great measure the wine owes its bouquet and its special flavor.

Much has been said in the French medical journals during the last few years on the question of the injurious effects of plastered wine, and M. Lancereaux has gone so far as to assert that cirrhosis of the liver, usually attributed to the excessive use of alcohol, is in reality the result, not of alcohol of itself, but of the potassium salts contained in plastered wine, and that it does not result from the use of spirits. The writer asserts, however, that among the workmen employed in the sherry *bodegas*, who drink large quantities of plastered sherry every day, cirrhosis of the liver is unknown, while, on the other hand, it is frequent among the dram drinkers of England and other countries.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Early in November the corner-stone of the society's new building was laid, as we mentioned at the time. Now, we are glad to be able to say, the good wives, widows, mothers, daughters, and sisters of our Brooklyn brethren, having formed themselves into the Woman's Auxiliary to the Building Committee of the Medical Society of the County of Kings, with a large membership, are going to give a Græco-Roman festival to aid in prosecuting the work of completing and furnishing the building.

The festival is to last for a week. It will be held in the armory of the Thirteenth Regiment, from Monday, January 23d, to Saturday, January 28th. The great Memorial Hall will be hung with Roman draperies, and will serve as a mart for the sale of flowers and fruit. The spacious drill hall will be transformed into the semblance of a section of the city of Athens, with a distant view of the portico of the Parthenon. Here books and objects of art will be on sale by ladies representing the past presidents of the society. A loan collection of like articles will be on view in a separate room.

State and civic dignitaries are to be the ladies' guests on Monday evening, called "official night." On Tuesday evening, "Greek night," visits from the Greek consul and other foreign consuls are expected. On Wednesday evening, "Roman night," the Italian consul will be the guest of honor, accompanied by other consuls. On Thursday evening, "medical night," visits are expected from prominent medical men of other cities, also distinguished clergymen and lawyers. On Friday evening the Græco-Roman ball will come off, with officers of the army and navy of the United States as the guests. On Saturday afternoon a children's carnival will be held, and in the evening the Olympian games, after which the goods not before disposed of will be sold at auction.

This, it seems to us, is a most attractive programme, and the object for which the entertainments are to be given, appealing as it does to the entire profession of medicine, ought to insure a large attendance and generous patronage.

MINOR PARAGRAPHS.

THE STRONTIUM SALTS.

In another column we give a *résumé* of the experiences of Dr. Roche with the bromide of strontium in epilepsy. Dr. Leon L. Solomon (*Medical Bulletin*, September) has an article on Strontium Arsenite *versus* Potassium Arsenite. He points to the essentially irritating qualities of the potassium salt as being a great drawback in view of the fact that conditions calling for its employment almost invariably demand a long-continued use. This irritant quality, he thinks, is doubtless largely due to the arsenic, but the author maintains that it is reenforced and intensified by the potassium. The author proceeds:

"Extremely large doses do irritate; but these are not medicinal doses. Merck puts down the dose of strontium arsenite at one thirtieth to one fifteenth of a grain. In my opinion the one thirtieth is unnecessarily large for the minimum dose, and the one fifteenth is too small for the maximum dose; and I would beg leave to suggest the change whereby the dose is made to range between one sixtieth and one tenth of a grain. (See article in *American Therapist*, by the author, vol. vi, No. 2, August, 1897.) Now, this change of the minimum dose is not urged because the one thirtieth of a grain of strontium arsenite has been found to irritate. Such is not the case, as is readily perceived, since I at the same time increase the maximum dose from Merck's one fifteenth to one tenth. I suggest the first change to one sixtieth, because the arsenite of strontium seems a very active salt, and in that dose (one sixtieth) often gives a prompt physiological effect; and I increase the maximum dose, without fear of irritation, to one tenth of a grain, so as to get, in other and tardy cases, the same prompt and decided result. I have employed the strontium salt in varied and varying doses. I have given a large quantity as a beginning dose and maintained it large, or even increased it. I have more frequently made the virgin dose small, then gradually raised it until the patient was taking very large quantities, and have yet to note any unsatisfactory results. An explanation is not wanting to make this point clear: Strontium is possessed of a decided sedative property, and, in its combination with arsenic, as well as in other combinations, it seems to modify, and, in several instances, to almost entirely control the irritation which certain acid radicals would otherwise surely produce." Undoubtedly the strontium salts deserve a more extended trial than has yet been accorded to them.

THE AMERICAN NAVAL MEDICAL SERVICE AS A MODEL.

The *British Medical Journal* for December 3d publishes a letter from a civil surgeon for whose fitness to speak on the matter the *Journal* vouches, calling attention to the defective nature of the surgical outfit for English men-of-war. It surprises us as much as it surprises the *British Medical Journal* to find that the deficiencies requiring to be filled include "a complete set of instruments, a supply of modern dressings, means for sterilizing appliances, and trained nurses for the sick and wounded"; and we are still more surprised to find the correspondent urging these things with some timidity as being likely to be looked upon by naval officers as "quite impracticable" demands. The *Journal* adds: "We do not believe that what has been found practicable in an American ship of war would be regarded as impracticable by such practical persons as the officers of the Royal Navy." We hear so much about our deficiencies in comparison with other powers in matters relating to warfare, that we confess to a glow of pardonable pride in finding ourselves for once in the position of the model to take example from. We sincerely trust that our Royal Naval brethren will get all these and whatever other things are necessary to enable them to adequately perform their important duties in the highest interests of humanity.

THE MANIA FOR NAMING DISEASES.

The *syndrôme du baptême*, says a humorous writer in the November number of the *Revue médicale de la Suisse romande*, who signs himself Dr. Blanchard, consists of absolutely characteristic cerebral symptoms. The patient, usually a physician, feels an irresistible impulse to discover a disease or a portion of a disease, and hastens to stamp it with his own name. Thirst for renown is the chief ætiological factor. The victim must be carefully distinguished from him who bestows his name on a new instrument and from him who discovers a pathogenic microbe. The malady is very contagious, and those who are attacked never recover. At the end of a brilliant clinical lecture, says the writer, Professor Jolinon says: "With the aid of this sign, which I was the first to observe, you see, gentlemen, you will always succeed at once in distinguishing infantile broncho-pneumonia from senile gangrene. To facilitate description, I propose to give the sign a characteristic name——" Then the students cry in chorus: "Jolinon's sign." "Since you insist, gentlemen," etc., and the baptism is accomplished.

POISONOUS FROCKS.

The *Wiener medizinische Blätter* for December 8th relates that the snow-shovelers of Birmingham were recently provided with over-frocks, whereupon sixty of them were attacked with great dusky-gray spots on the wrists and knees, with surrounding redness and œdema. The affected parts were very hot, and the neighboring lymphatic glands were swollen. Dr. Alfred Hill attributed the trouble to cauterization with chloride of zinc, with which substance the frocks seemed to have been imbued at the time of their manufacture. He found great masses of it in every specimen of the frocks. By reason of its great solubility, it had run down to the most dependent parts of the garments and come in direct contact with the skin. The moisture which held it in solution was then evaporated by the warmth of the body, and the salt exerted its caustic action.

THE PURITY OF THE MAILS.

We have received a communication from a medical bookseller of St. Louis, inclosing newspaper clippings giving accounts of the government's having proceeded against him for sending improper matter by the mails, the matter being a book entitled *Untrodden Fields of Anthropology*, issued by the Society of Cosmopolitan Bibliophiles to private subscribers only. We have not seen the book, and can not, therefore, pronounce upon its character. To judge from the English prospectus, however, we should say it was quite of a proper character for circulation among medical men.

ANYTHING RATHER THAN "APPENDICITIS."

Several attempts have been made to down that verbal monstrosity "appendicitis." We are still of the opinion that we expressed several years ago, that *ecphyaditis* is the best name for the disease, but we are quite willing to accept *epityphlitis*, proposed by Küster, of Marburg, in the *Centralblatt für Chirurgie* for December 17th—anything rather than "appendicitis."

A "CHRISTIAN SCIENCE" PASTORAL.

Mrs. Mary Baker G. Eddy, the founder of "Christian Science," has addressed through various newspapers an open letter to the *Christian World* on the subject of her commercial cult, carefully avoiding any reference, however, to the money-making side of the scheme. We commend it, without comment, to the perusal of all waverers. If it does not succeed in exposing to them the blatant folly of this great imposture we fear that nothing will, and they had better cross the line and get out of the camp of sense to that of nonsense forthwith. By all means let the fools be segregated, so that the world may know where it stands.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 24, 1898:

DISEASES.	Week ending Dec. 17.		Week ending Dec. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	45	12	20	12
Scarlet fever	131	13	141	12
Cerebro-spinal meningitis	0	3	0	6
Measles	112	7	123	6
Diphtheria	171	19	154	32
Croup	20	7	23	8
Tuberculosis	199	174	202	165
Small-pox	0	0	1	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general of the United States Marine-Hospital Service during the week ending December 23, 1898:

Small-pox—United States.

Calvert, Ala	Dec. 16	7 cases,	2 deaths.
Fairfield, Ala	Dec. 16	1 case.	
Richardson, Ala		52 cases,	2 “
Sunflower, Ala		Small-pox reported.	
Wagar, Ala	July 1–Dec. 16	1 case.	
Ashfork, Ariz	Dec. 16	1 “	
Pueblo, Col	Dec. 3–10		2 deaths.
Biggeville, Ill	Dec. 16	1 case (Mexican).	
Michigan	Dec. 3–10	Reported present at Detroit and Ecorse Township.	
Elizabeth City, N. C.	Dec. 16 Origin, Norfolk, Va.	1 case.	

Small-pox—Foreign.

Rio de Janeiro, Brazil	Oct. 21–28	15 cases,	5 deaths.
Rio de Janeiro, Brazil	Oct. 28–Nov. 4	11 “	3 “
Tokyo Fu, Japan	Oct. 21–Nov. 17	2 “	
Awomori Ken, Japan	Oct. 21–Nov. 17	58 “	16 “
Fukuoko Ken, Japan	Oct. 21–Nov. 17	1 case.	
Gifu Ken, Japan	Oct. 21–Nov. 17	1 “	
Ishikawa Ken, Japan	Oct. 21–Nov. 17	1 “	
Miyagi Ken, Japan	Oct. 21–Nov. 17	6 cases.	
The Hokkaido, Japan		2 “	
Moscow, Russia	Nov. 19–26	16 “	6 “
Odessa, Russia	Nov. 25–Dec. 2	2 “	
St. Petersburg, Russia	Nov. 19–26	4 “	
St. Petersburg, Russia	Nov. 26–Dec. 3	2 “	
Warsaw, Russia	Nov. 19–26		3 “

Yellow Fever—Foreign.

Bahia, Brazil	Oct. 22–29	1 case,	1 death.
Bahia, Brazil	Oct. 29–Nov. 5	1 “	
Rio de Janeiro, Brazil	Oct. 21–28		3 deaths.
Rio de Janeiro, Brazil	Oct. 28–Nov. 4	4 cases,	2 “
Cartagena, Colombia	Nov. 1–30	1 case,	1 death.
Monterey, Mexico	Nov. 24–Dec. 1		3 deaths.
Tampico, Mexico	Nov. 1–30		10 “
Vera Cruz, Mexico	Dec. 1–8		9 “

Cholera—Foreign.

Madras, India	Nov. 5–12		20 deaths.
Madras, India	Nov. 12–19		9 “
Osaka and Hiogo, Japan	Oct. 21–28	2 cases.	

Plague.

Hongkong, China	Oct. 15–22	2 cases,	2 deaths.
Hongkong, China	Oct. 22–29	1 case.	1 death.
Madras, India	Nov. 5–11		2 deaths.
Madras, India	Nov. 12–18		2 “
Tokyo Fu, Japan	Oct. 21–Nov. 17	2 cases.	

Sponge Pessary during Menstruation.—Dr. Alexander Duke advocates (*Medical Progress; Western Druggist,* December) for married women the use of a clean, soft sponge, squeezed out of a weak solution of Condy's fluid, during the catamenial flow, and thus dispense with the use of the diaper or the sanitary towel. The external parts are kept from contact with the discharge, and the "period" can be shortened by two or three days. The sponge should be cone-shaped, longer than broad, and a stout cord passed through, forming a loop when knotted, by which it can be drawn out when necessary. The pessary is to be removed every six hours, and the vagina thoroughly syringed with hot water. The sponge should be thoroughly cleansed in weak saline solution, squeezed out of Condy's fluid, and reintroduced.

Waterproof Uniforms.—According to the *Gazette médicale de Paris* for November 26th the Belgian government is about to make trial of a method for rendering the clothing of its soldiers absolutely impenetrable to water. The best results up to the present have been afforded by plunging the stuff into a bath of acetate of aluminium and then allowing them to dry in the air without wringing them out. Experiments instituted at Vilvorde have led the medical men to the conclusion that materials prepared by the aluminium salt do not embarrass the cutaneous respiration, and moreover do not impair their qualities nor affect their color.

The City Hospital.—We learn that Dr. Robert H. M. Dawbarn has been appointed a visiting surgeon, to succeed Dr. Wylie, who has resigned.

Resumption of Practice.—Dr. William E. Swan informs us that he has returned from Albany and has resumed the practice of medicine at his former home at 24 Woodlawn Avenue, Saratoga Springs, N. Y.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics, held on Tuesday evening, December 27th, the following paper was to be read: Treatment of Placenta Prævia, by Dr. S. S. Greene. Discussion by Dr. Van Peyma. Dr. Brennen was to exhibit a specimen of placenta prævia, and Dr. Roemmelt was to present a specimen from a case of extra-uterine gestation.

The Effect of the Conscience Clause in the British Vaccination Law.—The writer of the London letter in the *Concord Evening Monitor* for December 17th says that Sir Richard Thorne, the principal medical officer to the local government board, in his official report on vaccination during the past year states that one third of the children in England and Wales have escaped vaccination. This condition of things is causing serious misgivings and calling forth strong protests from the press. What the upshot is likely to be may be gathered from Rider Haggard's recent novel, *Doctor Therne,* a perusal of which at this juncture is very interesting.

Change of Address.—Dr. James J. Coneanon, to No. 26 West Thirty-fourth Street, New York.

The Harlem Hospital.—We learn that Dr. R. S. Wiener has been appointed an attending physician to the hospital.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending December 22, 1898:*

Williams, L. L., Passed Assistant Surgeon. To report at Hygienic Laboratory, Washington, D. C., for temporary duty. December 19, 1898.

Stewart, W. J. S., Passed Assistant Surgeon. To proceed to certain ports as inspector. December 21, 1898.

Cumming, H. S., Assistant Surgeon. To report at Hygienic Laboratory, Washington, D. C., for temporary duty. December 19, 1898.

Foster, M. H., Assistant Surgeon. Upon expiration of leave of absence to proceed to Savannah, Ga., and assume command of service. December 19, 1898.

White, Mark J., Assistant Surgeon. To proceed to Stapleton, Staten Island, N. Y., and report to commanding officer for duty and assignment to quarters. December 19, 1898.

Board convened to meet at Washington, D. C., December 19, 1898, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Vaughan, G. T., Passed Assistant Surgeon, chairman; Stewart, W. J. S., Passed Assistant Surgeon, recorder.

Society Meetings for the Coming Week:

Monday, *January 2d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *January 3d:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston—annual); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

Wednesday, *January 4th:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

Thursday, *January 5th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Friday, *January 6th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *January 7th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Cole — Robinson. — In Bridgeport, Ohio, on Wednesday, December 14th, Dr. C. C. Cole and Miss Alice De M. Robinson.

Frampton—Lucas.—In Wando, South Carolina, on Wednesday, December 14th, Dr. James Frampton, of Mount Pleasant, South Carolina, and Miss Elizabeth B. Lucas.

Died.

Hamilton.—In Elgin, Illinois, on Saturday, December 24th, Dr. John B. Hamilton, of Chicago, in the fifty-second year of his age.

Herrington.—In Columbia, Tennessee, on Wednesday, December 21st, Dr. Buford Herrington, of Ellisville, Mississippi, aged twenty-nine years.

Roberts.—In Greensburg, Louisiana, on Sunday, December 11th, Dr. William F. Roberts, aged fifty-eight years.

Weaver.—In Buena Vista, Georgia, on Thursday, November 17th, Rena, wife of Dr. J. A. Weaver.

Obituaries.

JOHN B. HAMILTON, M. D., LL. D., OF CHICAGO.

On Christmas Eve, in the State Asylum for the Insane at Elgin, Illinois, Dr. Hamilton, who for more than a year had been the superintendent of the institution, died in consequence of some acute abdominal trouble for which, we learn, an operation was performed, but, unfortunately, without avail.

Dr. Hamilton was in the zenith of his powers, being only fifty-one years of age. At the time of his death he was a professor of surgery in the Rush Medical College, of Chicago. In the early years of his professional life he served for a time as an assistant surgeon in the army. Then he entered the Marine-Hospital Service and soon succeeded the late Dr. Woodworth as surgeon-general of that corps. In that office he served with distinction for twelve years, and resigned from the office, but not from the service, to take up a career in Chicago as a surgeon and as the editor of the *Journal of the American Medical Association.*

It was chiefly as the editor of that journal that Dr. Hamilton had been known and admired for a number of years. He improved the quality of the journal very decidedly, especially that of its editorial columns. He was himself an exceedingly able writer and a man of wide learning and nice judgment. His first editorial writing was for the *New York Medical Journal*, done while yet he was surgeon-general of the Marine-Hospital Service. It can be understood, therefore, that we have observed with great satisfaction the rise of the *Journal of the American Medical Association* under his management, not only for the association's sake, but also because it has been the work of a former member of our own staff.

Dr. Hamilton was a man of distinctly military bearing and appearance, and a kindlier smile never lighted up the human face than was often to be seen on his. He was a man of rich humor and a most genial companion. His death entails a great loss to the profession of the entire country.

FRANK ARCHER BOTTOME, M. D.

On Tuesday evening, December 20th, Dr. Bottome died of pneumonia. He was the son of the late Rev. Francis Bottome, D. D., and Margaret Bottome, president of the International Order of the King's Daughters. He was born in Bridgeport, Connecticut, in 1866, and was educated at the St. Johnsbury Academy, Vermont. He afterward graduated from the College of Physicians and Surgeons, New York, and completed his medical studies with post-graduate work in the University of Berlin. He began general practice in Harlem, but achieved such a reputation in throat, nose, and ear work that his practice soon became a special one in these branches. It was at the head of this department of special practice that he served the poor in the outpatient department of the Roosevelt Hospital.

Dr. Bottome early identified himself with Saint Andrew's Episcopal Church, interesting himself especially in the Sunday school, serving as its enthusiastic and efficient superintendent for the past four years. He was a member of the Harlem Medical Society, the County Medical Society, the Harlem Club, the Nassau Boat Club, and the Englewood Golf Club, of which organization he was one of the governors. He was an occasional contributor to the medical journals.

Letters to the Editor.

THE EXTRACTION OF FOREIGN BODIES FROM THE NOSE.

December 19, 1898.

To the Editor of the New York Medical Journal:

Sir: In your *Journal* of December 17th I note an article entitled New Method of Extracting Foreign Bodies from the Nasal Fossæ in Children. Permit me to say that I saw Dr. John Homans, the ovariotomist, perform the operation in 1874 at the old Boston Dispensary, where I was then an assistant, and that he at that time placed a wedge between the teeth that the foreign substance (a bean) should not enter into the windpipe. I have the opinion that he then stated to me that he had seen his own father do the same thing.

John D. O'Connell, M. D.

MALARIA AND THE MOSQUITO.

Lee's Summit, Mo., *December 14, 1898.*

To the Editor of the New York Medical Journal:

Sir: In your issue of December 10th I notice a very able and exhaustive communication by Dr. L. H. Warner on the subject of the *Plasmodium malariæ* and the propagation thereof by the mosquito.

That the mosquito carries this plasmodium in some manner in malarial districts may be true, but I desire to call attention to the fact that in the large valleys of the Rocky Mountains, such as the San Luis of Colorado and the Judith of Montana, where wild grasses are grown for hay by irrigation, mosquitoes also grow to perfection, insomuch that in mowing the meadows the drivers and teams must be protected by netting on account of the painful annoyance of the myriads of mosquitoes, while there is not a germ of malaria in all that realm. The high altitude of those regions will not allow of the existence of various disease-producing bacteria. The carcasses of dead animals dry into the semblance of mummies because of the absence of putrefactive bacteria, and a case of ague was never known to be contracted in that dry, cold, and healthful climate.

T. F. Parker, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twentieth Annual Congress, held in Brooklyn, N. Y., Monday, Tuesday, and Wednesday, May 16, 17, and 18, 1898.

The President, Dr. Thomas R. French, of Brooklyn, in the Chair.

(Concluded from page 936.)

The Uvula in its Relations to Various Abnormal Conditions.—Dr. George B. Hope read a paper with this title. (See page 958.)

Dr. Makuen: One of the oldest and most prominent members of this association, the late Dr. Harrison Allen, once visited me on account of some irritation in his throat and a resulting defect of voice. I found a very much relaxed uvula and palate, the uvula being over an inch in length and hanging on the tongue. I recommended the removal of the tip of it, and he said that he had never done the operation. I was much surprised to hear that a man with his experience had never removed the tip of the uvula.

Dr. Hopkins: The value of the galvano-cautery for removing the uvula should not be overlooked. By its use there is no stripping of mucous membrane, leaving the muscle bare, as often occurs when the tip of the uvula is seized with a forceps; there is no bleeding; the after-soreness is less than follows cutting, and a symmetrical stump is easily secured. Dr. DeBlois called attention to this use of the galvano-cautery at the meeting of the association in 1893.

Dr. Farlow: There is a condition of the uvula which is often mistaken for relaxation, and that is the irregular or unequal development of the two sides of the azygos uvulæ muscle. The uvula hangs toward the side which has the greater amount of muscular fibres, simulating a paretic or relaxed condition.

Dr. Asch: While on the subject of operation, the reader said that the best method was to pass a thread through the tip of the uvula and allow the patient to hold the spool of thread in his hand and then for the operator with scissors and forceps to remove the amount desired.

In many cases this is not possible, especially in children. Therefore it is desirable to have some instrument which can be used without assistance or pain. I have for some years been using a guillotine with Stark's handle. The uvula drops into the opening and you see exactly how much you wish to take off; then inclining the handle downward, it is cut off with the raw surface presenting posteriorly. There is very little trouble in healing such a wound.

Dr. Mulhall: Many practitioners blunder in this little operation. I lately saw a case which took four weeks to heal. The reason was that the uvula was cut off too close to the palate and the sides of the stump were constantly dragged apart by the crossed fibres of the azygos uvulæ muscle in the act of swallowing. It is malpractice to cut this muscle.

Dr. Watson: Several weeks ago I saw a case of varicose veins of the uvula and soft palate. The uvula was fully two inches long, extending below the entrance to the larynx, and in order to be seen had to be hooked up out of the throat. The patient complained only of a lump in the throat. The uvula was made up of knotty bunches of enlarged veins, the same condition extending to the soft palate above the uvula. I have never seen a case resembling it, nor have I ever read of such a condition. That condition would be a source of danger in amputation of the uvula.

Dr. Newcomb: I recall the ingenious expedient to check bleeding in the case reported by Dr. Carroll Morgan, where, after staphylotomy, he applied a little clip, such as is used in holding up the shirt sleeves and sold in all the men's furnishing stores, and thus checked the hæmorrhage.

Book Notices.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Dreizehnte Lieferung. Mit 12 Abbildungen im Text. Pp. 353 to 592. Vierzehnte Lieferung. Mit 9 Abbildungen im Text. Pp. 593 to 832. Fünfzehnte Lieferung. Mit 15 Abbildungen im Text. Pp. 833 to 979. Sechszehnte u. Siebzehnte Lieferung. Mit 69 Abbildungen im Text. Pp. 576. Jena: Gustav Fischer, 1898.

This installment of the *Handbook of Therapeutics* comprises parts of the sections on the treatment of diseases of the digestive organs and of the nervous system. Although it shows the inequalities which must exist in every work of composite authorship, it sustains, in general, the high degree of excellence characteristic of the previous parts. The treatment of the diseases of the gastro-intestinal tract and of the peritonæum is described by Penzoldt in a series of chapters which presents a large amount of information in a remarkably condensed, simple, and convenient form. The surgical treatment of the same organs is given more briefly but with sufficient fullness by Graser. Penzoldt's chapter on perityphlitis is the least satisfactory to the American reader. After reading it he will conclude either that the form of the disease prevalent in Germany differs from that existing here, or that our knowledge of the disease is years in advance of the Germans; certainly he would not advocate the untried use of opium in the large doses recommended by Penzoldt, nor would he assent to the latter's suggestion that the large proportion of severe operative cases in America is due to the American practice of administering violent cathartics in the early stages. Graser's views on the surgical treatment of this disease approach closely those of American surgeons, although the use of the exploring needle to locate pus after cutting down to the parietal peritonæum and before opening it must be condemned.

The chapter on pelvic inflammation in women was written by von Winckel; those on the diseases of the solid abdominal viscera by Lichtenstein, Riedel, and Madelung.

The section devoted to diseases of the nervous system begins with several valuable chapters on general methods of treatment. An interesting introductory chapter on general prophylaxis and dietetics, by Stintzing, discusses the general management of the neuropathic disposition, acquired or inherited; the hygiene and dietetics of childhood and youth, especially mental growth and training; the choice of occupations; infections; overexertion; and excesses. The "rest cure" is described by Binswanger. Liebermeister gives a very brief outline of the therapeutic use of suggestion and hypnotism; von Hösslein, a good physiological and therapeutic study of hydropathy. The remaining general chapters on balneotherapy, climatotherapy, electrotherapy, and medicinal treatment are contributed by Stintzing.

Von Strümpell's delightfully readable style is easily recognized in the chapter on general neuroses. This writer has shown that it is possible for a German savant to write without forming his sentences into Chinese puzzles. Would that his example might be followed, and that clearness and simplicity might become fashionable virtues in German scientific writings.

This installment closes with chapters on trophic-vaso-motor and occupation neuroses, by Möbius, and on disturbances of speech and peripheral neuralgias, by Gutzmann and Edinger.

A Manual of Bacteriology, Clinical and Applied. With an Appendix on Bacterial Remedies, etc. By Richard T. Hewlett, M. D., M. R. C. P., D. P. H. (Lond.), Assistant in the Bacteriological Department, etc. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. viii–439. [Price, $3.]

This is a carefully prepared volume covering all the branches of the subject, with the limited detail which restricts the work, as its title indicates, to the use of the laboratory worker. It embodies several features which recommend it in this field. It is especially complete in the point of diagnosis by means of staining and cultural methods, and in this respect approaches at times the detail required in works on clinical diagnosis, and usually sought in such works only. In this feature it is superior to any similar manual with which we are acquainted.

The author devotes more attention also to the blastomycetes, hyphomycetes, and protozoa than is usual in works of this class. We find it also a more satisfactory reference work on the less important species than most manuals of this sort.

It is gratifying, too, to note the evidences of care in the arrangement of the subject matter, phraseology, paragraphing, etc., features in which the work shines in comparison with the raggedness of some American text-books.

On the other hand, the treatment of many subjects is somewhat inadequate. The chapter on malaria calls for immediate revision. The pages devoted to section-cutting are out of their province and are needed for descriptive bacteriology. The photomicrographs of bacteria are generally very poor.

With these evident defects it is not likely to supplant other similar treatises now well known and in general use in this country, but its many excellent features will doubtless recommend it to the English student.

An Epitome of Human Histology. For the Use of Students in Connection with Lectures and Laboratory Work. By ARTHUR W. WEYSSE, A. M., Ph. D., Instructor in Biology, Massachusetts Institute of Technology, Boston. New York, London, and Bombay: Longmans, Green, & Co., 1898. Pp. ix–90.

IN this volume the writer presents in very condensed form the main histological features of the tissues and viscera, with the object of aiding the student in a review of the subject during and after his laboratory course. It is one of many short text-books adapted to the needs of the author's students, but hardly suitable for general use. The volume lacks illustration, and is to be used only in connection with a text-book. The work of the publishers, in printing and binding, may serve as a model.

Student's Histology. A Course of Normal Histology for Students and Practitioners of Medicine. By MAURICE N. MILLER, M. D., Late Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Revised by HERBERT U. WILLIAMS, M. D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Third Revised Edition. Profusely Illustrated. New York: William Wood & Co., 1898. Pp. xiv–259. [Price, $2.]

THE difference between this and most other short text-books of histology lies in the fact that it is written entirely from the student's standpoint, and treats in detail of the practical difficulties encountered by the student in pursuing this study in the laboratory. One fifth of the volume is devoted to elementary description of and instruction in the details of microscopical technics, including the use of the fine adjustment, the way to sharpen a knife, the new and some of the old methods of preparing, staining, mounting, and even labeling of sections, the care of the microscope and the ever necessary cleaning of lenses, and the characteristics of cotton fibres and air bubbles. All this is very practical and will save the student much difficulty if he can be induced to read it.

The description of tissues is written with a view of making it easy for the student, and the author has been very successful in this attempt. The diagrammatic sketches and more accurate drawings, as seen, for instance, in the description of the liver, ought to enable the student to understand the histology of the viscera without further assistance. All but the most elementary facts in histology are omitted, and on this account the book would not suffice for the more extended courses given at some medical colleges. Yet, for some reason, the author inserts a few pages on the enumeration of blood cells, misnaming the Ehrlich triacid solution.

For its particular purpose as an elementary text-book and laboratory guide, specially adapted for the author's students, the volume must prove most satisfactory, but is in no sense a book for even ordinary reference.

Histology, Normal and Morbid. By EDWARD K. DUNHAM, Ph. B., M. D., Professor of General Pathology, Bacteriology, and Hygiene in the University and Bellevue Hospital Medical College, New York. Illustrated with Three Hundred and Sixty-three Engravings. Philadelphia: Lea Brothers & Co., 1898. Pp. 7 to 448. [Price, $3.25.]

A LARGE part of the making of many recent medical text-books has consisted in the successful choice of illustrative drawings, as it is obviously impossible for one author to produce originals of all the illustrations demanded by a text-book of histology or pathology. In this respect the author of the present work has been pre-eminently successful. He has collected a series of histological sketches that is excelled in none of the many text-books on histology, and is equaled in very few in English medical literature. In the description of tissues and viscera the text is fully abreast with current knowledge of the subjects, and is sufficiently comprehensive to deal with most of the finer details of structure that may properly be brought to the attention of students. About two thirds of the volume are devoted to normal histology, and these chapters form an excellent text-book for the use of students in this subject.

Only one sixth of the book, seventy-seven pages, is given to pathological changes in the tissues and viscera, so that this part of the work is much less comprehensive than that devoted to the subject of normal histology. A beautifully illustrated chapter on tumors occupies fifty-nine pages and forms one of the main features of the volume. A final chapter treats of the simpler details of histological technics.

Dr. Dunham's work is therefore a somewhat new departure in the attempt to combine a student's text-book on microscopical pathology with that relating to normal histology. In such a combination there is at least one distinct practical advantage, that the student in his later work in pathology, requiring constant reference to the normal appearance of tissues and viscera, can at once refresh his memory by turning the pages of his text-book. On the other hand, it is possible that in the absence of a more complete text-book on special as well as general pathology the student's final knowledge may suffer from the somewhat condensed treatment of this very important subject. While this volume may stand, therefore, as a complete treatise on histology, it appears somewhat insufficient in the larger department, and probably can not for this reason meet with general adoption in the leading medical colleges.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., F. R. C. P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital, etc. Revised and enlarged by H. MONTAGUE MURRAY, M. D., F. R. C. P., Physician to Out Patients and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital. New (Eighth) American Edition. Thoroughly revised from the Eighth English Edition by WALTON MARTIN, Ph. B., M. D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, etc. Illustrated with Two Hundred and Sixteen Engravings, of which Six are in Colors, and a Colored Plate. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. 3 to 582.

THIS well-known and very popular text-book of pathology has been greatly improved in arrangement, subject-matter, and appearance by the work of its American reviser.

The reason of the popularity of Green's *Pathology* is that it combines the principles of pathology with the detailed facts of special pathology in a way that meets the requirements of a very large class of medical students. The work, however, has long abounded in anachronisms, the arrangement of subjects has been in many places illogical and unscientific, and in many departments it has failed to keep abreast with the many changes in and additions to our knowledge of pathology. It has been especially deficient in illustrations. The new revision has made improvements in each of these features, especially as regards arrangement and illustrations. The sections on scrofulous inflammation, the identity of the tubercle and lepra bacilli, asexual spore-formation, etc., which had long ceased to possess any value, have been omitted, and a short chapter on animal parasites has been inserted. Many new illustrations, chosen principally from Ziegler and Schmaus, form one of the most distinct additions to the volume.

Notwithstanding these changes, the work still abounds in minor defects, which are principally guarded and qualified statements of now well-established facts. Thus the statement that the ray fungus is supposed to be the cause of actinomycosis and the exclusive quotation from Israel's article of 1878 are somewhat misplaced with the discussion of artificial immunity and the elaboration of diphtheria antitoxine. Such defects can only be eliminated by a page-to-page revision.

In its main features, however, as now revised the work is fitted to maintain its former position as one of the more valuable text-books for the higher instruction of students in pathology.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A. M., M. D., etc. Containing the Pronunciation and Definition of over Twenty-six Thousand of the Terms used in Medicine and the Kindred Sciences, along with over Sixty Extensive Tables. Philadelphia: W. B. Saunders, 1898. Pp. 518. [Price, $1.25.]

This little dictionary bids fair to become exceedingly popular with both practitioners and students, for, besides the external advantages of convenient size, good type, and an attractive and durable binding, it contains an unusually large number of definitions. The subject matter is well arranged for quick reference, and the number of tables is considerable. Doses are given in both apothecaries' and the metric system, and the names of most of the newer drugs are to be found in this table.

A Pocket Medical Dictionary giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences. Including very Complete Tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilli, and Thermometric Scales, and a Dose List of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures. By George M. Gould, A. M., M. D. A New Edition, entirely rewritten and enlarged, including over Twenty-one Thousand Words. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. 9 to 530. [Price, $1.]

The second edition of this popular dictionary contains nearly ten thousand more words than were defined in the former edition, although the volume is but little increased in bulk. The evidences of careful revision are many and include a valuable supplement which gives a table of clinical eponymic terms.

Cleft Palate; Treatment of Simple Fractures by Operation; Diseases of Joints, Antrectomy, Hernia, etc. By W. Arbuthnot Lane, M. S. London: The Medical Publishing Company, Limited, 1898. Pp. 278. [Price, *5s.*]

This is a collection of clinical lectures which have been published elsewhere by the author from time to time. They are full of common sense, are very freely illustrated, and, being presented in compact and handy form, will doubtless be well received.

BOOKS, ETC., RECEIVED.

Nursing: its Principles and Practice. For Hospital and Private Use. By Isabel Adams Hampton, Late Superintendent of Nurses and Principal of the Training School for Nurses, Johns Hopkins Hospital, Baltimore, etc. Revised and enlarged. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 6 to 512.

The Yarn of the Yampa. A Transatlantic Cruise. By E. L'H. McGinnis. Illustrated. New York: The Outing Publishing Company, 1898. Pp. 17 to 160.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Neunzehnte Lieferung. Mit 13 Abbildungen im Text. Pp. 3 to 320. Zwanzigste (Schluss-)Lieferung. Mit 50 Abbildungen im Text. Pp. 321 to 625. Achtzehnte Lieferung. Mit 16 Abbildungen im Text. Pp. 577 to 862. Jena: Gustav Fischer, 1898.

Zeitschrift für diätetische und physikalische Therapie. Redigirt von E. v. Leyden und A. Goldscheider, in Berlin. Zweiter Band. Zweites Heft. Leipzig: Georg Thieme, 1898. Pp. 99 to 180.

Transactions of the American Orthopædic Association. Twelfth Session, held in Boston, May 17, 18, and 19, 1898. Volume XI.

Argument of Mr. E. N. Dickerson, of the New York Bar, before the Commission to Revise the Patent and Trademark Laws of the United States.

The Medico-legal Aspects of Hypnotism. By Sydney Kuh, M. D., of Chicago. [Reprinted from the *Journal of the Medical Sciences.*]

Suggestions regarding a Laboratory of Neurology and Psychology at the University of Pennsylvania. By Charles K. Mills, M. D., of Philadelphia. [Reprinted from the *University Medical Magazine.*]

An Essay on the Reduction of Obesity. A Reliable and Harmless Way to Diminish and Cure Over-fatness. By William T. Cathell, M. D., of Baltimore. [Reprinted from the *Maryland Medical Journal.*]

Amputation at the Hip Joint. By William B. Van Lennep, M. D., of Philadelphia. [Reprinted from the *Medical Century.*]

A Few Desultory Remarks on Femoral Hernia. By William B. Van Lennep, M. D. [Reprinted from the *Medical Century.*]

A Plea for Early Operation in Mammary Tumors. By William B. Van Lennep, M. D. [Reprinted from the *Hahnemannian Monthly.*]

Three Cases of Bladder Tumor. By William B. Van Lennep, M. D. [Reprinted from the *Hahnemannian Monthly.*]

An Unusual Case of Abdominal Hæmorrhage. By William B. Van Lennep, M. D. [Reprinted from the *North American Journal of Homœopathy.*]

A Treatise on "Unripe" Cataract. By William A. M'Keown, M. D., M. Ch., Surgeon to the Ulster Eye, Ear, and Throat Hospital, Belfast, etc. Illustrated by Nine Plates, containing Sixty Original Drawings. London: H. K. Lewis, 1898. Pp. xii–13 to 202. [Price, 12*s.* 6*d.*]

An Atlas of Bacteriology: Containing One Hundred and Eleven Original Photomicrographs with Explanatory Text. By Charles Slater, M. A., M. B., M. R. C. S. Eng., F. C. S., Lecturer on Bacteriology, St. George's Hospital Medical School; and Edmund J. Spitta, L. R. C. P. Lond., M. R. C. S. Eng., F. R. A. S., Formerly Demonstrator of Anatomy, St. George's Hospital Medical School. London: The Scientific Press. Philadelphia: J. B. Lippincott Company, 1898. Pp. xiv–120. [Price, $2.50.]

La suture intestinale. Histoire des différents procédés d'entérorraphie. Par Félix Terrier, Professeur de médecine opératoire à la Faculté de médecine, etc.; et Marcel Baudouin, Préparateur du cours de médecine opératoire à la Faculté, etc. Cours de médecine opératoire. Leçons professées pendant le semestre d'été 1898, à la Faculté de médecine de Paris. Avec 587 figures dans le texte. Paris: Institut de bibliographie scientifique, 1898. Pp. viii–415. [Prix, 15 francs.]

Radioscopie et radiographie cliniques. Par le Dr. L. R. Régnier, Chef du laboratoire d'électrothérapie et de radiographie de l'hôpital de la Charité. Avec 11 figures dans le text. Paris: J.-B. Baillière et fils, 1899. Pp. 5 to 95.

Transactions of the American Gynæcological Society. Volume XXIII. For the Year 1898.

Fourteenth Annual Report of the Bureau of Animal Industry for the Fiscal Year 1897. United States Department of Agriculture.

The Medical Record Visiting List or Physicians' Diary for 1899. New Revised Edition. New York: William Wood & Company.

Transactions of the American Otological Society. Thirty-first Annual Meeting, July 19, 1898. Volume VII, Part I.

Eleventh Annual Report of the Managers of the St. Lawrence State Hospital to the State Commission in Lunacy.

Transactions of the Arizona Medical Association. Seventh Annual Session, held in Tucson, May 17 and 18, 1898.

On So-called Spasmodic Asthma. Considered from an Entirely New Standpoint with Regard to its Radical Cure. By Ernest Kingscote, M. B., of Edinburgh. [Reprinted from the *Lancet.*]

Are Complete Castrates Capable of Procreation? By F. R. Sturgis, M. D. [Reprinted from the *Medical News.*]

Vicarious Menstruation, with a Report of Cases. By Robert E. Coughlin, M. D., of Brooklyn. [Reprinted from the *Medical Record.*]

The Mutual Relations of the Alienist and Neurologist in the Study of Psychiatry and Neurology. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *American Journal of Insanity.*]

The Causes and Conditions of Pulmonary Tuberculosis, and how to Avoid Them. By Edward O. Otis, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

The Radical Cure of Inguinal Hernia by Fowler's Method. By H. O. Walker, M. D., of Detroit. [Reprinted from the *Leucocyte.*]

Theatre Sanitation. By W. P. Gerhard, C. E. [Reprinted from the *Sanitarian.*]

Miscellany.

Cocaine in Rigid Os Uteri.—Dr. Sydney W. May (*British Medical Journal*, November 26th) says that he had just read the latest letters on the subject in the *British Medical Journal* when an urgent message came from a woman in labor. On arrival he found that it was a case of eclampsia, the convulsions following one another in quick succession, the woman being perfectly unconscious, and the pulse very weak and thready. She was a primipara. He gave her a rectal injection of hot water, injected half a grain of morphine, and sent for assistance, intending to give chloroform and terminate labor as quickly as possible. While waiting he thought of the cocaine, as the os was very rigid and only slightly dilated. As soon as the chloroform administration was begun he applied the cocaine, and by the time she was sufficiently under its influence he could pass his hand (cone-shaped) into the os, and within about three minutes had the forceps on. He thinks it is in cases of this sort that the cocaine will be found most useful.

Excision of the Sacro-iliac Joint.—Dr. J. J. Buchanan (*Memphis Lancet,* December) says that complete excision of the sacro-iliac joint has been very infrequently performed, perhaps owing to the prevalent opinion that the joint is accessible only with difficulty and the operation likely to be unsatisfactory. It is the purpose of his paper to show that this joint is easy of access, and its excision in proper cases an extremely satisfactory procedure.

Sacro-iliac tuberculosis occurs most frequently in young adult life and, like tuberculosis of other joints, may or may not be attended by the formation of the tuberculous abscess. Weller Van Hook, of Chicago, in his masterly article in the *Annals of Surgery*, 1888 and 1889, has shown that ninety-four per cent. of the "dry" cases recover, while without operation but eight per cent. of the abscess cases are saved.

The early symptoms of the disease are slight stiffness about the gluteal region, some discomfort in standing, tenderness over the joint, and pain over the articulation or extending down the thigh. The later symptoms are increased severity of pain, which radiates along the sciatic, anterior crural, obturator or genito-crural nerve, a limping gait, and especially pain when the ilia are crowded together by pressure approximating the anterior superior spinous processes.

When a tubercular abscess forms, it may make its way in front of or behind the articulation and appear at Poupart's ligament, at the upper part of the thigh, at the sciatic notch, behind the great trochanter, in the ischio-rectal fossa, in the lumbar region, in the gluteal region, or over the joint itself.

Treatment of the disease, before the formation of abscess, consists in rest of the joint, especially to be gained by a supporting belt around the pelvis, and general tonics. After the formation of abscess, complete eradication of all tubercular tissue, and particularly excision of the diseased joint, under strict asepsis, and packing and drainage of all accessory cavities, appears to be the most rational and hopeful plan.

The author next records two cases in which excision of the joint was practised successfully. In the first case, however, the disease being of long standing and affecting other parts of the body, the patient subsequently died, probably from pulmonary tuberculosis. In the second, however, the result was in every way satisfactory, and the patient rapidly gained flesh and strength and the use of the limb.

The technique of Dr. Buchanan's operation is as follows: 1. Locate the joint as follows: (*a*) With the thigh fully extended, draw a line from the posterior superior spinous process of the ilium to the prominence of the great trochanter. (*b*) Fix a point one fourth of the distance along this line (in the adult about an inch and a half or an inch and three quarters) from the spinous process. (*c*) Pass a drill at this point through the soft parts into the bone. 2. Make a free incision to the muscle along the line marked, with its centre at the drill hole. This incision corresponds with the general direction of the glutei muscles, whose fibres may be separated to the bone without cutting. 3. Having cleared the bone of muscular fibres for a sufficient space around the drill hole, perforate the bone with a trephine of an inch or an inch and a quarter in diameter, with its centre at the drill hole. 4. With the rongeur forceps remove enough more of the ilium to fully expose the diseased joint, the sacral portion of which can be cleared with the curette and gouge. 5. Lay open all tuberculous abscess cavities as fully as the anatomical conditions will permit, and curette and pack them with iodoform gauze. 6. Leave no dead spaces. 7. Suture the soft parts accurately, except at points of exit for the gauze. 8. Observe strict asepsis throughout.

The Pathology of Fever.—Dr. H. A. Minor (*Journal of the Mississippi State Medical Association*, December), in an article read before the association, defines fever as "a cerebro-spinal irritation with a ptomaine (toxine?) as its exciting cause and a bacillus as the predisposing (remote?) cause." He says:

The principal symptoms of fever are due to this special irritation of that part of the cerebro-spinal system that lies between the pons varolii above and the fifth intervertebral space below, and these symptoms are to be observed most obviously in the respiratory, digestive, and circulatory organs, which are all supplied with nerve force from the area above named. The coöperation of the great sympathetic nervous system is indispensable to the proper performance of these functions. These two nervous systems, the cerebro-spinal and the sympathetic, act toward each other much as do the flexors and extensors of the limbs; they mutually act and react upon each other, cooperating, coordinating, and correlating their forces. The former controls the voluntary muscles, the latter the involuntary. The former tends to dilate the blood-vessels, the latter to contract them. The former to lower the arterial blood pressure, the latter to raise it.

Fever he holds to be due to the disturbance of balance in the correlation of these two nervous systems, and "each specific fever has its own peculiar manner of disturbing this normal correlation of forces," incident to the selective action of the ptomaine (toxine?).

All fevers, he says, have two main foci of diseased action: 1. The peripheral or visceral focus which is the seat of the bacilli and the laboratory where they manufacture their toxine. 2. The central focus or that portion of the cerebro-spinal system upon which the toxine chiefly concentrates its action. But whatever other parts it may affect, that portion of the nervous centre which presides over circulation, respiration, and digestion is almost invariably prominently subjected to this poisonous irritation.

Up to the point when the toxine begins to be absorbed there is no fever, and the disease is local. It only becomes fever when the central focus is affected. Consequently local treatment adapted to ridding the part affected of bacilli and their spores, and washing away the toxines before they can be absorbed, tends to abort the fever more or less successfully according to its completeness.

He would divide fevers into classes based upon the habitat of their respective bacilli: 1. Those whose bacilli inhabit the alimentary canal—*e. g.*, typhoid, yellow, asiatic cholera, epidemic dysentery, etc. 2. Those when the lymphatic system is the seat of location—*e. g.*, scrofula and septicæmia. 3. Those when the blood is the seat—*e. g.*, malaria and probably the exanthemata. 4. Traumatic fevers where the seat of the bacilli is in the wound.

The indications for treatment, therefore, in the early stage would be to locally attack and subdue the bacilli and cause the expulsion of their products before they can be absorbed. For instance, in the first class the contents of the intestinal canal should be kept alkaline, as bacilli do not ordinarily thrive in such a medium. Food detritus should be briskly cleared away and not allowed to remain and putrefy. Pure water should be given *ad libitum*, lavage practised, etc.

From Two Points of View.—*Practical Medicine* for December gives the following sage advice: "Whistle more and worry less." That's all right for the whistler, but what about the other fellows? Aren't they worried enough without his whistling? Or are we all to whistle together?

The Flea as the Carrier of Plague.—M. Simond (*Temps*, November 5th; *Lyon médical*, November 20th) has published in the *Annals of the Pasteur Institute* some researches which seem to establish the facts that infection by the digestive tract is very difficult, while that by contact of cutaneous wounds or the pulmonary mucosa is very exceptional. The author thinks that the putrefied rat does not communicate the disease directly either to its congeners or to man. It is the flea which absorbs the bacillus. This idea squares with the rôle of the fly in respect of anthrax and of the mosquito in yellow fever and malaria.

Osteomyelitis.—Dr. M. Goltman (*Medicine*, December) sums up a paper on this subject as follows:

"1. Eliminating the diathetic bone affections, osteomyelitis is the most frequent inflammatory disease of bone. 2. Acute primary periostitis and osteitis are practically unknown, and occur only as secondary affections to osteomyelitis. 3. The negro race, childhood and early manhood are most prone to the disease. In negroes a history of syphilis is nearly always elicited. 4. It is an acute disease depending upon infection of the myeloid tissue by pus micro-organisms, which may be introduced into the system through small boils or abraded surfaces, or follow in the wake of almost any of the acute infectious diseases. 5. A *locus minoris resistentiæ* is probably always present, and a history of some slight trauma is usually elicited. 6. It is most commonly observed about the femur and tibia, in the region of the lower and upper epiphyses respectively. 7. The diagnosis is always more or less difficult, but this disease should always be thought of in sudden acute conditions with symptoms of rapid and severe sepsis, especially when occurring in the young during or following an infectious disease. 8. Pain, localized tenderness, and loss of function, together with symptoms of sepsis, almost justify the diagnosis of osteomyelitis. 9. When once the diagnosis is established the indications, first and last, are the conservation of the patient's vitality and early radical operation. 10. Pain, tenderness, and loss of function in other bones, occurring in the course of osteomyelitis, are evidence of extension of the infection, and should be met by prompt operation. 11. Multiple osteomyelitis being nearly always a fatal infection, operation should be done at once, as it offers about the only chance to the patient. 12. In amputations the medullary canal should be carefully curetted and drainage tubes inserted in preference to gauze. 13. In performing necrotomy preserve the integrity of the periosteum and avoid important nerves, arteries, and nutrient vessels. 14. Removing a sequestrum is not sufficient; the canal should be completely freed of all infectious material and thoroughly asepticized. 15. Should synovitis be present, always determine the character of the effusion before operative interference. Catarrhal synovitis rapidly disappears after the diseased medullary canal has been properly disinfected. Suppurative arthritis may call for drainage, resection, or amputation. 16. Some loss of blood is to be encouraged, especially in severe septic cases, the loss being easily replaced by injecting decinormal salt solution, which will also dilute the remaining poisons. 17. Retention apparatus should be used from the first to prevent deformities, dislocations, and fractures, and should be continued in necrotomy cases until granulation is complete, when crutches are indicated. 18. Active stimulation, opiates to relieve pain, nourishing diet, good surroundings, and careful attention to the emunctories are essential here as in all other acute diseases. 19. Temporizing in the presence of this disease offers nothing, while early and radical operation relieves pain, allows the removal of all infected tissue, prevents extensive necrosis, guards against fatal septicæmia, prevents extensive destruction of periosteum, cuts short the attack, and expedites recovery."

White Bread versus Brown Bread.—Dr. Lauder Brunton and Dr. Tunnicliffe (*British Medical Journal; Dietetic and Hygienic Gazette*, December) published in the current volume of the *St. Bartholomew's Hospital Reports* an instructive communication on the relative digestibility of white and brown bread. On the strength of certain experiments, which they describe in full, they feel justified in concluding that the higher nutritive value which might on purely chemical grounds be ascribed to brown bread can not be maintained from the physiological side. With regard to fats and mineral constituents on the other hand, distinctly less of the nutritive materials actually get into the blood in the case of brown than of white bread. White bread is, weight for weight, more nutritious than brown. It thus would appear that the preference given by operatives in large towns to white bread has to a certain extent a sound physiological basis. In the case of people with irritable intestines white bread is to be preferred to brown. In the case of people with sluggish bowels brown bread may be preferable to white, as it tends to maintain peristalsis and insures regular evacuation of the bowels. If the proportion of mineral ingredients, and especially of lime salts, in other articles of food or drink is insufficient, brown bread is preferable to white. It is possible that in the case of operatives living chiefly upon bread and tea, the preference for white bread which prevails may be responsible, in part at least, for the early decay of the teeth. An abundant supply of mineral constituents is especially required in suckling women and in growing children, in order to supply material for the nutrition of the young. In such cases, if mineral salts, especially those of calcium, are supplied by other food stuffs, drinks, or medicines, brown bread is preferable to white. Lastly, the authors are of opinion that if the dietary be insufficient in fat, or if the patient is unable to digest fat readily in other forms, brown bread may possibly be preferable to white. The authors rightly dwell on the absurdity of taking the more chemical composition of a food stuff as an index of its nutritive value. "A stick of charcoal, the atmospheric air, a little water, and some sea salt, contain all the elements of a typical diet and in ample quantity." Hence it is not always a question of what a food stuff contains, but how it contains it.

Formula for Milk Modification in the Home.—Westcott (*Archives of Pædiatrics*, January; *Medical Times*, December 10th) believes that a mixture of cream and whole milk is more reliable than a mixture of cream and under milk, and gives the following formula:

Cream (twelve per cent.) .	7 ounces 2 drachms;
Whole milk	8 ounces 1 drachm;
Limewater	2 ounces;
Sugar of milk (dry)	$1\frac{3}{4}$ ounce;
Water	22 ounces 5 drachms.

This formula gives forty ounces of a mixture containing three per cent. of fat, six per cent. of sugar, and one and a half per cent. of proteid. The advantage of this formula is that the fat and proteid may be gradually increased or diminished without frequent changing of the whole formula. To do this it is simply necessary to alter the amount of milk and cream in the mixture.

The Treatment of Burns with Chlorate of Potassium.—Lutaud (*Journal de médecine de Paris*, November 20th) advocates the following method: The vesicles are first opened, and poultices applied every four hours to the affected part until the epidermal laminæ are entirely detached. A pledget of absorbent cotton soaked in a saturated solution of chlorate of potassium is next applied and covered with a layer of oil silk. A small quantity of glycerin may be added to the chlorate of potassium solution to prevent the cotton from sticking to the wound, or better still the salt may be made into an ointment with lard. Déclat's "glyco-phénique" he considers perhaps better than pure glycerin, owing to the markedly sedative action of the acid on burns.

Another Terror for Physicians.—*Practical Medicine* for December, quoting the *Peoria Medical Journal*, says that a physician in Peoria recently brought suit to recover fees before the magistrate's court. A jury was summoned, and, after hearing the testimony, not only disallowed the account, but, upon the mother's plea that her daughter was not benefited, actually assessed against the attending physician the sum of thirty dollars, to reimburse the mother for services as nurse in the case.

Overcrowded Teeth as a Possible Cause of Blindness.—The *International Dental Journal* for December, quoting the *Dental Headlight*, is authority for the statement that a medical journal reports a case of blindness caused by crowded teeth. The patient, a boy of eleven years, was suddenly stricken blind. Several physicians were called in consultation, and one of them, happening to notice the crowded condition of the lad's teeth, advised the extraction of several of the teeth, stating that upon such action depended the child's restoration to sight. This advice was acted upon, and in a few days the boy's sight was completely restored.

Researches into the Physiological Action of Serpent Serum.—M. Camus and M. Gley (*Archives internationales de pharmacodynamie*, vol. v, fasc. 3 and 4, 1898) thus sum up the conclusions of their very exhaustive researches: "These experiments on immunization against serpent serum have enabled us to establish by very simple proofs, *in vitro*, certain very interesting data, namely, the fact of the direct reaction of an antitoxine upon a toxine; of the attenuation of a toxine by heating and the non-attenuation of the antitoxine by the same agent; of the formation of an antitoxine by a reaction of the organism produced without the intervention of the corresponding toxine; of the method, by the study of a simple cellular reaction, of determining the appearance of the antitoxine, and of following the variations in the activity of this substance; of the determination of the nature of the two kinds of immunity, the natural, which is a property of the cell, and the acquired, which depends on the properties of an antitoxine, and on the chemical neutralization of the toxine by this antitoxine; and of the determination in acquired immunity itself of a perfected mechanism in addition to this chemical mechanism, which is nothing else than immunization of a cytological character like natural immunity."

One Way to Keep a Refractory Patient in the House.—Discussing the subject of smells, the *American Medical Compend* for December refers to a practical use to which the vile odor of tellurium was put by a physician whose patient, a lady, refused to take an absolutely necessary rest because she was so fond of being always "on the go" in society. He administered a pill containing a small quantity of tellurium, which so affected her breath that she was unable to appear in public for a month. The lady never guessed the cause of her trouble. We do not give this method our unqualified indorsement.

Views of Toronto.—The *Canadian Journal of Medicine and Surgery* for December "endeavors to fulfill its promise by inserting in this issue a few glimpses of Toronto." The "few glimpses of Toronto" consist of thirty-one photographs well selected and excellently reproduced.

Joint Troubles and their Relation to Venereal Diseases.—Dr. McCurdy (*Annals of Surgery*, December) sums up a paper on Venereal Arthropathies as follows: In conclusion, it would appear: 1. That many of the cases of acute synovitis of adults are gonorrhœal, and should have aspiration, irrigation and iodoform, or arthrotomy. 2. That many of the cases of epiphyseitis of adults are associated with secondary syphilis, and should have protiodide of mercury; and with tertiary syphilis, should have iodide of potassium, and in neither condition should a knife be used. 3. That in many of the cases of hip-joint and Pott's disease, and other bone diseases of children, the patients are suffering from hereditary syphilis, and should be given the iodides. 4. That in all cases of the so-called bone and joint disease iodide of potassium should be given, whether a specific history can be obtained or not.

Luxation of Eye from Blowing the Nose.—Schanz (*Beiträge zur Augenheilkunde*, Heft xxxiv; *British Medical Journal*, December 10th) reports the case of a glass blower who, while blowing a glass, had the gas jet blown into his face by a puff of wind; this caused him to sneeze and violently blow his nose; the eye became displaced forward out of its socket, but was replaced, with some force, by a fellow workman. The patient then went to consult Schanz, who expressed some skepticism as to his story; thereupon he immediately blew his nose, and the eye proptosed. Schanz pressed it back into place, the lids being tense with air and crackling when touched. The air could be partly expressed. In the course of a week the emphysema had entirely subsided, and some inflammation of the disc had also disappeared, and vision was normal. The patient had always been accustomed to inflate his cheeks, and thence expel the air in the process of blowing glass, and not directly from the lungs. This had led to an increase in the patency of Steno's duct, so that the parotid gland became inflated at the same time as the cheeks. Examination of the nose failed to reveal where its walls were perforated.

Lactophenin as a Hypnotic.—A. Cristiani (*Il Manicomio moderno*, 1898, No. 2; *British Medical Journal*, December 10th) recommends the use of lactophenin as a hypnotic. He gives it in doses of from fifteen to forty-five grains suspended in sweetened mucilage in the evening an hour after food. He has employed it in over two hundred cases of insanity accompanied by insomnia, and concludes that it has a hypnotic action which is certain, rapid, intense, prolonged, and harmless. The sleep which it produces is deep, calm, and restorative, and lasts generally from four to nine hours. Its use is not followed by any unpleasant phenomena, such as headache and *malaise*. The drug has no cumulative action. It may be safely used even when the patient's physical condition is weak. Like other hypnotics it has failed to act in certain cases, and in some in which at first it was successful it has after a time entirely lost its power. He considers that it is the hypnotic *par excellence* in the insomnia of the insane accompanied by serious involvement of the physical health in any form.

The "Independent Medical College of Chicago."—We learn from the *Indian Medical Record* for November 16th, quoting the *Times of India*, that "it is proposed to hold an examination in Bombay in December next for the M. D. degree of the Independent Medical College of Chicago." Not unnaturally our contemporary complains of this intrusion, and "would be glad to hear more of the gentleman's credentials and to see the names of the representative committee appointed by the college authorities" "under whose supervision" the examination is to be held. We also are curious to know what the Independent Medical College of Chicago is.

Insufflation of the Stomach for the Diagnosis of Gastric Tumor.—M. Guinard (*Presse médicale*, December 3d) says that insufflation of the stomach will often in difficult cases enable us to determine not only whether the stomach is the seat of a neoplasm, but also its situation. The India-rubber tube (well vaselined) of a thermo-cautery is swallowed by the patient as in lavage of the stomach. A few pressures of the bulb will then inflate the stomach. If the distention becomes painful it will cease on the patient rising from the recumbent to the sitting position.

By this means a tumor hitherto undiscernible may be discovered; while if a tumor which was perceptible on palpation disappears after inflation, it is clear that it is situated on the posterior wall of the stomach.

Bromide of Strontium in Epilepsy.—Dr. Antony Roche (*Lancet*, October 15th) recurs to the question of bromide of strontium in epilepsy, concerning which he published notes in 1894 and 1896. He has not since those periods met with any case in which the bromide of strontium given in the doses and by the method indicated by him has failed to diminish the number of attacks. He has not found the use of this drug followed by any bad consequences, which gives it an enormous advantage over the potassium salts. This, he says, is due to the fact that "potassium is poisonous in large doses while strontium is not." He has administered three drachms daily for several weeks without ill results. He usually begins the treatment by ordering half a drachm of the bromide of strontium night and morning in some vegetable tonic infusion. Should that dose not control the attacks he rapidly increases it till he has found the quantity which will suit the individual case. He directs the patient to take thirty grains at once in those cases where there is any warning of the attack, and to repeat this every hour if required. By this means he has no doubt the attack has been frequently prevented. He repeats that in his experience, in order to get the full benefit of the medicine, he has found it necessary to give it in large doses and to continue it for a long period. Since his first communication several members of the profession have written to him saying that in their cases they have not found the same good results. He invariably finds that in these cases the dose given has been too small, and consequently that his practice has not been followed.

Dr. Henry S. Upson (*Cleveland Medical Gazette*, October), writing on the Therapeutics of Epilepsy, confirms this treatment. He says that the most common contraindication to the bromides is an irritable stomach. Such a weakness is as serious a bar to the use of drugs in epilepsy as it is in syphilis. The bromide of strontium is, in some cases, invaluable. In fact, it acts so well that it is a question whether it may not finally supplant the other bromides in all cases in which its cost does not rule it out. It must be given in rather larger doses than the potassium salt. The average amount is about sixty grains a day. General depressing effects are much less, the functions of the stomach are not so much disturbed, and if the amount is carefully graded for the patient in hand the results are certainly as good as from the other bromides.

The Clinical Aspects of Arterial Pressure.—Dr. George Oliver (*Edinburgh Medical Journal*, December) thus sums up a very exhaustive consideration of this important subject:

"From the foregoing survey of the physiological causes of variation of the blood pressure, it is obvious that all the conditions of life, except those of rest and sleep, raise the arterial pressure. They all imply physiological work of one kind or another; and physiological work has as its invariable concomitant a rise in the arterial blood pressure. Clinical observation of the blood pressure should aim, as far as possible, in excluding the influence of physiological variation by recording it in a state of rest. Exercise and emotional excitement are by far the most prominent causes of disturbance, all others being comparatively insignificant. It has been pointed out that physical exercise offers no practical difficulty, for its effects quickly subside. The disturbing influence of emotion is, however, sometimes not so easily dealt with, and in certain sensitive subjects it can not be altogether excluded. In such exceptional cases no reliable readings of the blood pressure can be taken. In the vast majority of subjects, however, emotional disturbance is a purely transitory affair, and without significance as a source of error. Finally, it is of great importance, in order to make the observation of blood pressure as reliable and as accurate as possible, to preserve strict uniformity in the gravity conditions."

The Treatment of Acute Yellow Atrophy of the Liver.—Dr. David Robertson Dobie (*Edinburgh Medical Journal*, December) closes a paper on a case of this disease read before the Edinburgh Medico-chirurgical Society, as follows:

"In dealing with the treatment of this condition, I must subdivide the subject into three heads: (1) Treatment of the premonitory symptoms; (2) treatment of the hæmorrhagic state; (3) treatment of convalescence.

"1. *The treatment of the premonitory symptoms* resolves itself into a very simple matter, and anything of a palliative nature to relieve the nausea, sickness, vomiting, and thirst, must be appreciated by the intensely congested mucous lining of the digestive tract.

"2. *The treatment of the hæmorrhagic state* is the most serious duty we have to perform. We know the dangers of delay in a stage like this, and we must guard against the loss of the living corpuscles among the dead. I have only to thank the administration of the oil of turpentine for saving the life of this patient. Its actions and uses are manifold; as an antiseptic it is in daily use, and in small doses internally, such as fifteen to twenty minims, it quickens the pulse, raises the animal heat, and even produces exhilaration. Now, this is just what actually did take place. The patient felt the medicine 'go through him.' When this action is steadily kept up, as it was in the case before us, the drug acts as a tonic of a very powerful kind, and is therefore useful in the typhoid condition of continued and other fevers. Like many other volatile oils, it has a specific action on mucous membranes; its permeability through all excreting organs is undoubted, and although I can not claim for it a specific property in jaundice, I am quite justified in placing the oil of turpentine among the most valuable therapeutic agents we possess.

"I attach much importance to the careful attention of the 'primæ viæ,' by the regular administration of one grain of calomel every night at bedtime, followed by a saline draught, in the shape of Apenta, next morning.

"3. *The stage of convalescence is protracted and tedious.* Careful dieting at the hands of a trained nurse is of the utmost importance. Fresh air and wholesome water are indispensable. Under such a course the improvement in color of the skin and restoration of the wasted muscles had remained up to the present uninterrupted in my patient. Relaxation from anxiety and gentle country exercise will very speedily effect a complete cure.

"The question now before us all is, What about the condition of the liver now? A week ago I saw my patient at the seacoast, and, after careful examination into every detail, I must conclude that the organ in structure and function seemed as good to-day as it was before he took ill two months ago."

Anæsthesia by Exsanguination.—Kofmann (*Centralblatt für Chirurgie,* October 8th; *Edinburgh Medical Journal,* December), stimulated by Oberst's method of combining a small amount of cocaine with the use of the elastic tourniquet, has tried the effect of rendering the tissues bloodless without the addition of cocaine, and has been very successful. His first patient was a girl of sixteen years, who had a ganglion on the dorsum of the wrist. The tourniquet was applied round the upper arm. By the time the procedures for sterilizing the skin had been completed the hand was of a deathlike pallor, and quite insensitive to touch or pain. The ganglion was dissected out without the patient's knowledge. She complained only of the pain caused by the tourniquet. The author's second patient was a woman with a needle imbedded in the hand; here again a deliberate dissection was carried out, with similar freedom from pain. Quite a series of cases of abscess, whitlow, etc., have been subsequently treated with similar success. If the eyes of the patients were screened off, they did not even know when the operation was commenced. Complete anæsthesia depends on the thoroughness of the elastic constriction of the vessels, and on a sufficient interval being allowed to elapse after the application of the tourniquet. In operating on the fingers or toes, the author has found it better to apply the constrictor above the wrist or ankle, as he has met with gangrene from applying it to the base of the finger or toe. The author regards his method as an improvement on that of Oberst, as it obviates the pain of injecting the cocaine, and the risk of poisoning from the latter. The method is applicable to any operation below the elbow or knee. For the thigh, upper arm, trunk, and head the author employs Schleich's method of local anæsthesia, and has reduced the number of cases in which a general anæsthetic is required to a minimum.

The X Rays in the Diagnosis of Tuberculosis.—Dr. Antonio Espina y Capo (*Revista de medicina y cirurgía Práticas,* November 25th), as the result of his researches, concludes that: 1. Radiography is a means specially suitable for the early diagnosis of tuberculosis, the study of which should be cultivated by all specialists in this domain. 2. There are now data sufficient to diagnosticate by the *tout ensemble* of the radiograph between tuberculosis and the neoplastic conditions of the lungs, but especially to limit the zones invaded by the affecting processes. 3. In pleuritic effusions it is the best and most certain method of diagnosis, especially for the purpose of defining the upper level of the effusion.

The Depopulation of France.—M. Arsène Dumont, in a series of lectures delivered at the Paris School of Anthropology, and considered in the *Journal des sciences médicales de Lille,* November 26th, discussed the decrease of population in France. It is not to be attributed, he points out, to emigration, but to a diminished birth rate. The marriages are quite equal in proportion, as is also the illegitimate birth rate, to those of other countries. The source, then, of the decrease lies in the infecundity of the marriages. But examination, he points out, shows that this is not a result of natural infecundity, since the proportion of married couples having one or more children is normal, but of voluntary prevention. M. Dumont says: "We have cantons, in Lot-et-Garonne, for instance, where the father who so far forgets himself as to have three children is severely censured by his wife's family, received coldly by his own, chaffed unmercifully by his friends, and condemned by all who know him. He is regarded as a tyrant, a wretch, and a stupid."

Prohibition of the Sale of Cocaine.—According to the *Atlanta Medical and Surgical Journal* for December, an ordinance has been passed in Austin, Texas, forbidding the giving or sale of cocaine by any person to any other save on a physician's prescription certifying that he has examined the patient and finds his physical condition such that he needs cocaine as a medicine, and then only one such sale is to be made on each prescription. Penalties are provided for violation of the law, and a clause exempts it from application to practising physicians or dentists, or to administration of the drug personally by them.

The American Medical Association.—We are informed that the programme for the Section in Laryngology and Otology, for next June's meeting in Columbus, has been filled, and that no more papers can be accepted.

The Association of American Anatomists.—The programme for the meeting of December 28th, 29th, and 30th, held in New York, under the presidency of Dr. Burt M. Wilder, was notable for the number of important subjects to be presented and discussed.

The Archives of Pædiatrics.—The publishers of this excellent journal, Messrs. E. B. Treat & Co., announce that with the January, 1899, number they begin as its sole owners, having bought the interest of its founder and former owner, Dr. William Perry Watson.

The Medical Society of the State of New York.—The business committee asks us to announce that the programme is already overflowing with titles of communications, and that no more can be received.

The New York Academy of Medicine.—The programme for the meeting of the Section in Laryngology and Rhinology held on Wednesday evening, December 28th, included the presentation of the following cases: Operation for Epithelioma of the Nose, by Dr. J. F. McKernon; Hysterical Mutism and Hysterical Aphonia, by Dr. W. M. Leszynsky; and Hysterical Larynx, by Dr. F. E. Hopkins, of Springfield, Massachusetts; also a paper on Nasal Insufficiency due to Exaggerated Prominence of the Anterior Arch of the Cervical Vertebræ, by Dr. J. E. Newcomb.

The Jenner Institute of Preventive Medicine.—It is announced that Baron Iveagh, one of the Guinness family of brewers, has given $1,250,000 to the institute. This gift, it is thought, will make its resources equal to those of any other like institution in the world.

The Annual Individual Consumption of Alcohol in Various Countries.—Debove, according to the *Lyon médical* for December 4th, computes the average consumption by the individual (man, woman, and child) as follows: France, 14 pints; Belgium, 10.5 pints; Germany, 10.5 pints; British Isles, 9.25 pints; Switzerland, 8.75 pints; Italy, 6.60 pints; Holland, 6.25 pints; United States, 6.10 pints; Sweden, 4.50 pints; Norway, 3 pints; Canada, 2 pints.

INDEX TO VOLUME LXVIII.

PAGE
Aaron, C. D. Precision of Terms in Diseases of the Stomach.... 54
Abdomen, The Importance of Early Diagnosis in Injuries to the.............................. 768
Abdominal Cases and Comments.................. 448
Abdominal Section, Intraperitoneal Injections of Sterile Broth Previous to.................. 179
Abortion due to Quinine............................ 830
Abortion, Suckling as a Cause of.............. 867
Abortion, The Treatment of Habitual........... 380
Abscess, Alveolar, in Tuberculous Persons..... 451
Abscess, Cerebral, of Unusual Origin............ 469
Abscess of the Liver, Tardy, following Dysentery in a Temperate Climate................ 131
Abscess, Peritonsillar................................. 178
Abscess. The Treatment of Cerebellar.......... 284
"Absent Treatments"................................ 176
Academy of Medical and Surgical Sciences, The St. Louis........... 766
Academy of Medicine and Surgery, The Richmond........................... 172, 540, 634, 710
Academy of Medicine, The Buffalo...... 24, 99, 386, 489, 529, 603, 634, 673, 710, 746, 853, 893, 967
Academy of Medicine, The Chicago............ 432
Academy of Medicine, The New York..... 529, 603, 635, 745, 824, 903, 978
Academy of Railway Surgeons, The American.. 489
Accouchement. An Unconscious................ 672
Acne, Ointment for........................... 56
Actinomycosis, Cervico-facial.................. 246
Actinomycosis of the Rectum.................. 32
Address, Changes of.... 24, 60, 99, 172, 204, 243, 277, 386, 421, 490, 529, 566, 603, 632, 674, 710, 746, 781, 825, 859, 915, 967
Addresses, Physicians' Summer.................. 24
Adenitis, The Cure of Cervical, without Cicatrices... 829
Adenoids and their Complications in Children.. 702
Adenoids, Nasopharyngeal, Death following immediately an Operation for, under Chloroform, with Remarks on Chloroform Anæsthesia in this Operation.................. 614
Adenoids, Nasopharyngeal, The Recurrence of, after Operations for Excision................ 617
Adenoids, Pharyngeal, Present Methods for the Operative Treatment of............. 619
Adenoma of the Breast........................... 792
Adenoma of the Soft Palate.... 852
Adler, I. Observations on Cardiac Syphilis.... 577
Advertisements, The Dangers of Flashlight..... 901
Advice, Sound, from the Pulpit.......... 902
Affections, Dental and Dento-Auditory, The Relation between.............................. 825
Afterpains, Antipyrine for 285
Aid, Civilian, in Military Operations, The Value of 537
Aïodine: A New Preparation of Thyreoid...... 536
Airol, Bismuth Poisoning from the Use of...... 97
Air-passages, The General Health and the Upper 694
Air, Superheated, Some Results of a Year's Experience with............................. 410
Albuminuria, The Common Reagents for the Detection of.................................. 80
Alcohol as a Causative Factor in the Production of Nervous Disorders....................... 13, 46
Alcohol, The Action of............................ 865
Alcohol, The Annual Individual Consumption of, in Various Countries....................... 978
Alcoholism. Effect of, upon Healing of Wounds 219
Alcoholism, Treatment of......................... 566
Alopecia Areata, The Treatment of............. 927
Alopecia due to Acetate of Thallium 211
Aluminium Bronze as a Suture Material......... 131
Amaurosis, A Discussion of the Pathology of Quinine...................................... 6
Amblyopia, Saturnine............................ 537
Ammonium, Fluoride of, in Gastric Fermentation 720
Amputation, A New Method of, at the Knee-Joint applicable to Cases of Senile Gangrene of the Foot.................................. 717
Amygdalitis, An Application for Follicular..... 452
Anæmia, Pernicious, The Combined Scleroses of 755
Anæmia. Pernicious, The Treatment of, with Rectal Injections of Arsenic... 823
Anæmia, Pernicious, treated with Nucleo-Albumin 697
Anæmia, The Common Nettle in............... 720
Anæsthesia by Exsanguination.................. 978
Anæsthesia, Chloroform-Ether.................. 320
Anæsthesia, Chloroform for General............ 668
Anæsthesia, Combination of Local, by Infiltration (Schleich) with the Employment of Orthoform.... 429
Anæsthesia, Hypnotic, in Accouchements....... 901
Anæsthesia, Local.......................... 776, 854
Anæsthesia, New Method of Producing Local... 574
Anæsthesia of the Membrana Tympani......... 342
Anæsthesia, On the Use of Schleich's Mixtures for, in Operations on the Nose and Throat.. 547
Anæsthesia, Remarks on Chloroform, in Operations for Nasopharyngeal Adenoids......... 614
Anæsthetic, Infiltration, Eucaine B as an....... 870
Anales de la Sociedad Mexicana de Cirurgia, The.............................. 68
Aneurysm at Unusually Early Age, An...... .. 929
Aneurysm of the Aortic Arch, Treatment of.... 284
Aneurysms, Gelatin in the Treatment of........ 869
Aneurysms, The Treatment of Aortic, with Injections of Gelatin.......................... 717

PAGE
Angina of Infants, Acute, Prescriptions for the... 128
Animation, Suspended, A Case of, in Philadelphia.. 250
Ankylosis, The Cause of.......................... 466
Annals of Gynæcology and Pædiatry, The. 285
Antidote, Lard as an, to Strychnine............. 130
Antigonorrhœal Injection.......................... 927
Antipyrine for Afterpains......................... 285
Antipyrine in Fatty Diabetes..................... 271
Antisepsis in the Army............................ 213
Antisepsis, Mixture for Intestinal................ 526
Antiseptic Powder, Lucas-Championnière's..... 381
Antiseptic, Tribromophenol Bismuth as an, in Chronic Suppurative Otitis Media........... 924
Antiseptics, Intestinal............................ 673
Antitoxine, Behring's Patented Diphtheria...... 251
Antitoxine, Diphtheria, Professor Behring's Patent on.. 164
Antitoxine in Diphtheria, Further Evidence of the Value of................................. 318
Antitoxine, Intracerebral Injections of, The Treatment of Tetanus by Means of......... 884
Antitoxine Patent, The Behring................ 311
Antitoxine, The Behring Patent on............. 288
Antitoxine Treatment of Tetanus, The.......... 314
Antivivisection Danger, The...................... 743
Antrum, A Case of Disease of the, and the Frontal and Ethmoidal Sinuses............. 883
Apomorphine, The Uses and Dose of........... 34
Apparatus for Patients Shortened by Pott's Disease, A Proposed............................ 486
"Appendicitis," Anything rather than.......... 966
Appendicitis, Drainage in Suppurative.......... 717
Appendicitis, Indications for Operation in...... 170
Appendicitis, Is, a Surgical Disease ?....... 685, 727, 757, 840
Appendix, The Complications of Operation for Removal of the.......... 572
Appointment, New................................ 611
Archivos de la Policlinica......................... 870
Archives of Pædiatrics, The...................... 978
"Armies, More than, to the Common Weal"... 602
ARMY, CHANGES OF MEDICAL OFFICERS OF THE:
  Aby, Thomas Y.................................. 455
  Adams, Charles.......................... 349, 455
  Almy, Leonard B........ 277
  Ames, Azel....................................... 348
  Ames, E. W....................................... 348
  Anderson, C. L. G............................... 490
  Appel, Daniel M. 243
  Archinard, John J.. 349
  Arthur, William H........................ 277, 455
  Bird, Urban S..... 204
  Boeckmann, Edward............................ 421
  Booth, A. R....................................... 348
  Boyd, Frank...................................... 490
  Bradbury, Bial T................................ 349
  Brewer, Charles.................................. 455
  Brown, Ira C...................................... 349
  Buttler, Charles V............................... 243
  Carroll, James.................................... 490
  Carter, W. Fitzhugh.............................. 25
  Chamberlain, Weston P......................... 455
  Clendenin, Paul.................................. 348
  Cloud, Marshall M............................... 243
  Cook, G. Wyeth.......................... 455, 490
  Craig, Charles F................................. 243
  Davis, John G................. .... 349, 455
  Davis, W. S..... 455
  De Niedman, William F........................ 243
  Dessez, Paul T................................... 243
  De Wey, C. F...................................... 25
  De Witt, Calvin............................ .. 277
  Dodge, John P............................ 243, 348
  Donaldson, Frank................................ 348
  Ellis, Joseph E. R............................... 204
  Echeverria, Rafael.............................. 490
  Flagg, Charles E. B 25, 99
  Forwood, William H............................ 204
  Fowler, Ernest W................................ 277
  Fuller, Leigh A....................... 421
  Gandy, Charles M................................ 348
  Gardner, William H.............. 277
  Gessner, Hermann B............................ 243
  Gonzalez, Stephen M............................ 490
  Gorgas, William C............................... 490
  Grant, John H.................................... 348
  Greenewalt, John C............... 348
  Greenleaf, Henry S............................... 99
  Hartnett, Eugene H............................... 99
  Harvey, Philip.................................... 204
  Hayward, Edwin P........................... 25, 99
  Heg, Elmer E........ 204
  Heiss, O. C.. 277
  Heizmann, Charles L............................ 277
  Heyl, Ashton B.................................... 277
  Hicks, John R..................................... 243
  Holliday, Francis E.............................. 490
  Holmes, T. G...................................... 243
  Howard, Dean C.................................. 277
  Hughes, William J............................... 277
  Huston, Herbert M............................... 348
  Jarvis, Nathan S.......................... 204, 348
  Jones, R. Fleming.......................... 99, 490
  Jordan, Arthur.................................... 455
  Kelley, Samuel W 349
  Kemp, Franklin M 99
  Kennon, Charles E. V........................... 243
  Kramer, Simon P.......................... 349
  La Motte, Henry 277

PAGE
ARMY, CHANGES OF MEDICAL OFFICERS OF THE:
  Leahy, Jeremiah E............................... 243
  Lee, Henry H..................................... 349
  Le Seure, Oscar........................ 349
  Macdonald, Willis G....... 243
  MacLean, Donald................................. 490
  Macumber. John L............................... 349
  Marbury, Charles C.............................. 243
  Mintzer, Leonidas H............................. 349
  Morris, Milton D 349
  Munday, Benjamin................................ 204
  Munson, Edward L.......................... 349, 460
  Neff, Wallace... 243
  Nettleroth, Alexander W........................ 243
  Newell, J. M..... 243
  O'Reilly, Robert M............................... 249
  Percival. Francis R.............................. 349
  Peyton, David C.................................. 349
  Pope, Benjamin F................................ 349
  Post, Silas B 204
  Reed, Walter...................................... 243
  Robertson, Charles M........................... 204
  Ruth, Charles E.................................. 243
  Senn, Nicholas............................ 349, 455
  Shannon, J. R.............................. 204, 243
  Shaw, Henry A.................................... 277
  Simonton. A. H................................... 490
  Slayter, John T. H............................... 243
  Smith, George A.................................. 490
  Smith, Louis P.................................... 204
  Smith, Thomas S.................................. 99
  Stark, Alexander N.............................. 204
  Summers, Thomas O............... 490
  Swift, Eugene L...... 421
  Ten Eyck, Benjamin L........................... 421
  Turner, R. L... 421
  Vaughan, Victor C............................... 349
  Wakeman, William J............................. 243
  Ware, Isaac P.............................. 204, 455
  Waterhouse, S. Melville......................... 99
  White, Robert W 204
  Williams, John M................................. 243
  Williamson, L. E 455
  Winter, Francis A.................... 243, 278, 349
  Woodbridge, John E................. 349
  Woodhull, Alfred A.............................. 278
  Woodson, Robert S....................... ... 204
  Worth, Duncan S................................. 349
  Young, William G................................ 490
Army Nurse, Death of an....... 314
Army, The Medical Inspection of the........... 906
Army, The Sanitary Management of Our.... ... 683
Arsenic, Iodide of, in Scrofula.................. 819
Arsenic, The Treatment of Asthma with........ 200
Arsenic, The Treatment of Pernicious Anæmia with Rectal Injections of 823
Arterial Pressure, The Clinical Aspects of....... 977
Ascites, Solid Tumor of the Ovary attended with, treated by Preliminary Tappings and Abdominal Section. Recovery................ 584
Asepsis, Intestinal 285
Aseptic Sponge. The Use of the Bernays, in the Nose and Nasopharynx, with Special Reference to its Use as a Pressure Hæmostatic.... 474
Asphyxia, Deep. A Modification of Laborde's Method for Resuscitation in................ 853
Asphyxia Neonatorum, The Treatment of....... 72
ASSOCIATIONS, MEETINGS OF MEDICAL. See SOCIETIES.
Association for the Advancement of Science, The British.................... 537
Association of Obstetricians and Gynæcologists, The American............................ 419
Association of Railway Surgeons, The New York State................................. 709
Association, The American Climatological...... 390
Association, The American Gastro-enterological 906
Association, The American Medical............. 978
Association, The American Medical, and the Medical Schools...................... 175
Association, The, of American Anatomists...... 978
Association, The Canadian Medical............. 242
Association, The Meeting of the British Medical 252
Association, The Mississippi Valley Medical... 216, 537, 612, 646
Association, The New York State Medical 324, 540, 556, 575
Association, The Northern Tri-State Medical ... 98
Association, The Rocky Mountain Inter-State Medical.. 942
Association, The Section in Laryngology and Otology of the American Medical 24
Association, The Southern Surgical and Gynæcological......................... 504, 603, 790
Association, The Tri-State Medical, of Mississippi, Arkansas, and Tennessee 634
Association, The Western Surgical and Gynæcological.. 858
Asthma, The Treatment of, with Arsenic and Stramonium.................................. 200
Ataxia, Locomotor, The Ætiology, Symptomatology, and Treatment of 463
Ataxia, Locomotor, The Newer Pathology of, and its Bearing upon Treatment 550
Ataxia, Locomotor, The Treatment of, by Exercise 178
Atheromata on the Flexor Tendons of the Fingers........... 131
Atkinson, A. S. Letter to the Editor........... 862

PAGE

Atkinson, I. E. Congenital Absence of the Glans Penis.... 668
Atlantic Medical Weekly, The.... 603
Atony, For Intestinal.... 776
Atrophy of the Liver, The Treatment of Acute Yellow.... 977
Atropine in Delirium Tremens.... 571
Auto-intoxication.... 589
Axes to Grind.... 572

Babies, Dr. Love on.... 358
Bacillus, The Smegma.... 98
Bacteria of the Vagina, The Practical Significance of the.... 791
Bacteriological Investigation, An Attack on.... 858
Bacteriological Laboratories in Vienna, Outcry against.... 869
Bacteriology, Kitchen.... 753
Bacteriology, Vaginal.... 71
Balsam of Peru in Tuberculous Affections.... 528
Bananas as a Food in Typhoid.... 286
Bandages, Celluloid.... 22
Barker, L. F. The Anatomy and Physiology of the Nervous System and its Constituent Neurones.... 75, 399, 907
Basedow's Disease, The Stages of.... 867
Bath Treatment of Graves's Disease, The.... 941
Baths, Hot Mustard, Treatment of Infantile Broncho-pneumonia by.... 608
Baths, Hot, The Treatment of Chlorosis by.... 716
Baths, River, and Baths in Sun-heated Sand.... 203
Beck, C. Is Appendicitis a Surgical Disease?.. 685, 727, 757, 840
Bedpan, The Use of the, in Typhoid Fever.... 320
Behring Patent, The.... 648
Bequests, Charitable, in Philadelphia.... 243
Beri-Beri in Philadelphia.... 171
Beta-Naphthol as a Tæniafuge.... 93
Beta-tetrahydronaphthylamin, How does, Elevate the Temperature of the Body?.... 298
Bicycle, The, and Sexual Excitation.... 179
Bicycle, The Doctor's, in Augsburg.... 96
Biliary System, The Minute Anatomy and Physiology of the.... 141
Birth-rate, The Alleged Low, of the Province of Ontario.... 488
Births and Deaths in Relation to the Time of Day.... 250
Births in Families of Physicians:
  Ballance, John W.... 422
  Bemis, R. W.... 205
  Caire, Arthur.... 349
  Couvillion, Walter F.... '860
  Ferguson, Farquhar.... 894
  James, H. W.... 387
  Landry, Maxime.... 172
  Mabbott, J. Milton.... 136
  Pollock, Ernest E. C.... 349
  Pothier, Oliver Louis.... 26
  Rocquet, Albert P.... 491
  Thomas, George H.... 205
  Turck, Fenton B.... 349
  Wheeler, Claude L.... 136
Births, Premature, A Peculiarity of.... 575
Bite, Cobra, treated with Tobacco Ash; Recovery.... 673
Bites, The Treatment of Mosquito.... 416
Black, M. Letter to the Editor.... 895
Black Tongue, A Case of.... 283
Bladder, A Means of Emptying the.... 71
Bladder, For Irritable.... 343
Bladder, Hairpins in the.... 240
Blech, G. M. Aseptic Surgery in General Practice.... 774
Bleeding, The Restoration of, and Indications for Venesection.... 168
Blennorrhagia.... 55
Blennorrhagia, Auxiliary Treatment of Chronic. 246
Blepharitis, Formalin in.... 502
Blind, The Congenitally, as Outlook Men at Sea. 283
Blindness, Overcrowded Teeth as a Possible Cause of.... 976
Bliss, A. A. The Recurrence of Nasopharyngeal Adenoids after Operations for Excision.... 617
Blister, A Painless.... 200
Blow, Light Abdominal, Serious Effect of a.... 447
"Blues, The," as a Disease, and their Treatment.... 68
Bodenhamer, W. Neuralgia of the Ano-Rectal Region: Its Peculiar Characteristics, Symptomatology, Ætiology, and Diagnosis.... 877
Bodenhamer, W. The Non-malignant Neoplasm or So-called Polypus of the Rectum and Anus: Its Origin, Formation, Ætiology, Pathology, Diagnosis, and Treatment... 230, 267
Bodies, Foreign, A Procedure for Removing, from Beneath the Nails.... 854
Bodies, Foreign, New Method of Extracting, from the Nasal Fossæ in Children.... 876
Bone, Butler's "Resurrection".... 169
Bone Marrow in the Treatment of Grave Purpura.... 384
Book Notices:
  Abeles G. Die Hyperplasie der Rachentonsille und die adenoiden Vegetationen des Nasenrachenraumes.... 317
  Anderson, I. Yellow Fever in the West Indies.... 64
  Bacon, G. A Manual of Otology.... 782
  Baldy, J. M. An American Text-book of Gynæcology.... 784

PAGE

Book Notices:
  Balfour, G. W. Clinical Lecture on Diseases of the Heart and Aorta.... 29
  Bangs, L. B., and Hardaway, W. A. An American Text-book of Genito-urinary Diseases, Syphilis, and Diseases of the Skin.... 210
  Bannatyne, G. A. Rheumatoid Arthritis: Its Pathology, Morbid Anatomy, and Treatment.... 317
  Bastian, H. C. A Treatise on Aphasia and other Speech Defects.... 209
  Bollinger, O. Atlas and Essentials of Pathological Anatomy.... 713
  Bourneville and Others. Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie.... 390
  Brodie, T. G. The Essentials of Experimental Physiology.... 211
  Burdett's Hospitals and Charities, 1898.... 354
  Bushong, C. H. Modern Gynæcology.... 785
  Butler, G. F. A Text-book of Materia Medica, Therapeutics, and Pharmacy.... 863
  Cestan, E. La thérapeutique des empyèmes.. 497
  Chotzen, M. Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte.... 748
  Clark, A. C. Clinical Manual of Mental Diseases.... 389
  Da Costa, J. C. A Manual of Modern Surgery; General and Operative.... 714
  Daland, J., and others. International Clinics. 750
  D'Astros, L. Les hydrocéphalies.... 863
  Dorland, W. A. N. American Pocket Medical Dictionary.... 972
  Doty, A. H. A Manual of Instruction in the Principles of Prompt Aid to the Injured.... 29
  Duhring, L. A. Cutaneous Medicine.... 783
  Dunham, E. K. Histology, Normal and Morbid.... 971
  Egbert, S. A Manual of Hygiene and Sanitation.... 317
  Einhorn, M. Diseases of the Stomach.... 748
  Felter, H. W., and Lloyd, J. U., King's American Dispensatory.... 864
  Fürbringer, P. Text-book of Diseases of the Kidneys and Genito-urinary Organs.... 389
  Gellhorn, G. Ueber die Resultate der Radical-Behandlung des Gebärmutter-Scheidenkrebses mit dem Glüheisen.... 784
  Glatz, P. Dyspepsies nerveuses et neurasthénie.... 29
  Godart-Danhieux. Le rôle du ferment salivaire dans la digestion.... 498
  Gottheil, W. S. The Treatment of Skin Cancers.... 749
  Gould, G. M. A Pocket Medical Dictionary.. 972
  Green, T. H. An Introduction to Pathology and Morbid Anatomy.... 971
  Griffith, J. P. C. The Care of the Baby.... 863
  Grünwald, L. Atlas and Abstract of the Diseases of the Larynx.... 317
  Gumprecht, F. Die Technik der speciellen Therapie.... 29
  Hall, W. S. A Laboratory Guide in Physiology.... 533
  Hamilton, J. B. Lectures on Tumors.... 899
  Hare, H. A. A Text-book of Practical Therapeutics.... 899
  Hare, H. A. Practical Diagnosis.... 899
  Hénocque, A. Spectroscopie biologique.... 66
  Herz, H. Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen.... 898
  Hewlett, R. T. A Manual of Bacteriology.... 970
  Hofmann, E. von. Atlas of Legal Medicine.. 389
  Hollopeter, W. C. Hay Fever and its Successful Treatment.... 317
  Hutchinson, W. The Gospel according to Darwin.... 898
  Jeannel, M. Chirurgie de l'intestin.... 497
  Keen, W. W., and Others. The Surgical Complications and Sequels of Typhoid Fever.... 604
  Kirk, E. C. The American Text-book of Operative Dentistry.... 172
  Klein, E., and Edkins, J. S. Elements of Histology.... 712
  Klemperer, G. The Elements of Clinical Diagnosis.... 210
  Lane, W. A. Cleft Palate; Treatment of Simple Fractures by Operation; Diseases of Joints, Antrectomy, Hernia, etc.... 972
  Lassar-Cohen. Die Säuren der Rindergalle und der Menschengalle.... 66
  Lassar-Cohen. Praxis der Harnanalyse.... 66
  Lazarus-Barlow, W. S. A Manual of General Pathology for Students and Practitioners.. 713
  Le Dentu, A., and Others. Traité de chirurgie clinique et opératoire.... 65
  Leredde and Sanarelli. Suite de monographies cliniques.... 785
  Lester, J. C., and Gomez, V. Ear Records: A Method of Recording Ear Cases.... 138
  Mackenrodt, A. Das Studium der Frauenheilkunde.... 783
  Martindale, W., and Westcott, W. W. The Extra Pharmacopœia.... 317
  Massey, G. B. Conservative Gynæcology and Electro-therapeutics.... 781
  McFarland, J. A Text-book upon the Pathogenic Bacteria.... 713
  Miller, M. N. Student's Histology.... 971
  Morell, H. Records of Urinary Examinations. 390

PAGE

Book Notices:
  Mracek, F. Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment.... 714
  Nadkarni, K. M. Essentials of Modern Treatment of Disease.... 785
  Oppenheim, H. Lehrbuch der Nervenkrankheiten für Aerzte und Studirende.... 388
  Oppenheim, N. The Development of the Child.... 533
  Osler, W. The Principles and Practice of Medicine.... 862
  Paget, S. Ambroise Paré and his Times. 1510–1590.... 65
  Penzoldt, F., and Stintzing, R. Handbuch der Therapie innerer Krankheiten.... 532
  Penzoldt, F., and Stintzing, R. Handbuch der Therapie innerer Krankheiten in sieben Bänden.... 173
  Penzoldt, F. Handbuch der Therapie innerer Krankheiten.... 970
  Pick, A. Beiträge zur Pathologie und pathologischen Anatomie des Centralnervensystems.... 390
  Playfair, W. S. A Treatise on the Science and Practice of Midwifery.... 750
  Purdy, C. W. Practical Uranalysis and Urinary Diagnosis.... 899
  Reese, J. J. Text-book of Medical Jurisprudence and Toxicology.... 65
  Roberts, A. S. Contributions to Orthopædic Surgery.... 863
  Rumbold, T. F. The Hygiene of the Voice... 863
  Schäfer, E. A. The Essentials of Histology, Descriptive and Practical.... 713
  Schamberg, J. F. A Compend of Diseases of the Skin.... 749
  Scheppegrell, W. Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat, and Ear.... 388
  Shaffer, N. M. Brief Essays on Orthopædic Surgery.... 715
  Shaw-Mackenzie, J. A. On Maternal Syphilis 172
  Sheild, A. M. A Clinical Treatise on Diseases of the Breast.... 750
  Simon, W. Manual of Chemistry.... 864
  Stedman, T. L. Twentieth Century Practice, 28, 862
  Stevenson, W. F. Wounds in War.... 389
  Taylor, A. R. The Study of the Child.... 533
  Taylor, F. A Manual of the Practice of Medicine.... 898
  Thompson, J. A., and Cantlie, J. Prize Essays on Leprosy.... 749
  Thomson, J. Guide to the Clinical Examination and Treatment of Sick Children.... 897
  Tonatre, J. Yellow Fever.... 497
  Transactions of the American Association of Obstetricians and Gynæcologists, Vol. X... 173
  Transactions of the American Pædiatric Society, Vol. IX.... 66
  Transactions of the Southern Surgical and Gynæcological Association, Vol. X.... 173
  Tyson, J. Manual of Physical Diagnosis.... 863
  Van Valzah, W. W., and Nisbet, J. D. The Diseases of the Stomach.... 64
  Vierordt, O. A Clinical Text-book of Medical Diagnosis.... 898
  Walsham, W. J. Nasal Obstruction.... 783
  Waring, H. J. Manual of Operative Surgery.. 65
  Weber, H., and Weber, F. P. The Mineral Waters and Health Resorts of Europe.... 497
  Weysse, A. W. An Epitome of Human Histology.... 971
  Whitacre, H. J. A Laboratory Text-book of Pathology.... 785
  Williams, D. Medical Diseases of Infancy and Childhood.... 897
  Williamson, R. T. Diabetes Mellitus and its Treatment.... 605
  Wilson-Prevost, C. A. Hyperkeratomycosis of the Pharynx.... 29
  Woodhull, A. A. Notes on Military Hygiene for Officers of the Line.... 497
  Zuckerkandl, O. Atlas and Epitome of Operative Surgery.... 714
Bottome, F. A. Treatment of Hoarseness in Singers and Speakers.... 11
Bowie, R. I. Letter to the Editor.... 676
Bracelin, P. M. Letter to the Editor.... 747
Brain Anatomy and Brain Tumors.... 611
Brain Anatomy and Psychology.... 325
Brain, Prince Bismarck's.... 489
Bread, White *versus* Brown.... 975
Breasts, Pendulous, Lateral Mastopexy, an Operation for.... 384
Breeding Time for Women, A.... 285
Brennan, E. F. A Contribution to the Treatment of Cocaine Poisoning.... 733
Brickner, S. M. Letter to the Editor.... 932
Bright's Disease, Acute, in a Three-months-old Infant.... 140
Broadbent, Sir William Henry, Bart., M. D.... 228
Bronchitis caused by the Inhalation of the Filling from a Tooth broken in Extraction.... 767
Bronchitis in Old Persons, The Declining Stage of Acute.... 238
Bronchitis, The Treatment of.... 682
Bronchitis, with Special Reference to Abnormal Nasal Respiration as an Ætiological Factor.... 804
Broncho-pneumonia in Children.... 166

PAGE
Broncho-pneumonia, Treatment of Infantile, by Hot Mustard Baths... 608
Brough, D. D. Letter to the Editor... 931
Brown, H. D. Letter to the Editor... 676
Bryan, J. H. Further Results of Operative Treatment of Chronic Frontal Sinusitis... 881
Bubonic Plague in Formosa... 133
Bulkley, L. D. On the Treatment of Deficient Excretion from Kidneys not Organically Diseased, and some of the Diseases Peculiar to Women, and Diseases of the Skin... 656
Bullard, W. L. Adenoma of the Soft Palate... 852
Bull, C. S. Cases of Shot and Bullet Wounds of the Eye... 439
Burns, A Mixture for the Treatment of... 854
Burns, Salol and Cocaine in the Treatment of... 776
Burns, The Treatment of, with Chlorate of Potassium... 975

Cæsarean Section... 73
Cæsarean Section *versus* Fœtal Mortality... 30
Cabcu, Salmon P., The Late Dr... 904
Calcium Chloride in Restraining Hæmorrhages, The Use of... 284
Calculi, Urinary, The Solvent Action of Buffalo Lithia Water on... 903
Calculus, A Large Vaginal... 215
Calculus, Rhinolith or Nasal... 45
Camp at Egmont Key, The Detention... 432
Camp Black. A Report by our Special Commissioner... 422
Camp, The Health of the Jacksonville... 488
Camp Wikoff. An Account of the Diseases Prevalent there... 491
Camp Wikoff. A Report by our Special Commissioner... 423
Camphor Habit, The... 103
Camphor, Monobromide of, Speedy Relief of Chorea by... 536
Canal, The Chicago... 779
Cancer, Mammary, The Aspiration of, during its Removal... 824
Cancer of the Breast, Recurrent, treated by Oophorectomy and Thyreoid Extract... 35
Cancer of the Pancreas, Glycosuria in Primary... 285
Cancer of the Stomach, The Semeiotic Value of the Different Symptoms of... 441
Cancer? Shall Patients be Informed that they have... 560
Cancer, Spermine of Guinea-pig in... 892
Cancer, The Dressing of Arsenious-acid Cauterizations for... 467
Cancer, The New Cataphoric Treatment of... 913
Cancer, The Relation of, to Syphilis... 645
Cancer, The Treatment of Inoperable Uterine... 562
Cancers of the Mucous Membranes, The Relation of Syphilis to... 659
Capsule, Suprarenal, Further Observations on the Chemical Nature of the Active Principle of the... 832
Carbolic Acid in Tetanus, Injections of... 745
Carbonic-acid Gas in Phthisis... 832
Carcinoma of the Male Breast... 720
Carcinoma of the Stomach, An Unusual Case of. 751
Carcinoma, Primary, of the Axilla... 430
Carcinoma, Removal of the Stomach for... 125
Cardiac Disease, The Prognosis of, in its Bearing on Life Insurance... 780
Cardiac Diseases, Strophanthus in... 142
Cardiac Sounds, A Phonographic Record of the... 108
Caselli, Death of Dr. Azzio... 755
Casimiroa Edulis... 418
Casselberry, W. E. A Case of Nasal Fibroma. A Supplementary Report... 655
Cataphoric Treatment of Cancer, The New... 913
Cataract, The Surgical Treatment of... 790
Catarrh; Gastric, Small Doses of Sulphate of Sodium in... 607
Catarrh, Intestinal... 166
Catheterism, Eustachian, The Relative Spheres of Politzerization and... 103
Catheterizing Women, The Proper Method of... 241
Cattle, Inspection of, in Pennsylvania... 180
Cauterization, Intranasal, The Advantages of Chromic Acid for... 105
Cellular Division, The Causes of... 515
Cellular Therapy... 539
Centipede in the Nose, A... 807
Ceyssatite, A New Absorbent Powder... 451
Champagne for the Sick and Wounded... 468
Chapman, H. N. The Importance of Early Diagnosis in Injuries to the Abdomen... 768
Chappell, W. F. Laryngeal Tuberculosis at the Loomis Sanitarium... 368
Charbon, The Treatment of, by Bicarbonate of Sodium... 574
Charities, Medical... 510
Charities, The Abuse of Medical... 610
Charity, The Abuse of, in Philadelphia... 251
Chemistry, The Relation of, to Practical Medicine... 943
Children and Sleep... 31
Children's Associates, The Need of Watching... 357
Chittenden, R. H. The Relation of Chemistry to Practical Medicine... 943
Chloral in the Treatment of Uterine Spasms... 964
Chlorine in the Treatment of Diphtheria tested in a Brooklyn Hospital... 634
Chloroform Externally during Labor... 315
Chloroform Externally in Labor... 68

PAGE
Chloroform, Practical Points in the Administration of, and Ether... 734
Chlorosis, The Treatment of, by Hot Baths... 716
Chmelicek, J. F. Letter to the Editor... 711
Chorea and its Treatment... 647
Chorea Minor due to a Foreign Body in the Ear. 169
Chorea, Physostigmine in... 56
Chorea, Speedy Relief of, by Monobromide of Camphor... 536
Chorea, The Treatment of Laryngeal... 98
Christian Science Consistency... 870
Christian Science Fraud, The... 684
Christian Science Record, A... 930
Christian Science, The Positive Side of... 179
Christian Scientist, A, Arrested... 745
Christian Scientists *et hoc genus omne*... 754
Chromic Acid for Intranasal Cauterization, The Advantages of... 105
Church, C. A. Tetanus: Treatment by Trephining and the Intracerebral Injection of Antitetanic Serum... 888
Ciliary Body, Fluid Extract of the... 127
Cimicifuga as a Remedy for Tinnitus Aurium, Further Observations on... 275
Cimicifuga in Tinnitus Aurium... 135
Clamping the Common Carotid... 286
Clipping Habit, The Unacknowledged... 287
Clipping Habit, The Unacknowledged, Increasing... 893
Closets on Trains, The... 828
Club, The Sanatory, of Buffalo... 779, 893
Cobalt Nitrate a Hydrocyanic Antidote... 567
Cobalt Nitrate in Cyanide Poisoning... 25
Cocaine in Rigid Os Uteri... 973
Cocaine in the Treatment of Burns... 776
Cocaine, Prohibition of the Sale of... 978
Coccyx, The, as a Possible Cause of Neurosis... 287
Coe, H. W. Tuberculous Meningitis... 959
Coffee as a Causative Factor in the Production of Nervous Disorders... 13, 46
Colic, For Hepatic... 854
Colic, The Treatment of Lead... 751
Colic, Treatment of Acute... 562
College, Bellevue Hospital Medical... 930
College, Cornell University Medical... 489
College of Physicians and Surgeons of Chicago, The... 446
College of Physicians and Surgeons, The Atlanta... 196, 252
College of Physicians and Surgeons, The Cleveland... 144
College, The "Independent Medical, of Chicago"... 976
College, The Jefferson Medical, and "Typhomalarial" Fever... 396
College, The Rush Medical... 870
Collins, The Case of Dr. William Mannsell... 132
Collodion, Reduction of Strangulated Hernia by, 754
Colony, A Naked... 427
Colony, Annual Report of the Craig... 612
Color of Negro Infants, The... 104, 828
Coma, Diabetic, Alkaline Injections in... 358
Commission, Army Inquiry, Dr. W. W. Keen and the... 529
Commission to Investigate the Conduct of the War, A Medical Man on the... 420
Condurango in Gastralgia... 56
Condylomata, Acuminate, Resorcin in the Treatment of... 451
Congestion of the Female Pelvic Organs, For... 819
Congestion of the Liver, The Treatment of... 343
Congestion, The Treatment of Hepatic... 166
Congress for the Study of Tuberculosis, The... 131
Congress of Hypnotism, An International... 318
Congress of the Association Francaise de Chirurgie, The Twelfth... 34
Congress, Pan-American Medical, A Postponement of the Third... 788
Congress, The Sixth International Otological... 78
Congress, The Thirteenth International Medical, 904
Constipation, Creosote in... 819
Constipation, Creosote in Chronic... 58
Constipation, Extraordinary... 285
Constipation in Infancy, The Causes and Treatment of Habitual... 104
Constipation, Psychical Treatment of Habitual... 211
Consultants, A Company to Provide... 319
Consultation, A... 32
Consumption, The Compression Treatment of, and "Yellow" Journalism... 58
Contusions of the Abdomen, Indications for Laparotomy in... 831
Convulsions, For Infantile... 200, 964
Cord, The Treatment of the Umbilical... 33
Cords, Duplicated Vocal... 824
Correspondents, Answers to... 244, 603, 825
Corrosive Sublimate in the Treatment of Pleurisy with Effusion... 381
Corset, The Prohibition of the, in Russia... 58
Coryza in the Newborn, An Ointment for Syphilitic... 416
Cough, Enlargement of the Lingual Tonsil as a Cause of... 476
Coughs, The Treatment of, with Heroin... 76
Courtesy, An Unusual... 348
Craig, C. F. The Transmission of Disease by Certain Insects: Ticks, Bedbugs, Ants, etc., 593
Craniectomy for the Relief of Imbecility... 286
Creosote, Beechwood, in the Treatment of Phthisis... 72
Creosote, Clysters of, The Treatment of Pneumonia with... 575

PAGE
Creosote in Chronic Constipation... 58
Creosote in Constipation... 819
Creosote in Ozæna... 342
Creosote, New Preparations from... 501
Creosote, The Influence of Phosphoric Acid with, in Tuberculosis... 501
Creosote, Valerianate in the Treatment of Tuberculosis... 106
Cretinism Following an Attack of Acute Thyreoiditis... 476
Cretinism, The Ultimate Results of Thyreoid Therapy in Sporadic... 84
Criticism, An Undeserved... 130
Crothers, T. D. Letter to the Editor... 459
Croup Simulated by Infection with the Micrococcus Tetragonus... 103
Crying Habit, To Stop the... 903
Crymotherapy; "Carbonic Snow" as an Appetizer... 564
Cuban Disaster, Where the Responsibility for, Lies... 419
Cuban War, A Spanish Military Surgeon's Observations in the... 502
Cures, Grape... 678
Curettage of the Nasopharynx, Strabismus Cured by... 780
Curetting of the Uterus in Perimetric Affections... 107
Currents, The Electrotherapeutic Control of, from Central Stations... 799, 844
Curtis, G. L. Letter to the Editor... 895
Cut-off, A New Form of Instantaneous... 138
Cystitis, Catheters and... 355
Cystitis, Pichi in Chronic... 717
Cystitis, Urotropine in the Treatment of... 833

Dangerous Fascination, A... 499
Death of a Fœtus, Determination of the... 865
Death-rate in our Army, The Low... 488
DEATHS OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES:
  Allen, Bertha... 781
  Ames, J. D... 746
  Archinard, Claire Angele... 861
  Baker, George W... 861
  Baker, Henry C... 637
  Barker, Mrs. Fordyce... 746
  Barnwill, T. O... 894
  Bennett, William H... 387
  Boagini, Vincent... 861
  Bodenius, F. H... 172
  Bottome, Frank Archer... 931
  Breaux, Oscar J... 387
  Brickell, Frank Hamer... 278
  Brumby, G. McD... 387
  Cate, Hamilton J... 205
  Carlton, Mrs. C. A... 782
  Chadwick, Payson Martin... 315
  Chase, Harry... 456
  Cheesman, John Cummings... 675
  Clauss, Henry Otto, Sr... 456
  Collins, Henry... 100
  Cotten, Mrs. R... 894
  Crosby, Clement S... 861
  Crum, E. Gertrude... 244
  Currier, Scott H... 491
  Davenport, Mrs. S. A... 746
  Davis, J. W... 746
  Dewey, D. R... 746
  Dupre, Daniel... 861
  Edwards, Charles C... 782
  Ellis, James E... 826
  Elsner, Carl E... 278
  Forman, Eugene S... 422
  Fox, Charles L... 637
  Fox, Roswell... 746
  Gilman, H. A... 637
  Griffin, E. F... 244
  Hall, Edwards... 894
  Hall, J. Underwood, Sr... 747
  Hallock, Winthrop B... 491
  Hamilton, John B... 968
  Harrison, Sarah E... 931
  Haynes, Francis L... 675
  Head, J. H... 747
  Herrington, Buford... 968
  Hesser, Minnie G... 456
  Hodgman, William H... 172
  Holmes, C. W... 637
  Hubbard, George C... 244
  Isom, John F... 491
  Jackson, Eben... 26
  Jeffrey, Alexander Spence... 26
  Johnson Francis... 826
  Kelly, Clara... 637
  Kemble, Arthur... 710
  Kemble, Warren... 278
  King, Nathan Sherwood... 894
  Knowlton, Charles Lorenzo... 100
  Kuhn, Joseph H... 422
  Lakeman, William H. R... 61
  Lieber, Francis... 637
  Lincoln, Nathan S... 637
  Lindheim, George W... 456
  Lindsey, B. Abbott... 747
  Malleson, Philip Arthur... 457
  Mastin, Claudius H... 530
  McKenna, Fannie A... 172
  McMasters, R. J... 861
  Milholland, Hubert Murray... 61
  Milliken, Charles J... 637

PAGE

DEATHS OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES:
  Moore, James Alexander 826
  Morgan, Calvin 637
  Morse, John Frederick 349
  Mussey, William Lindsly 422
  Muzzy, Mary A. 861
  Nichols, James E. H. 422
  Osgood, James H. 457
  Ostrom, Henry H. 895
  Otterson, William Carter 315
  Owen, Abraham M. 457
  Paschall, B. H. 747
  Pepper, William 205
  Perjot, Eugene 826
  Pickett, John H. 278
  Read, William P. 637
  Roberts, William F. 968
  Robertson, Thomas Seton 422
  Robinson, A. H. 710
  Robinson, Charles 782
  Schopen, Emil 782
  Seaman, Frank G. 100
  Sheppard, Henry 244
  Shirmer, Charles D. 457
  Smith, Gouverneur 895
  Snow, Albion P. 747
  Stuart, John G. 637
  Swearingen, Richard M. 279
  Todd, Frederick A. 530
  Tousey, Josephine 26
  Tousey, Julia von Gerding 26
  Trowbridge, George R. 422
  Vandergriff, John B. 747
  Van Wert, Mahel 530
  Vermyne, John B. 315
  Vernon, Frances Olive 100
  Weaver, Rena 968
  Wiener, George S. 136
  Wilcox, Estelle 861
  Wilson, John Hewitt 186
  Wilson, Mrs. L. A. 826
  Wright, Henry Putteney 782
  Youmans, Milton 782
De Blois, T. A. Submucous Operations on the Nasal Sæptum, with Attempts at Membrane Grafting 513
Defæcation in Infants, The Difficulties of 678
Definitions of the "Pathies" 171
Deformed Children, On the Care of Crippled and 37
Degeneration, A New Stigma of 307
Degeneration in India, Physical 355
Degree of LL. D., The Honorary 24
Delavan, D. B. Present Methods for the Operative Treatment of Pharyngeal Adenoids 619
Delirium Tremens, Atropine in 571
Dementia Paralytica, The Early Diagnosis of 339
Dengue and Yellow Fever, The Diagnosis between 174
Dental Prosthesis, A Notable Achievement in 929
Denver Meeting, A Tenderfoot on the 24
Diabetes, Fatty, Antipyrine in 271
Diabetes, Is, Contagious? 720
Diabetes Mellitus, Jambul Seed in the Treatment of 216
Diabetes, The Treatment of, by Intestinal Antiseptics 941
Diagnosis, Koplik's Spots as an Aid in the, of Skin Lesions 556
Diagnosis of Injuries at the Hip, The 763
Diagnosis, The Importance of Early, in Injuries to the Abdomen 768
Diarrhœa, Acute 20
Diarrhœa, A Mixture for the Fœtid, of the Initial Stage of Scarlatina 199
Diarrhœa, Children's, Water Treatment of 250
Diarrhœa in Children, The Treatment of Fermentative 200
Diarrhœa, Infantile, treated by Eudoxine 270
Diarrhœa in Infants, The Treatment of Green Infections 200
Diarrhœa of Children, Peppermint Tea in the Summer 56
Diarrhœa, Summer 115
Diarrhœa, The Treatment of 226, 670
Dimple-making Device, A 528
Dinner, A Complimentary, in Denver 203
Diphtheria and Antitoxine 123
Diphtheria, Chlorine in the Treatment of, tested in a Brooklyn Hospital 634
Diphtheria on a Baby Farm in Philadelphia 107
Diphtheria, Rare Cause of Death in 358
Discipline, Want of, as a Cause of Disease 488
Diseases, The Mania for Naming 966
Disinfection of Books 213
Dislocation of the Shoulder, Extensive Fracture of the Arm and Forearm complicated by, on the same Side 732
Doctor, A Colored Lady 567
Doctor, A Royal Woman 833
Doctor in General Literature, The 672
Doctors, Another Sneak Thief Victimizing New York 144
Doctors, Colored Lady 636
Doctors, Nursery Rhymes for 246
Doctors, Women, in Russia 906
Douglas, J. History of a Case of Hydrophobia 51
Douglass, B. The Restoration of a Deflected Nasal Sæptum 181
Drainage in Suppurative Appendicitis 717
Dress for Hot Weather 396
Dressing, Charred Straw as a 33
Dressing of Arsenious-acid Cauterizations for Cancer, The 467
Dressing, Poisoning from a Carbolic-acid, applied to the Navel 709
Dressing, The Physiological 830
Dressings, The Value of First-aid, carried by the Soldier in War 247
Drinks, Hot, The Therapeutics of 745
Drugs, The Alternating Administration of, by Rotation 680
Drugs, The Untoward Effects of 792
Duty Well done Pays, A 565
Dysentery, A Suppository for Infantile 416
Dyspepsia, Mixture for Flatulent 670
Dyspepsia, Nervous 437
Dyspepsia of Students, The 743

Ear, Two Cases of Successful Replacement of the Completely Severed 36
Eau d'Alibour in the Treatment of Impetigo 599
Eczema, Dry Treatment of Infantile 128
Eczematous Hands, The Care of 489
Effusions, The Treatment of Serous Pleural, with Guaiacol 718
Egbert, J. H. An Experimental Study of the Effects of Hydrogen Dioxide upon the Normal Action of Unorganized Ferments 922
Egg Albumen as a Remedy in Skin Diseases 866
Egg Membrane in Trephining Operations upon the Skull, The Use of 570
Eidola, Cerebral 771
Electricity, The Diagnostic and Therapeutic Relation of, to the Diseases of the Central Nervous System 691
Elezarian, M. Report of a Few Cases of Infantile Diarrhœa treated by Eudoxine 270
Elfstrom, C. E., and Grafstrom, A. V. A Preliminary Report of Experiments with Heated Blood in the Treatment of Croupous Pneumonia and Tuberculosis Pulmonalis 307
Elfstrom, C. E. The Heated-blood Treatment in Connection with Croupous Pneumonia 556
Ely, G. W. Letter to the Editor 244
Embolism of the Abdominal Aorta 708
Emetic for Children, An 854
Enteritis, Membranous 853
Enterorrhaphy without Buttons, Plates, or Rings 466
Enucleation of the Eyeball, The Implantation of an Artificial Vitreous as a Substitute for 397
Epididymitis, The Treatment of Gonorrhœal, by Applications of Guaiacol 23
Epilepsy and Digestion 485
Epilepsy, Bromide of Strontium in 977
Epilepsy, Ipecacuanha in 537
Epilepsy, The Influence of Lymphoid Hypertrophy on 654
Epilepsy, The Treatment of 901
Epilepsy with Persistent Thymus, Dr. Ohlmacher's Article on 537
Epilepsy with Persistent Thymus, Lymphatic Hyperplasia, and Vascular Hypoplasia, A Case of 443
Epileptics, The Craig Colony for 203
Epileptics, The Treatment of 311
Epistaxis, Treatment of 380
Epithelioma of the Larynx, A Case of 74
Erratum 489
Erysipelas, Facial 20
Erythema Nodosum as a Complication of Influenza 858
Ether, Practical Points in the Administration of Chloroform and 734
Ether Spray for Enlarged Spleen, The 426
Eucaine B as an Infiltration Anæsthetic 870
Eudoxine, Infantile Diarrhœa treated by 270
Europhen in Phthisis 214
Euthanasia on the Scaffold 96
Exalgine Poisoning, A Case of 26
Examination for the Office of Diagnostician, An 132
Examination Mania, The 130
Examinations, Free Diagnostic, by the Memphis Board of Health 942
Examinations, The Purpose of 752
Examinations, The State Civil Service 780
Exchanges, A Humble Petition to our 180
Excretion, On the Treatment of Deficient, from Kidneys not Organically Diseased 656
Exercise and Diseases 109
Expectorant Mixture 776, 964
Expert Aid in Legislation, The Importance of 383
Extra-uterine Pregnancy, The Diagnosis of 35
Eye, Luxation of, from Blowing the Nose 976
Eyeball, Enucleation of the, The Implantation of an Artificial Vitreous as a Substitute for 397
Eyeball, The Treatment of Penetrating Wounds of the 721
Eyes, Newborn Infants', The Results of Laxity in the Care of 168

Farlow, J. W. A Case of Disease of the Antrum and the Frontal and Ethmoidal Sinuses 883
Fees, Low, The Ethics of 828
Feet, Blistered, in Soldiers 311
Fermentation, Gastric, Fluoride of Ammonium in 720
Ferments, Amylolytic 35
Ferments, Normal Action of Unorganized, The Effects of Hydrogen Dioxide upon the 922
Fever, An Instance of Apparent Infection with Cuban, by a Fly Bite 679
Fever, Chronic Syphilitic, The Danger of Confounding, with Tuberculosis 428
Fever from Coitus during the Puerperium 829
Fever, The Pathology of 974
Fever? What is 250
Fibroma, A Case of Nasal 655
Fissura Calcarina Hypertrophy and Atrophy 220
Fissure of the Anus, The Treatment of 562
Fissures, Congenital, of the Cervix Uteri 418
Fistula in Ano, A New Operation for 36
Fixation of the Uterus, The Results of Operative Forward 383
Flea, The, as a Carrier of Plague 974
Fly, D. R. Chloroform for General Anæsthesia, 668
Fontanelle, The Sagittal 346
Food, Baby, The Essentials of a Good 865
Food Statistics, Comparative 716
Forceps, Obstetrical, Indications for the Application of the, at the Pelvic Outlet 626
Foreign Bodies, The Extraction of, from the Nose 969
Formaldehyde in Atrophic Rhinitis, The Use of, 380
Formaldehyde in Typhoid Fever 776
Formaldehyde, The Disinfectant Value of 823
Formalin in Blepharitis 502
Formol in Phthisis 832
Fracture, Extensive, of the Arm and Forearm, complicated by Dislocation of the Shoulder on the Same Side 732
Fracture of the Leg by Rotation 170
Fracture of the Patella, The Results of Open Operation in the Treatment of Recent 871
Fractures of the Patella, The Treatment of, by the Purse-string Suture 334
France, The Depopulation of 978
French, T. R. The President's Address delivered before the American Laryngological Association at its Twentieth Annual Congress 361
Freudenthal, W. A Case of Chronic Urticaria of the Larynx 963
Freudenthal, W. A Modification of Laborde's Method for Resuscitation in Deep Asphyxia, 853
Frocks, Poisonous 966
Fronczac, F. E. Letter to the Editor 279

Galvano-cautery, In what Conditions of the Nose, Pharynx, and Larynx the, should and should not be Employed 253
Ganglion, Resection of the Casserian 213
Gangrene, A New Form of Subacute Emphysematous 250
Gangrene of the Foot, Senile, A New Method of Amputation at the Knee Joint applicable to Cases of 717
Garratt, J. M. The Common Reagents for the Detection of Albuminuria: Their Application and Comparative Efficiency 80
Gastralgia 776
Gastralgia, Condurango in 56
Gastro-enteric Disorders of Children, Tincture of Iodine in the 670
Gastro-enteric Infections, Acute, Tincture of Iodine in 127
Gastro-intestinal Infection, Acute, in Infants 145
Gelatin, Formulæ for the Injection of 927
Gelatin in Hæmatemesis from Ulcer of the Stomach 672
Gelatin in the Treatment of Aneurysms 869
Gelatin in the Treatment of Aortic Aneurysms, Injections of 717
Genella, L. Letter to the Editor 206
Gestation, Extra-uterine, of the Interstitial Variety terminating by Rupture into the Uterus, 330
Gibbs, The Late Dr. John Blair, and the Medical Staff of the Demilt Dispensary 34
Gilfillan, W. W. The Prevention and Treatment of Trachoma at the House of Refuge 623
Girard, A. C. Letter to the Editor 457
Girard, A Defense of Lieutenant-Colonel 646
Giuliana, R. A. Letter to the Editor 677
Gland, Thyreoid, Relationship between the, and Female Genitals 745
Glands, Dried Bronchial, as a Preventive of Pulmonary Infection 128
Glands, The Protective Function of the Lymphatic 744
Glans Penis, Congenital Absence of the 668
Glaucoma, The Diagnosis of 534
Gliosis, Hypertrophic Nodular 108
Glossitis, Syphilitic, The Diagnosis between Tubercular Syphilis of the Tongue and 791
Glycosuria in Primary Cancer of the Pancreas 285
Godfrey, Guy C. M., A Report by First-Lieutenant, Assistant-Surgeon, United States Army 394
Goître Exophthalmic, The effects of Resection of the Sympathetic on 536
Goître, Exophthalmic, Uterine Stenosis as a Cause of 467
Goître, Extirpation of a Large, of Thirty-five Years' Growth 140
Goître in a Newborn Infant cured by Thyreoid Treatment of the Mother 716
Goître, The Hæmatozoon of 381
Goître, The Thyreoid Gland in 32
Golf from a Neurological View Point 322
Goltman, A. A Case of Occupation Neurosis 625
Gonococcus, General Infection by the 573
Gonorrhœa, A Fatal Case of 828
Gonorrhœa, Cyanide of Mercury in the Treatment of 779

PAGE
Gonorrhœa, Immunity in.......................... 569
Gonorrhœa in Women, Protargol in the Treatment of... 175
Gordon, A. The Semeiotic Value of the Different Symptoms in Cancer of the Stomach.... 441
Gout, The Salicylates in.......................... 36
Gout, Treatment of, by Lycetol.................... 776
Grafstrom, A. V. See Elfstrom, C. E.......307, 556
Grafting, Membrane, Submucous Operations on the Nasal Sæptum with Attempts at........ 513
Graves's Disease, The Bath Treatment of....... 941
Greene, C. L. Letter to the Editor............. 638
Greene, C. L. Letter to the Editor... 895
Greenleaf, H. S. The United States Army Medical Department in the Field... 196
Grimm, Dr. Andrew v. A Vote of Thanks to... 710
Growth in Spondylitics.......................... 507
Guaiacetin, Hyperleucocytosis induced with.... 419
Guaiacol, The Treatment of Gonorrhœal Epididymitis by Applications of.................. 23
Guaiacol, The Treatment of Serous Pleural Effusions with... 718
Guitéras, Dr., said to be Suffering from Overwork... 251
Guitéras, The Health of Dr., of Philadelphia.... 242
Guttman, J. Obstruction of the Nose and its Influence upon the Human Organism... ... 558
Gynæcology, Operative, Dr. Kelly's Work on.... 833
Gynæcology, Surgical Intervention in........... 936

Habit, The Force of............................. 920
Hæmatemesis from Ulcer of the Stomach, Gelatin in................. 672
Hæmaturia due to Carbolic Acid..... 384
Hæmoglobin, The Diagnostic Value of.......... 24
Hæmoglobinuria, Malarial (Blackwater Fever), and Quinine.................................. 787
Hæmoptysis, Nitroglycerin as a Hæmostatic in.. 854
Hæmoptysis of Tuberculosis, Subcutaneous Injections of Iodoform in the................ 436
Hæmoptysis, The Treatment of.................. 128
Hæmorrhage, Gastro-intestinal, in a Newly Born Child.......................... 247
Hæmorrhages, The Use of Calcium Chloride in Restraining.. 284
Hæmorrhoids, An Operation for................. 215
Hæmorrhoids, Review of the Several Methods of Operations for.............................. 663
Hæmorrhoids, The Treatment of................ 200
Hæmostatic Nitroglycerin as a, in Hæmoptysis, 854
Hæmostatic, Pressure, The Use of the Bernays Aseptic Sponge, with Special Reference to its Use as a.......... 474
Hæmatocele of Extraordinary Size following Labor... 852
Hair Dyes, The Dangers of....................... 141
Hair, For the Removal of Superfluous........... 706
Hair, Rats as Food in Relation to the Growth of. 421
Hair, To Stop Falling of the...................... 706
Hair, Treatment of Loss of........................ 343
Ham, Three Families of Philadelphia Poisoned by.. 67
Hands, An Ointment for Chapped............... 964
Haynes, I. S. The Treatment of Fractures of the Patella by the Purse-string Suture....... 331
Headache Dependent on Ovarian Disease....... 706
Health Officer's, The Philadelphia, Power of Appointing Clerks.................................. 59
Health-Officership of the Port of New York, The.. 859
Health of the City of New York, The........... 98
Health Reports, Marine-Hospital Service.....23, 59, 97, 132, 170, 203, 242, 275, 313, 346, 385, 420, 455, 490, 529, 565, 602, 635, 709, 744, 780, 824, 859, 894, 930, 967
Heart, A Bullet in the, for Thirty-seven Years.. 868
Heart Disease, Menstrual Troubles and......... 720
Heart, Dislocation of the, from Indirect Violence; Spontaneous Reduction............. 682
Heart in His Boots, His.......................... 645
Heart Lesion from Immoderate Laughter....... 535
Heart, Massage of the, in Cardiac Syncope...... 857
Heart Murmurs, Functional or Inorganic........ 228
Heart, Suture of Wounds of the................. 825
Heated-blood Treatment in Connection with Croupous Pneumonia, The................ 556
Heat in Philadelphia on July 4th, The.......... 144
Hemicrania, For.................................. 854
Hemicrania of Gastro-intestinal Origin, The Treatment of.................................. 927
Henoch's Disease, or Nervous Purpura......... 773
Hepatitis, Acute, A Peculiar Case of............ 567
Heredity and "Karma"........................... 430
Heredity, The Influence of........................ 171
Hernia, Femoral, Radical Cure of............... 221
Hernia of the Ovary.............................. 142
Hernia, Reduction of Strangulated, by Collodion.......................... 754
Hernia, Strangulated, Operation *versus* Taxis in, ... 134
Heroin, The Treatment of Coughs with......... 768
Herter, C. A. An Experimental Study of the Toxic Property of Indol..................89, 116
Hibbs, R. A. The Relation of Suppuration to Shortening of the Limbs in Tuberculous Diseases of the Hip Joint. A Study of One Hundred and Six Cases......................... 649
Hinkel, F. W. Death following Immediately an Operation for Nasopharygeal Adenoids under Chloroform, with Remarks on Chloroform Anæsthesia in this Operation.......... 614

PAGE
Hinkel, F. W. Report of a Case of Fibrolipoma of the Larynx........................... 613
Hip, The Diagnosis of Injuries at the........... 763
Hip-joint Disease, A Distinct Variety of........ 903
Hip joint Disease, The Treatment of............ 607
Hip-joint Disease, Tuberculin R. in............. 564
Hip Joint, Tuberculous Diseases of the, The Relation of Suppuration to Shortening of the Limbs in.......................... 649
Hitchcock, U. G. The Influence of Lymphoid Hypertrophy on Epilepsy..................... 651
Hoarseness in Singers and Speakers, Treatment of... 11
Hofheimer, J. A. Phenalgin..................... 914
Home News from Abroad, More................. 312
Hoover, C. F. Cardio-pulmonary Murmurs..... 185
Hope, G. B. The Uvula in its Relations to Various Abnormal Conditions............. 958, 969
Horse, An Inebriate............................. 607
Horse-bite, An Extraordinary Case of.......... 58
Hospital-Abuse Question, The.................. 786
Hospital, A "Horsey" 203
Hospital, A Roman Military..................... 942
Hospital Appointments, The New York County Medical Association's Scheme for.......... 216
Hospital, Bellevue.......................60, 504, 576
Hospital, Blockley, Philadelphia, Proposed Enlargement of 275
Hospital, General, Reopening of the, at Vienna. 869
Hospital, New York Post-graduate Medical School and.......... 133
Hospital, New York Post-graduate Medical School and, Seventeenth Annual Announcement of the....... 243
Hospital Reports................................ 428
Hospital Ship *Bay State*, Explosion on Board the.... 859
Hospital, St. Joseph's, Philadelphia, A New Operating Room for...................... 285
Hospital," Tennyson's "In the Children's 645
Hospital, The Atlantic City............ 468
Hospital, The City............................... 967
Hospital, The Cohoes City....................... 468
Hospital, The Episcopal, of Philadelphia....... 204
Hospital, The Gouverneur....................... 603
Hospital, The Harlem........ .... 912, 967
Hospital, The London 719
Hospital, The Philadelphia, Overcrowded....... 67
Hospital Train, The Philadelphia, Returns with One Hundred and Four Patients........... 313
Hospital Train to Convey Sick Soldiers from the Field, A...................................... 276
Hospital, University, The Government Inquires of Accommodations at....................... 314
Hospitals for the Army, Permanent............. 859
Hospitals, Workhouse and Almshouse.......... 636
Hot-air Treatment of the Joints, The............ 106
Hot-water Bottle, A New......................... 754
Howard, W. L. Sensational Journalism and Hysteria............. 478
Hubbard, D. L. Letter to the Editor........... 136
Hughes, C. H. Restore the Term Typho-malarial Fever.. 926
Hühner, M. The Diagnosis of Injuries at the Hip 763
"Humanum est Exagg-er(r)are"................. 937
Hutchinson, W. M. Letter to the Editor........ 861
Hydrochloric Acid in the Stomach, The Treatment of Overproduction of................ . 343
Hydrochloric Acid in the Treatment of Sciatica, Applications of................................ 271
Hydrogen Dioxide, The Effects of, upon the Normal Action of Unorganized Ferments... 922
Hydrogen, Peroxide of, in Puerperal Sepsis..... 825
Hydrophobia, A Case of 51
Hydrotherapeutic Method, A New............... 174
"Hyperidrosis, Cerebro-spinal"................. 929
Hyperidrosis, Ichthyol in the Treatment of..... 927
Hyperleucocytosis induced with Guaiacetin..... 419
Hyperthermia and the Corpus Striatum......... 241
Hypnotic, Lactophenin as a...................... 976
Hypnotism in the Law Courts.................. 286
Hyporespiration and Hyperrespiration in Tuberculosis.. 358
Hysterectomy, The Porro Operation *versus* Total.. 356
Hysteria in Animals.............................. 503
Hysteria in Childhood, A Contribution to the Study of...... .... 412, 433
Hysteria, Sensational Journalism and.......... 478

Icebags, Continuous Application of, in the Management of Pyrexia........................ 850
Ice Dish, A Practical............................ 35
Ichthyol, Formulæ for the Employment of...... 452
Ichthyol in Neuralgia............................ 238
Ichthyol in the Treatment of Hyperidrosis...... 927
Idiocy, A Mythical Charge of, Resented......... 97
Imbecility, Craniectomy for the Relief of....... 286
Immunity in Gonorrhœa.......................... 569
Immunity, Natural, of the Mucous Membranes of the Respiratory Tract 545
Immunity the Fundamental Principle underlying all Treatment of Tuberculosis............... 679
Impetigo, Eau d'Alibour in the Treatment of.... 599
Impotence, The Mechanical Treatment of, in the Male 372
Impression, Maternal, Again.................... 535
Impression, Maternal, An Apparently Authentic Case of....................................... 465
Impression, Maternal, Another Case of 465

PAGE
Impression, Maternal, Extraordinary Case of... 537
Impression, Maternal, More Cases of............ 646
Impressions, Study of Tactile.................... 752
Incision, Abdominal, A Detail in 567
Index-Catalogue, The New Volume of the 779
Indol, An Experimental Study of the Toxic Properties of.............................. 89, 116
Inebriety, Habitual? Are "Doctors' Orders" Responsible for......... 318
Infection, The Telephone......................... 744
Infirmary, Newark Eye and Ear, Presentation to 755
Inflammation, Atypical Appendicular........... 429
Inflammation, The Treatment of Appendicular.. 142
Influenza, Erythema Nodosum as a Complication of... 858
Influenza, Serum Therapy in..................... 105
Influenza, The Treatment of.................. ... 776
Information, Professional, Attending Physician alone Prohibited from disclosing............ 830
Ingals, E. F. Foreign Body in the Larynx and a Modification of Kirstein's Autoscopy 408
Inhumanity of the Spaniards, The Alleged...... 499
Injection, Intraperitoneal, of Sterile Broth Previous to Abdominal Section................ 179
Injections, Alkaline, in Diabetic Coma.......... 358
Injections, Calomel, The Uselessness of, in Lupus.. 169
Injections, The Moral Effect of Hypodermic, in Phthisis.. 645
Injury, Curious Effect of a Head................ 681
Insane, The Bed Treatment for the Violent, at the Sainte-Anne Asylum, Paris............. 962
Insane, The Points of Distinction between Cerebral Syphilis and General Paralysis of the.. 256, 293, 375, 403
Insanity, Incipient, The Prophylactic Therapensis of 249
Insanity, The Question of Malarial.............. 169
Insanity, The Relation of, to Pelvic Disease in Women 901
Insanity, The Relations of, and Pelvic Disease in Women... 318
Insanity, The Scientific Border Line between Sanity and.......... 480
Insomnia of Melancholia, The.... 717
Instrument, The Old Story of a Forgotten....... 929
Instruments, To Clean Rusty..................... 140
Insufflation of Boric Acid and Oxide of Zinc, The Treatment of Otomycosis by the....... 834
Insufflation of the Stomach for the Diagnosis of Gastric Tumor 976
Investigation, Scientific, under Difficulties...... 248
Iodide of Rubidium.............................. 941
Iodine in Obstinate Vomiting.................... 200
Iodine, Tincture of, in Acute Gastro-enteric Infections.. 127
Iodine, Tincture of, in the Gastro-enteric Disorders of Children............................. 670
Iodoformagen.................................... 599
Iodoform, Flexible.............................. . 706
Iodoform in the Hæmoptysis of Tuberculosis, Subcutaneous Injections of 436
Iodoform in the Treatment of Phthisis.......... 284
Ipecacuanha in Epilepsy. 537
Iritis, Rheumatic, Serum Therapy in Certain Forms of...................................... 105
Iron Perchloride in the Treatment of Erectile Tumors, Interstitial Injections of........... 670
Iron Salts, The Mechanism of the Action of Injections of, in the Cure of Anæmic Conditions 904
Iron, The Assimilation of, from Cereals......... 346
Irrigations, Continued, of the Uterus *versus* Hysterectomy for Acute Puerperal Cystic Metritis 121
Itching of the Scrotum, A Lotion for............ 238
Itching of the Scrotum, Leistikow's Lotion for.. 416

Jacobi's Work on Infantile Therapeutics, A German Translation of Dr....................... 153
Jacobs, H. B. A Case of Early Spinal Syphilis with Brown-Séquard's Paralysis............. 299
Jacoby, G. W. The Electrotherapeutic Control of Currents from Central Stations 799, 844
Jambul Seed in the Treatment of Diabetes Mellitus....................................... 216
Jaundice, Bony Changes in Chronic............ 418
Jenner, Sir William, The Death of. 893
Jervey, J. W. Hypertrophy of the Pharyngeal Tonsil, and the Importance of its Recognition by the General Practitioner............ 584
Joint, Excision of the Sacro-iliac...... 973
Joint Troubles and their Relation to Venereal Diseases....................................... 976
Joints, Ointments for Rheumatic 200
Joints, The Hot-air Treatment of............... 106
Journal, A Consolidated Canadian.............. 744
Journal, A New Medical......................... 102
Journal, A New Spanish Gynæcological......... 892
Journal, Another Medical........................ 7
Journal of Medicine and Surgery, The Canadian, for July....................................... 103
Journal, The Medico-Historical, *Janus* 672
Journal, The Scottish Medical and Surgical..... 246
Journal, The Woman's Medical............ 216, 275
Journals, New.................................... 929
Jubilee, Professor von Esmarch's............... 756
Judson, A. B. A Study of the Sitting Posture and a Proposed Apparatus for Patients shortened by Pott's Disease..... 486

PAGE
Kakels, S. W. Pregnancy in Women with Uterus Duplex 918
Kennedy, J. C. Hydatidiform Mole 409
Keppel, J. W. Letter to the Editor 710
Kerley, C. G. Acute Gastro-intestinal Infection in Infants 145
Kidneys, On the Treatment of Deficient Excretion from, not Organically Diseased 656
Kidneys, Remarkably Small 246
Kinematograph in Medicine, The 432
King, W. P. The Relation of Syphilis to Cancers of the Mucous Membranes 659
Kitchener, Sir Herbert, on the British Medical Staff 647
Kittredge, F. E. Adenoids and their Complications in Children 702
Klots, E. D. Two Cases of Pernicious Anæmia treated with Nucleo-albumin 697
Knopf, S. A. The Tuberculosis Problem: A Critical Suggestion in Reply to Dr. Leland Cofer's "Suggestions to Philanthropists" .. 198
Koplik, H. The Ultimate Results of Thyreoid Therapy in Sporadic Cretinism 84
Krauss, W. C. Cerebral Neoplasms: Clinical Analysis of Sixteen Personal Cases (Fifteen Tumor, One Abscess) 154
Kumyss, How to Make 247

Labor, Hæmatocele of Extraordinary Size following 852
Labor, Rupture of the Symphysis Pubis during. 832
Lacrymal Passages, Diseases of the 103
Lactophenin as a Hypnotic 976
Lactophenin in Acute Articular Rheumatism ... 540
Landtag, The Prussian 710
Laparotomy, Indications for, in Contusions of the Abdomen 831
Lard as an Antidote to Strychnine 130
Laryngitis, The Treatment of Singer's 717
Larynx, A Case of Chronic Urticaria of the 963
Larynx, Fibro-lipoma of the 613
Larynx, Foreign Body in the, and a Modification of Kirstein's Autoscopy 408
Laughing, The Psychological Phonetics of 104
Leading Articles:
  Antitoxine, Intracerebral Injections of, in the Treatment of Traumatic Tetanus 57
  Army Medical Defects. The Responsibility for 453
  Army Medical Service, The 416
  Army, The Medical Affairs of the 310
  Association, The Canadian Medical 310
  Association, The Nashville Meeting of the Mississippi Valley Medical 600
  Bicycling for Women, A Lady Physician's View on 563
  Charities, The Abuse of Medical 600, 767
  Christian Science and the Practice of Medicine 777
  Christian Science, The *reductio ad absurdum* of 855
  Cigarette Question, The 167
  Color-blindness, Artificial Temporary 129
  Consumption, The Hygienic Treatment of 633
  Deformity in Pott's Disease, The Forcible Correction of the 201
  Electrical Execution, A Ghastly View of 487
  Epilepsy, Rhythm in 272
  Grasses of the Genus Stipa, Certain 707
  Health of Our Land and Naval Forces, The ... 166
  Health of Our Troops in Cuba, The 94
  Health of Our Troops in the Tropics, The 632
  Health of the Army, The 381
  Hospitals, The Inefficiency of Nonconsolidated Field 239
  Kinematograph in Medicine, The 345
  Malpractice, Actions for 21
  Marine-Hospital Service, The United States, and Yellow Fever 272
  Medical Aid, The Limitations of Military 417
  Medical School, Unhealthy Rivalry and the Evolution of the 56
  Medical Supplies in Cuba, The Breakdown of the 201
  Mismanagement in Cuba and its Lessons, The 344
  Obscenity? What Constitutes 928
  Oil Industry, The Cotton Seed 533
  "Physiology," The Teaching of, in the Public Schools 239
  Plague in Vienna, The 742
  Practitioner, Should the General, Receive a Fee for referring a Patient to a Specialist? .. 527
  Report of the Surgeon-General of the Navy, The 891
  Sanitary Precautions in Michigan 452
  School, The Cornell University Medical 128
  Snow, The Treatment of, in the Streets of Great Cities 822
  Society, A Truly Philanthropic 527
  Society of the County of Kings, The Medical .. 965
  Sodium Bicarbonate by Intravenous Injection as a Preventive of Diabetic Coma 671
  Soldier and his Uniform, The 857
  Springs of Colorado, The Idaho 20
  Surgeon, The Evolution of the Army 94
  Surgeon-General of the Army and his Critics, The 820
  Tetanus, Traumatic, Intracerebral Injections of Antitoxine in the Treatment of 890
  Toxines and Antitoxines 382
  Toxines and Antitoxines, Dr. Martin's further Researches on the Antagonism between 777

PAGE
Leading Articles:
  Typhoid Fever among Soldiers 742
  Whooping-cough, The Treatment of, by the Inhalation of Medicated Oxygen 671
  Wine, The Plastering of 965
League, The New York Medical 710, 858
Lee, The Death of Mr., F. R. C. S. 24
Legislation, The Appraisement of the Value of Prohibitive, as a Means of enforcing Moral Restraint 108
Leonard, C. L. The X-Ray "Burn": Its Production and Prevention. Has the X Ray any Therapeutic Properties? 18
Leprosy and Hawaiian Annexation 462
Leszynsky, W. M. Unilateral Loss of the Pupillary Light Reflex (Reflex Iridoplegia); its Pathology and Clinical Significance 148, 192
Limbs Galore, Artificial 529
Lindheim's, Dr., Death 454
Lindsay, Dr. Alexander, Death of 503
Linguist, An Almost Perfect 179
Liquid Air Cocktails 392
Lister, Lord, and the Freedom of the City of Edinburgh 99
Literature, The Doctor in General 672
Literature, What is, and what Journalism? 356
Lithium, The Toxic Properties of the Salts of ... 601
Liver, Necrosis of the, in Typhoid Fever 98
Lockard, L. B. Continuous Application of Ice-bags in the Management of Pyrexia 850
Lockwood, C. E. A Study of Alcohol, Tobacco, Coffee, and Tea as Causative Factors in the Production of Nervous Disorders 13, 46
Loop, R. G. Paranoia 505
Loyalty, Infelicitous 502
Lungs, Radioscopy of the 867
Lupus Erythematosus, The Nature of 502
Lupus in the Lacrymal Ducts 34
Lupus, Light in the Treatment of 745
Lupus of the Larynx, Surgical Treatment of, in Connection with Tracheotomy 367
Lupus, Permanganate of Potassium in 451
Lupus, The Uselessness of Calomel Injections in 169
Luxation of Eye from Blowing the Nose 976
Lycetol, Treatment of Gout by 776

Mabbott, J. M. The Prevention of Sore Nipples 371
Mack, C. S. Letter to the Editor 244
Mails, The Purity of the 966
Malaria and the Mosquito 969
Malaria, Mosquitoes and 645
Malarial Disease, The Rational Treatment of, The Cultivation of the Plasmodium Malariæ and 835
Malarial Fevers on the Pacific Coast, Some Observations on the Occurrence of 807
Malleson, The Late Dr. Philip Arthur 780
Malpractice, Actions for 940
Mammæ, An Instrument for Developing the 105
Manges, M. The Treatment of Coughs with Heroin 768
Mania, The Legal Relations of 180
Manseau, H. Continued Irrigations of the Uterus *versus* Hysterectomy for Acute Puerperal Septic Metritis, with Report of Several Successful Cases 121
Mapes, C. C. Shall Patients be Informed that they have Cancer or Syphilis? 560
Marcy, W. H. Cæsarean Section 73
Marine-Hospital Service, Changes of Medical Officers of the:
  Anderson, J. F. 278, 387, 636
  Austin, H. W. 60
  Bailhache, Preston H. 204, 930
  Banks, C. E. 135, 455, 636, 781, 931
  Brooks, S. D. 135, 204, 455, 636, 860
  Brown, B. W. 60, 136, 278
  Carmichael, D. A. 204, 278, 386
  Carrington, P. M. 135
  Carter, H. R. 204, 278, 386, 455
  Clark, Taliafero 61, 205, 530, 931
  Cobb, J. O. 386, 455, 530, 781, 860
  Cofer, L. E 636, 674
  Cumming, H. S. ... 205, 386, 456, 530, 674, 860, 968
  Decker, C. E. 61, 136
  Eager, J. M. 530, 674
  Foster, M. H. ... 61, 278, 456, 530, 636, 781, 931, 968
  Fricks, L. D. 278
  Gardner, C. H. 530, 674
  Geddings, H. D. 60, 205, 530, 674, 781
  Glennan, A. H. .. 60, 204, 455, 529, 636, 781, 860, 931
  Godfrey, John 204, 278
  Grubbs, S. B 278
  Guitéras, G. M. 278
  Gwyn, M. K 278, 387, 781
  Hastings, Hill 278, 456, 781
  Heiser, V. G. 278, 781
  Hobdy, W. C 278, 530
  Irwin, Fairfax 60
  Jordan, W. M 530
  Kalloch, P. C 386, 781
  Kinyoun, J. J 278, 455, 530
  Lavinder, C. H. ... 278, 455, 530, 674, 781, 860, 931
  Lumsden, L. L. 278, 456, 530, 781, 860
  Magruder, G. M. 278, 455, 530, 781
  McAdam, W. R. 278, 781
  McIntosh, W. P. 455, 529, 674
  McMullen, John 636, 931
  Mead, F. W 636

PAGE
Marine-Hospital Service, Changes of Medical Officers of the:
  Murray, R. D. 386, 455, 529, 636
  Norman, Seaton 60, 243
  Nydegger, J. A. 781, 860, 931
  Oakley, J. H. 530, 636, 674
  Parker, H. B. 387, 456, 636, 674, 860
  Peckham, C. T. 135, 386, 860
  Perry, J. C 135, 860
  Purviance, George 204, 278
  Rosenau, M. J. 781, 860
  Russell, H. C. 530, 636, 860
  Sprague, E. K. 386, 456
  Stewart, W. J. S. 61, 386, 456, 860, 968
  Stimpson, W. G. 455, 530, 674, 781
  Stoner, George W. 860
  Stoner, J. B. 386, 530, 674, 860, 931
  Tabb, S. R. 61, 278, 456, 530, 636, 781, 860
  Thomas, A. R. 278, 636
  Vaughan, G. T. 386, 530, 968
  Von Ezdorf, R. H. 530, 674, 781
  Wasdin, Eugene 204, 278, 455, 529, 781
  Wertenbaker, C. P. 60
  Wheeler, W. A. 60, 278, 386, 781
  White, J. H 60, 135, 205, 278, 386
  White, Mark J. 278, 456, 781, 968
  Wickes, H. W. 278, 386
  Williams, L. L. 781, 968
  Young, G. B. 455, 674, 860
Marine Hospital Service, Notice to Candidates for Appointment in the 347
Marriages between Cousins 428
Marriages of Physicians, or Members of their Families:
  Abbott, Harlan Page 61
  Adams, Herbert W. 491
  Aimar, Charles P., Jr. 249
  Amsden, Henry M. 100
  Anderson, Lomax, Jr. 136
  Anderson, Thomas Simpson 61
  Andrews, C. G. 531
  Argue, Henry A. 826
  Babcock, Charles Lord 315
  Barlow, Walter Jarvis 746
  Biggs, Hermann M. 315
  Boekhoff, Onno 172
  Bogue, Stella M. 61
  Bohn, Horatio R. 637
  Bouvier, Joseph 26
  Brown, Clayton M. 422
  Ceresole, Jean Edouard 894
  Chamberlin, John B. 931
  Chapin, Amory 491
  China, Fannie 931
  Clark, L. Pierce 861
  Cleveland, Elizabeth M. 746
  Clough, Ernest Linwood 244
  Cole, C. C. 968
  Cox, Edwin M., Jr. 456
  Crosland, W. J. 931
  Denniston, Robert 26
  Edwards, Ogden M. 826
  Fendler, H. S. 781
  Fleming, Milton S. 136
  Fox, James W. 531
  Frampton, J. 968
  Freeman, George N. 61
  Froehlich, Minnie 826
  Gallagher, Vincent J. 172
  Greenleaf, Lewis 746
  Higgins, Edward T. 826
  Himel, Lynn 205
  Hogg, Francis Baylor 826
  Hubbard, W. D. 456
  Hunter, Josiah T. 894
  Jackson, Cassius O. 861
  Janeway, Theodore Caldwell 491
  Johnson, Henry Warner 568
  Kennedy, Robert M 244
  Keys, Edward L., Jr. 781
  Landry, Adrian 826
  Malcolm, Percy Edwin Dunlop 826
  Marsh, Arthur White 568
  Mason, Ulysses Grant 61
  McGowan, Alice 26
  McGuire, Etta A. 826
  Mitchell, J. Creighton 172
  Morris, Henry 244
  Muir, Joseph 100
  Munier, Vincent Maurice 491
  Murray, John A. 637
  Nichols, Theron 456
  Nichols, Willard T. 456
  Noyes, George K. 491
  O'Kelley, James Phares 61
  Owsley, Frederic Diller 422
  Pohlman, Julius 26
  Prewitt, Dorothy 568
  Purdy, Sylvanus 387
  Reynolds, William Weston 568
  Schilling, C. A. 205
  Schmidt, Dora T. 531
  Schmidt, F. W. 604
  Scranton, May 826
  Shurtleff, Mary E. 746
  Smith, Henry Harmon 746
  Smith, J. Vernon 861
  Smith, Lucille Carroll 136
  Spencer, Theodore 781
  Stevens, Helen Chanler White 826
  Stewart, Floyd 205
  Stone, Clara Isabel 931

PAGE

MARRIAGES OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES:
  Thomas, Julia Mary 746
  Tillinghast, Joseph R. 422
  Tulley, Frederick E. 349
  Wells, W M. 826
  Wessinger, J. W. 826
  West, James N. 287
  Winsor, John. 826
  Woodend, William Edwin 136
  Young, Charles B. 387
Massage, Home, in Infantile Paralysis 321
Massage in Cutaneous Affections 716
Massey, G. B. The New Cataphoric Treatment of Cancer 913
Mastitis, An Epidemic of 824
Mastopexy, Lateral; an Operation for Pendulous Breasts 384
Maternity, "Record-breaking" in 791
Mathews, A. P. The Causes of Cellular Division 515
Mathews, J. M., LL. D 144
Mayer, E On the Use of Schleich's Mixtures for Anæsthesia in Operations on the Nose and Throat 547
Mayfield, R. N. Catheters and Cystitis 355
Maynard, The Late Dr John Parker, of Dedham, Massachusetts 35
Mays, T. J. The Pathology and Treatment of Acute Pneumonia, etc 951
Mays, T. J. Is the Continual Use of Strychnine Unwise? 525
McCaskey, G. W. Auto-intoxication 589
Measles, Koplik's Diagnostic Sign of 171
Measles, Koplik's Early Diagnostic Sign of 311
Medical and Surgical Monitor, The 141
Medical Arrangements, British, for the Soudan. 432
Medical Board, An Army 384
Medical Board, The Pennsylvania 120
Medical Breakdown in Cuba, A British View of the 288
Medical Corps at San Juan, The 429
Medical Corps of England. Royal Army, The Pay of Officers of the 426
Medical Corps, Praise for the Royal Army 789
Medical Corps, The Royal Army, in the South 487
Medical Council, British General, An "M. D., New York," prosecuted by the 180
Medical Department, Memorandum Relating to Operations of the 323
Medical Department of the Army, The Personnel of the 566
Medical Department of the United States Army, The 502
Medical Department, The Contract Surgeons and the Army 279
Medical Department, The United States Army, in the Field 196
Medical Duel, A, in Paris 177
Medical Education in Great Britain, The Cost of 420
Medical Examination for Life Insurance in the Field 234
Medical Expert Witnesses, The Responsibility of 22
Medical Inspector. A Woman 745
Medical Instruction, Military, at Netley and Aldershot 570
Medical Journalism 214
Medical Journalism in the United States 463
Medical Matters, The Lay Demand for Certainty in 430
Medical Officers in the Mercantile Marine, The 130
Medical Officer, The Difficulties of the British Army 285
Medical Officers, Army 25
Medical Officers in the Navy, The Rank of 348
Medical Profession, The Acme of Indignity to the 858
Medical Service, The American Naval, as a Model 966
Medical Service, The Indian, and the New Army Rank 502
Medical Services in the Battle of Omdurman, The 575
Medical Signatories of the Declaration of Independence, The 942
Medical Staff, The Army, in Puerto Rico 311
Medical Supplies for the Army 324
Medical Witnesses, A Hint to 105
Medicine, Bacteriology in the Progress of 628
Medicine in Abyssinia 867
Medicine, Military, Professorships of 858
Medicine, The Jenner Institute of Preventive 978
Medicine, The Relation of Chemistry to Practical 943
Medicine, Theological 779
Meding, C. B Medical Charities 510
Meier, G. C. H. The Treatment of Diarrhœa 226
Membrane, Mucous, Astringent Application for the Vaginal 343
Memorandum of Recommendations of the Surgeon-General, April 15, 1898, to the Adjutant-General 275
Meningitis, Cerebro-spinal, Credé's Silver Ointment in the Treatment of Epidemic 858
Meningitis, Cerebro-spinal, Epidemic 606
Meningitis, Kernig's Sign of 312
Meningitis, Tuberculous 959
Menstruation Arrested for Six Years: Vicarious Mammary Symptoms and Obesity; cured by the Intra-uterine Stem in Four Weeks 612
Mental Capacity in Will-making 683
Menthol "Cones," A Suggestion to Makers of 779
Mercury, Cyanide of, in the Treatment of Gonorrhœa 779
Mercury, Intravenous Injections of, in Syphilis 868
Metallic Silver, Inunctions of, in Septic Affections 241
Metritis, Acute Puerperal Septic, Continued Irrigations of the Uterus *versus* Hysterectomy for 121
Metritis, Treatment of 343
Metrorrhagia of Young Girls, The 315
Mettler, H. The Newer Pathology of Locomotor Ataxia, and its Bearing upon Treatment 550
Migraine, The Treatment of 776
Military Blunders, Our 499
Milk as an Extinguisher of Burning Petroleum 868
Milk Modification in the Home, Formula for 975
Milk Supply of Chicago, The 576
Milk, To Check the Secretion of 599
Millegan, E. T. Letter to the Editor 896
Minor, J. L. Learning to See at Forty: First with One Eye, and Later with Both 666
Mirror. The Frontal, in Gynæcology 903
Mitchell, A. T. A Discussion of the Pathology of Quinine Amaurosis 6
Model, A Remarkable Wax, of the Medulla Oblongata, Pons Varolii, and Mesencephalon 942
Mole, Hydatidiform 409
Monthly Cyclopædia of Practical Medicine, The 144
Moon, The Rising of the 535
Morbid Conditions, Consequence and Concurrence of 274
Moriarta, D. C. Diphtheria and Antitoxine 123
Morphine Habit, Treatment of the 608
Morphine in Cardiac Disease, The Use of 902
Morphinism in a Newly Born Infant 246
Morrison, J. B. Letter to the Editor 205
Morrison, J. B. Practical Points in the Administration of Chloroform and Ether 734
Mortality from Wounds and from Disease in the Cuban Campaign, The 601
Mortality Statistics of Philadelphia, The 24, 277, 312
Mosquitoes and Malaria 645
Mosquito, The Rôle of the, in the Evolution of the Malarial Parasite 392
Mulhall, J. C. The General Health and the Upper Air-Passages 694
Müller, Dr., of Vienna, A Memorial of the Late. 929
Murdoch, F. H. Nervous Dyspepsia. With Report of Cases 437
Murmurs, Cardio-pulmonary 185
Murray, A. J. Letter to the Editor 826
Muscles, Voluntary, An Unusual Case of Spasms Affecting the 770
Myers, R. Letter to the Editor 782
Myoma, Uterine, The Surgical Treatment of 60
Myotonia (Thomsen's Disease) 248

Naftalan 939
Nasal Respiration, Abnormal, Bronchitis, with Special Reference to, as an Ætiological Factor 804
Nasal Sæptum, Submucous Operations on the, with Attempt at Membrane Grafting 513
Nasal Sæptum, The Restoration of a Deflected 181
Nature, Does Human, Change with the Centuries? 214
NAVY, CHANGES OF MEDICAL OFFICERS OF THE:
  Allen, G. M. 456
  Atler, S. W 421
  Baker, J. W 421
  Barr, W M 456
  Bell, W. S 456
  Bransford, J. P 456
  Coats, G. M 456
  Crawford, G. A 25
  Crawford, M. H 421
  Dennis, J. B 456
  Freeman, G. F 25
  Furlong, F. M 25
  Graf, A. F 99
  Grove, W. B 456
  Grow, E. J 25, 456
  Guthrie, J. A 456
  Heiskell, S. O 456
  Huntington, E. C 60
  Huntington, S. O 99, 456
  Johnson. H. A 25
  Kerr, D. B 456
  Kivaleberger, C. P 421
  Lovering, P. A 421
  Marcom, R O 456
  Marcour, R. C 99
  M'Clurg, W. A 421
  M'Cormick, A. M. D 456
  Moore, A. M 421
  Odell, T. G 99
  Parker, Joseph B 25
  Payne, J. H 99
  Persons, R. C 99
  Pickrell, G. M 456
  Rush, W. H 421
  Shugrue, D. A 60
  Stephenson, F. B 421
  Sung, G. A 25
  Thompson, E. 456
  Whitting, J. R. 25
  Winslow. G. T. 421
  Wright, B. L. 25
Nearthrosis, Cleido-humeral, Suture of Muscles in a Case of 241
Neoplasm, The Non-malignant or So-called Polypus of the Rectum and Anus 230, 267
Neoplasms, Cerebral: Clinical Analysis 154
Nephritis without Albuminuria 900
Nerve, Facial, The Origin of the 832
Nerve Strain, Visual, Repression Treatment and Differential Test for 289
Nervous System, Central, On Amyloid, Colloid, Hyaloid, and Granular Bodies in the 217
Nervous System, Diseases of the, The Diagnostic and Therapeutic Relation of Electricity to the 691
Nervous System, The Anatomy and Physiology of the 75, 399, 907
Neuralgia, For Ovarian 964
Neuralgia, Ichthyol in 238
Neuralgia of the Ano-rectal Region 877
Neuralgia, The Treatment of 309
Neurone Theory, The 282
Neuroses, Nasal Reflex, The Significance of Uric Acid in the 699
Neurosis, A Case of Occupation 625
Neurosis, The Alcohol 719
Neurosis, The Coccyx as a Possible Cause of 287
New York, Infectious Diseases in 23, 59, 97, 132, 169, 203, 242, 275, 312, 346, 384, 420, 455, 489, 529, 565, 602, 634, 672, 709, 744, 780, 824, 858, 893, 930, 967
Nichols, The Late Dr. J. E. H. 504
Nipples, Fissured, Potassium Permanganate in the Treatment of 741
Nipples, The Prevention of Sore 371
Nitroglycerin as a Hæmostatic in Hæmoptysis 854
Noble, W. H. Report of an Operation for the Removal of the Stomach for Carcinoma 125
Noise, Four Arguments against 179
Nose, Obstruction of the, and its Influence upon the Human Organism 558
Nose, On the Relationship of the, to Diseases of the Skin 553
Nucleo-albumin, Pernicious Anæmia Treated with 697
Nuisance, The Street-cry 143

OBITUARIES:
  Bottome, Frank Archer, M.D. 969
  Hamilton, John B., M. D., LL. D 968
  Haynes, Dr. Francis L. 675
  Mastin, Claudius H., M. D., LL. D. 568
  Owen, Abraham M., M.D. 491
  Pepper, William, M.D., LL.D., of Philadelphia 205
  Waring, Colonel George E., Jr. 675
Obituary Notice, A Premature 250
Obstetrics, Aboriginal Australian 682
Obstruction, Intestinal, The Technics of the Operative Treatment of 788
O'Connell, John D. Letter to the Editor 969
O'Donovan, C. A Case of Bronchitis and Pneumonia caused by the Inhalation of the Filling from a Tooth broken in Extraction 767
O'Donovan, C. A Case Showing the Serious Effect of a Light Abdominal Blow, and Illustrating the Danger of Delay in such Cases when Surgery is Indicated 447
Odors, The Psychical Effect of 202
O'Dwyer, A Proposed Memorial of the Late Dr. 132
Œdema, Laryngeal. Acute Inflammatory Conditions of the Upper Air passages Accompanied by 814
Ohlmacher. A. P. A Case of Epilepsy with Persistent Thymus, Lymphatic Hyperplasia, and Vascular Hypoplasia 443
Ointment, An Antigalactic 854
Ointment, Credé's Silver, in the Treatment of Epidemic Cerebro-spinal Meningitis 858
Oleander as a Drug, The 131
Oil, Antituberculous 776
Oil, Aromatic Cod-liver 200
Oil, Castor, Therapeutic Use of, Externally 599
Oil of Wintergreen, Death from. 754
Onions, The Medicinal Properties of 828
Oophorectomy, Recurrent Cancer of the Breast Treated by 35
Operating Table, An, and Chair, Designed for Use in an Office or Hospital 333
Operation. Indications for 567
Operation, The Porro, *versus* Total Hysterectomy 356
Orchitis. Ulcerative, following Typhoid Fever 528
Orexin in the Vomiting of Pregnancy 68
Orexin Tannate, The Therapeutic Action of. 574
Organs, Reproductive, The Relative Value of the Male and Female, in their Relation to Operation 869
Orifice, Vulvar, The Treatment of Vegetations of the 281
Orthoform 465
Os Uteri, Cocaine in Rigid 973
Osteomyelitis 974
Otitis Media, Chronic Suppurative, Tribromophenol-Bismuth as an Antiseptic in 924
Otomycosis, The Treatment of, by the Insufflation of Boric Acid and Oxide of Zinc 834
Ovaries, Conservative Surgery of the 534
Ovariotomy, The Mental Conditions of the Subjects of 427
Overlock, B. S. Abdominal Cases and Comments 448

PAGE
Oxide of Copper, Black, in the Treatment of Tapeworm 271
Oxygen Gas in Suppuration of the Middle Ear.. 868
Oxygen, The Inhalation of, in Morphine Poisoning.... 426
Oxyurides in Children, Treatment of.... 343
Ozæna, A Snuff for.... 238
Ozæna, Creosote in.... 342

Page, Richard C. M., The Late Dr.... 893
Paget, Sir James, Veterinarian!.... 35
Palate, Adenoma of the Soft.... 872
Palier, E. Exercise and Diseases.... 109
Paralysis, Arsenical 574
Paralysis, Diphtheria, The Pathology of.... 939
Paralysis, Infantile, Home Massage in.... 321
Paralysis, Landry's.... 108
Paralysis of the Insane, General, The Points of Difference between Cerebral Syphilis and.. 256, 293, 375, 403
Paralysis, Peripheral Facial, A New Symptom in 567
Paralysis, Radial, from Violent Contraction of the Triceps.... 36
Paranoia.... 505
Parasite, A Vaginal, in the Stomach 709
Paasite, Malarial, The Rôle of the Mosquito in the Evolution of the 392
Paresis, The Early Recognition of General 7, 40
Parker, T. F. Letter to the Editor 969
Parotid Gland as a Drug, The 93
Pasteur Institute, The New York.... 144
Pastoral, A "Christian Science".... 966
Patenting, The Ethics of.... 357
Patents in Professional Matters. 170
Patient, One Way to Keep a Refractory, in the House.... 976
Paton, S. Brain Anatomy and Psychology 325
Paton, S. The Early Diagnosis of Dementia Paralytica 339
Patrick, H. T. The Points of Distinction between Cerebral Syphilis and General Paralysis of the Insane. Two Lectures delivered to the Medical Staff of the Illinois Eastern Hospital for the Insane.... 256, 293, 375, 403
People of the Soudan, The Pathology of the Colored.... 572
Peppermint Tea in the Summer Diarrhœa of Children. 56
Pepper, Dr., Honored in Mexico.... 420
Pepper's, Dr., Successor.... 277
Pepper, The Death of Dr. William.... 204
Pepper, The Late Dr., and Mexico.... 504
Pepper, The Late Dr. William.... 242
Pepper, The Obsequies of the Late Dr. William. 243
Pepper, The Will of the Late Dr. William 322
Perforations of the Membrana Tympani, The Closure of the Healed.... 284
Perinæum, Rigid, Remedy for.... 776
Perityphlitis, Relapsing.... 203
"*Per orem*" again.... 930
Perry, J. C. Some Observations on the Occurrence of Malarial Fevers on the Pacific Coast, with Remarks on the General Diagnosis of the Disease.... 807
Perseverance Rewarded 249
"Pertussin," Thyme, in the Shape of, as a Remedy.... 274
Pharyngitis Sicca 215
Phelps, C The History of a Case of Cerebral Abscess of Unusual Origin.... 469
Phelps, C. The Results of Open Operation in Treatment of Recent Fracture of the Patella. 871
Phenalgin.... 914
Phonation of the Letter R, The.... 140
Phosphoric Acid with Creosote, The Influence of, in Tuberculosis.... 501
Phthisis, Beechwood Creosote in the Treatment of.... 72
Phthisis, Europhen in.... 214
Phthisis, Formol and Carbonic-acid Gas.... 832
Phthisis, Iodoform in the Treatment of 284
Phthisis, The Moral Effect of Hypodermic Injections in.... 645
Phthisis, The Outdoor Treatment of.... 643
Phthisis, The Pretubercular Stage of 865
Phthisis, The Tuberculin Treatment of.... 571
Physician, A Cambridge (England) Degree for a Boston 103
Physician, A French Decoration for a New York 673
Physician, Another Philadelphia, receives an Army Appointment.... 59
Physician, A Philadelphia, Appointed Military Camp Inspector 312
Physician, A Philadelphia, delays a Trial.... 28
Physician, Michael Angelo 392
Physician, The Resignation of a Troy, from the Volunteer Army.... 858
Physicians, American, British Honorary Degrees for 296
Physicians, Another Terror for.... 975
Physician's Calling, The.... 865
Physicians, Canonized.... 246
Physicians in Java 245
Physicians of Long Island, The Associated.... 67
Physicians, The Associated, of Long Island.... 538
Physicians, The Connection of, with Quack Medicine Concerns.... 324
Physicians, The Fortunes of Great.... 35
Physiologist, A Victimized.... 131
Physiology, The So-called, Taught in the Public Schools 349

PAGE
Physostigmine in Chorea.... 56
Pichi in Chronic Cystitis 717
Picric Acid, Treatment of Suppuration of the Ear by 562
Pills, Antihysteria.... 380
Pills, Iodide of Potassium.... 343
Placenta, A Syphilitic 213
Plague, A Royal Commissioner on.... 859
Plague in Vienna, The.... 744, 869
Plague, Is, Contagious ?.... 33
Plague, The Flea as a Carrier of.... 974
Plant Life and Dwelling Houses.... 31
Plasmodium Malariæ, The Cultivation of the, and the Rational Treatment of Malarial Disease.... 835
Pleurisy, Corrosive Sublimate in the Treatment of, with Effusion.... 381
Pleurisy, Syphilitic.... 708
Pneumogastric, Stretching the.... 60
Pneumonia, Acute Lobar, The State of the Vasomotors in, and its Bearing on Treatment.... 521
Pneumonia caused by the Inhalation of the Filling from a Tooth broken in Extraction 767
Pneumonia, Croupous, and Tuberculosis Pulmonalis, Heated Blood in the Treatment of.... 307
Pneumonia, Croupous, the Heated-blood Treatment in Connection with.... 556
Pneumonia, The Pathology and Treatment of Acute.... 951
Pneumonia, The Treatment of, with Clysters of Creosote.... 575
Podophyllin, Therapeutics of.... 869
Poisoning, A Case of Exalgine 36
Poisoning, Against Malarial.... 380
Poisoning, Another Case of Ptomaine, near Philadelphia.... 68
Poisoning, Atypical Salicylic-acid.... 824
Poisoning, Bismuth, from the Use of Airol.... 97
Poisoning by Headache Powders.... 674
Poisoning by Paraffin.... 752
Poisoning, Cocaine, A Contribution to the Treatment of 733
Poisoning, Cyanide, Cobalt Nitrate in.... 25
Poisoning from a Carbolic-acid Dressing applied to the Navel 709
Poisoning Hand in Surgery, The.... 331
Poisoning, More Ptomaine, from Ham 322
Poisoning, Morphine, The Inhalation of Oxygen in 426
Poisoning, Mushroom, Serum Therapy in. 98
Poisoning, Ptomaine, City Officials of Philadelphia Investigating Cases of. 313
Poisoning, The Treatment of Ivy.... 200
Poisoning, Two Cases of Stramonium.... 962
Poison Ivy, The Toxic Material of.... 141
Politzerization, The Relative Spheres of, and Eustachian Catheterism 103
Polyneuritis as a Sequel of the Pasteur Prophylactic Injections.... 203
Polypus of the Rectum and Anus, The Non-malignant Neoplasm or So-called.... 230
Polyuria, The Treatment of Simple.... 171
Poole, W. H. Rhinolith or Nasal Calculus, Report of a Case and Exhibition of Pathological Specimen 45
Porcher, W. P. Letter to the Editor 207
Position, The Antiquity of the Trendelenburg... 717
Post-graduate Teaching in London.... 175
Posture in Bed, The Patient's.... 241
Potassium Permanganate in Lupus.... 451
Potassium Permanganate in the Treatment of Fissured Nipples.... 741
Potassium, The Treatment of Burns with Chlorate of.... 975
Pott's Disease, A Proposed Apparatus for Patients Shortened by.... 486
Powder, A Diaphoretic.... 56, 776
Powder, Ceyssatite, A New Absorbent.... 451
Practice, Alleged Illicit, in Philadelphia 59
Practice, Complications arising out of the Posthumous Sale of a.... 929
Practice, Resumption of.... 967
Practitioner, A Word for the General.... 246
Practitioners, "Tips" for.... 466
Préfontaine, L. A. The Treatment of Penetrating Wounds of the Eyeball 721
Pregnancy after Double Oophorectomy 287
Pregnancy in Women with Uterus Duplex.... 918
Pregnancy, Precocious 212
Pregnancy, Syphilis and.... 60
Pregnancy, The Diagnosis of Extra-uterine.... 35
Pregnancy, The Retinitis of.... 938
Pregnancy, Vaginal Pulsation as an Early Sign of.... 418
Pregnancy, Why Extra-uterine, is so Common.. 606
Pregnancy with an Unruptured Hymen 427
Prejudice Run Mad.... 648
Prentice, C. Repression Treatment and Differential Test for Visual Nerve Strain.... 289
Prescribing in France, Newspaper.... 870
Priority, A Question of.... 756
Prize, The Alvarenga, of the College of Physicians of Philadelphia.... 171, 756
Prize, The Appleton.... 645
Professor, A Lady, of Gynæcology in Holland... 284
Professor, A Pennsylvania, a Fit Subject for Nordau or Lombroso.... 23
Projectiles, Secondary Effects of Modern Small-arms 35
Prostatic Enlargement, The Urethral Length as Diagnostic of.... 250
Prostatic Therapy.... 105

PAGE
Prostrations from the Heat in Philadelphia, June 25th, Many.... 24
Protargol in the Treatment of Gonorrhœa in Women 175
Pruritus Ani, Applications for.... 271
Pruritus Ani, The Treatment of.... 526, 646
Pruritus Vulvæ, Lutaud's Lotion for.... 486
Pryor, W. R. Letter to the Editor.... 826
Pseudo-rheumatism, Syphilitic 792
Psychiatry in the Medical Curriculum. 6
Psychic Phenomena, The Scientific Investigation of.... 467
Psychoses, Post-operative.... 133
Pulmonary Infection, Dried Bronchial Glands as a Preventive of.... 128
Pulsation, Vaginal, as an Early Sign of Pregnancy 418
Purpura, Grave, Bone Marrow in the Treatment of 384
Purpura, Nervous, Henoch's Disease, or.... 773
Pus Basins "to Burn".... 312
Pyosalpinx, The Treatment of Acute, by Incision and Drainage.... 718
Pyramidon in Diseases of the Nervous System.. 719
Pyrexia, Continuous Application of Ice-bags in the Management of.... 850

Quackery, Clinical.... 318
Quadruplets, A Case of.... 868
Quarantine, A Mosquito.... 141
Quinine Amaurosis, A Discussion of the Pathology of.... 6
Quinine in Malaria.... 500
Quinine, Malarial Hæmoglobinuria (Black-water Fever) and 787
"Quis Custodiet ?".... 790

Rambaud, G. G. The Treatment of Tetanus by Means of Intracerebral Injections of Antitoxine, with a *Résumé* of Reports of Cases, and a few Remarks on the Technique of the Injection.... 884
Rectum, A Pin in the, for Thirty Years.... 536
Rectum, Local Examination and Treatment of Diseases of the Upper 1
Red Cross Aid to Belligerents, Alleged.... 383
Red Cross, American National, The Surgeon-General of the Army and the.... 346
Red Cross Badge, The.... 431
Red Cross Brotherhood, The, of Nations.... 99
Red Cross of Philadelphia, An Ambulance for the.... 171
Red Cross, Spanish Respect for the.... 288
Red Cross Work, Testimony to the.... 466
Red Cross Work, The.... 275
Reed, A. G. Some Results of a Year's Experience with Superheated Air.... 410
Reflex, A So-called Cremasteric, in Women.... 384
Reflex, Pupillary Light, Unilateral Loss of the.... 148
Reform by Compulsion, Apropos of.... 504
Report, Medical Board, The Pennsylvania State. 276
Report, The Official Summary of the Annual, of the Surgeon-General of the Army. 793
Report, The Surgeon-General's.... 730
Resection of the Sympathetic, The Effects of, on Exophthalmic Goître.... 536
Resorcin in the Treatment of Acuminate Condylomata 451
Respect in Professional Conversation, A Plea for.... 674
Respiration, Forced Artificial, with the Use of O'Dwyer's Intubation Tube.... 131
Respiratory Tract, Natural Immunity of the Mucous Membranes of the.... 545
Resuscitation, A Modification of Laborde's Method for, in Deep Asphyxia.... 853
Retinitis of Pregnancy, The.... 938
Revue des sciences médicales, The.... 858
Rheumatism, Acute Articular, Lactophenin.... 540
Rheumatism, The Surgical Treatment of Acute. 503
Rhinitis, The Treatment of Chronic Hypertrophic.... 271
Rhinitis, The Use of Formaldehyde in Atrophic 380
Rice, C. C. Acute Inflammatory Conditions of the Upper Air-passages accompanied by Laryngeal Œdema.... 814
Rice, C. C. In what Conditions of the Nose, Pharynx, and Larynx the Galvano-cautery should and should not be Employed.... 253
Rohinovitch, L. G. The Bed Treatment for the Violent Insane at the Sainte-Anne Asylum, Paris.... 962
Robinson, B. Enlargement of the Lingual Tonsil as a Cause of Cough.... 476
Rockwell, A. D. The Diagnostic and Therapeutic Relation of Electricity to the Diseases of the Central Nervous System.... 691
Rokitansky, von, The Death of Professor Karl Freiherr.... 144
Röntgen Rays, A Piece of Steel in the Vitreous located by the, and removed by the Electromagnet.... 143
Röntgen Rays, The Action of the, on the Perspiration 419
Root, E. H. Indications for the Application of the Obstetrical Forceps at the Pelvic Outlet. 626
Rose, A. Letter to the Editor.... 138
Rose, D. A. Membranous Enteritis.... 853
Rough Riders Ill in Philadelphia.... 322

PAGE
Rubaiyat of Doc. Sifers, The.................... 894
Runge, E. C. The Scientific Border Line between Sanity and Insanity.................. 480
Rupture of the Symphysis Pubis during Labor.. 832
Rupture of the Trachea, Complete.............. 602

Sachs, B. The Early Recognition of General Paresis (Progressive Dementia)............ 7, 40
Sæptum Nasi, A Simple Method of Resecting the, without Perforating the Partition....... 33
Salicylates in Gout, The........ 36
Salicylic Acid as a Food Preservative in Philadelphia.................................. 396
Saliva as an Anthidrotic...................... 526
Salivation in the Course of Chronic Uræmia.... 168
Salol in the Treatment of Burns........ 776
Salt, The Abuse of.............................. 95
Salts, The Strontium............................ 965
Sanitarium for Consumptives, A, in Pennsylvania................................. 242
Sanitary Condition of Camp Merritt, The....... 324
Sanitary Condition, Philadelphia's.............. 312
Sanitary Mistakes of the Small Towns.......... 571
Santonin, Death from............................ 286
Sarcoma of the Clitoris.......................... 573
Sarcoma of the Nasopharyngeal Cavity, A Case of Cured.................................. 718
Sarcoma, Treatment of Inoperable, by Coley's Method.......... 429
Sawdust, The Antiseptic Properties of.......... 902
Scarlatina, Autistreptococcus Serum in......... 142
Scheinkman, B. The Mechanical Treatment of Impotence in the Male 372
Schell, W. Letter to the Editor....... 493
Schenk, Another Score for....................... 894
Scheppegrell, W. Bronchitis, with Special Reference to Abnormal Nasal Respiration as an Ætiological Factor........................... 804
Scholarship, The Ernest Hart 252
School, Johns Hopkins Medical, The Deanship of the 103
School of Medicine, Dr. Joseph M. Mathews and the Kentucky................................. 504
School of Medicine, The Kentucky, of Louisville...... 285
School, The Medical, of Yale University........ 710
Schools, The Consolidation of the Buffalo Medical... 144
Schools, The Medical, of Louisville............. 901
Schools, The Meeting of the................... ... 99
Schroeder, H. H. Functional or Inorganic Heart Murmurs...................................... 228
Sciatica, Hydrochloric Acid in the Treatment of.................................. 271
Sciatica, The Diagnosis of........................ 791
Science, The Triumphs of 321
Scleroses, The Combined, of Pernicious Anæmia 755
Scorbutus, Infantile.............................. 135
Scrofula, Iodide of Arsenic in.................. 819
Scrofula, The Treatment of...................... 381
Seasickness, The Suggestion Treatment of...... 283
Secrecy, Professional, A Difficult Problem in the Ethics of 356
Secrecy, Professional, and Criminal Offenses... 937
Secrecy, Professional, in Difficulties............ 778
Secrecy, Professional, in France................ 168
Secretion, The Internal, of the Tonsils.......... 418
See, Learning to.... 666
Self-intoxication, The Delirium of, and of Infection.... 319
Semmelweiss's Eightieth Birthday.............. 144
Senn, Lieutenant-Colonel Nicholas, to the Front 99
Sepsis, Fatal, from a Nasal Furuncle............ 284
Sepsis, Puerperal, Antistreptococcic Serum in.. 827
Sepsis, Puerperal, Peroxide of Hydrogen in..... 825
Sepsis, Puerperal, successfully Treated with Antistreptococcus Serum.. 252
Septicæmia from Performing an Operation...... 322
Serotherapy, The Treatment of Pulmonary Tuberculosis by................... 391
Serum, Antitetanic, Tetanus: Treatment by Trephining and the Intracerebral Injection of.................................. 888
Serum, Antistreptococcic, in Puerperal Sepsis... 827
Serum, Antistreptococcus, in Scarlatina. 142
Serum, Antistreptococcus, Puerperal Sepsis Successfully Treated with 252
Serum Cure of Tuberculosis, The 105
Serum in Tetanus, The Use of Antitetanic...... 680
Serum, Physiological Horse, The Therapeutic Uses of 249
Serum Therapy in Certain Forms of Rheumatic Iritis.. 105
Serum Therapy in Influenza..................... 105
Serum Therapy in Mushroom Poisoning 98
Serums, Antitoxic, The Rectal Administration of.. 566
Shaffer, N. M. On the Care of Crippled and Deformed Children...... 37
Sheffield, H. B. A Contribution to the Study of Hysteria in Childhood as it occurs in the United States of America...... .... 412, 433
Shields, E. A Case of Cretinism following an Attack of Acute Thyreoiditis....... 476
Shields, M. J. Hæmatocele of Extraordinary Size following Labor. With Recovery..... 852
Shultz, P. D. Letter to the Editor........ 675
Shurly, E L. A Case of Epithelioma of the Larynx Laryngectomy and Partial Pharyngectomy; Death on the Eleventh Day from Exhaustion.................................. 74
PAGE
Shurly, E. L. A Note on the Surgical Treatment of Lupus and Tuberculosis of the Larynx in Connection with Tracheotomy... 367
Sideroscope as a Diagnostic Instrument, The... 346
Sigmoid Flexure, Local Examination and Treatment of the Diseases of the 1
Silver, H. M. Radical Cure of Femoral Hernia, with Personal Experience of the Inguinal Method....... .... 221, 259
Simpson, W. K. The Use of the Bernays Aseptic Sponge in the Nose and Nasopharynx, with Special Reference to its Use as a Pressure Hæmostatic........................... 474
Sinuses, Frontal and Ethmoidal, Disease of the Antrum and the............................ 883
Sinusitis, Chronic Frontal, Further Results of Operative Treatment of..................... 881
Skiagraph as an Evidence of Death, The........ 215
Skin Diseases, Egg Albumen as a Remedy in... 866
Skin, Diseases of the, On the Relationship of the Nose to.... 553
Skin-grafting in Bulk............................ 105
Skin Lesions, Koplik's Spots as an Aid in the Diagnosis of.. 556
Skinner, C. E. Medical Examination for Life Insurance in the Field................ 234, 262
Skull, The Use of Egg Membrane in Trephining Operations upon the......................... 570
Sleep, Children and. 31
Sleep of over Fifty Days, A..................... 754
Small-pox, Epidemic of, at Fredonia, N. Y...... 59
Small-pox in the United States............ 120
Smell, The Sense of, and its Education......... 393
Smith, E. D. A Case of Extensive Fracture of the Arm and Forearm, complicated by Dislocation of the Shoulder on the Same Side.. 732
Smith, I. P. Letter to the Editor................ 315
Snakebites and their Treatment.................. 465
Snyder, J. E Letter to the Editor............... 862
Sobel, J. Koplik's Spots as an Aid in the Diagnosis of Skin Lesions......................... 556
SOCIETIES, MEETINGS OF MEDICAL:
  Association, American Laryngological... 387, 494, 531, 568, 628, 712, 896, 936, 969
  Society of Alumni of Bellevue Hospital.. 207, 350, 351, 424, 460, 496, 933
  Society of the Alumni of the City (Charity) Hospital............... .... 26, 61, 100, 280, 316
Society, A Burton, in Denver..................... 67
Society of Internal Medicine, The Chicago. 746, 893
Society of Medical Jurisprudence, The. 566, 745, 994
Society of Neurology and Mental Science, An American Member of the Moscow.......... 103
Society of the County of Chautauqua, New York, The Annual Meeting of the Medical......... 216
Society, The American Microscopical.. 277, 396, 611
Society, The Eastern Medical, of the City of New York.. 893
Society, The German Medical, of the City of New York...... .... 489, 673, 860
Society, The Medical, of City Hospital Alumni, St. Louis...................... ...... 602, 709, 825
Society, The Medical, of the County of Kings... 710
Society, The Medical, of the County of New York.. 636
Society, The Medical, of the Missouri Valley... 576
Society, The Medical, of the State of New York 674, 978
Society, The New York, for the Relief of Widows and Orphans of Medical Men...... 745
Society, The New York Graduates', of McGill University, of Montreal..... 632
Society, The New York Obstetrical............. 636
Society, The North Hudson County Medical.... 576
Society, The Onondaga Medical.................. 538
Society, The Rome, N. Y., Medical 780
Society, The St. Louis Medical.... 489, 504, 529, 684, 698, 746, 780, 825, 858, 893, 930
Society, The Tri-State Medical, of Alabama, Georgia, and Tennessee................ 396, 609
Society, The Washington State Medical......... 132
Society, The Wyoming State Medical....... ... 648
Sodium, Bicarbonate of, The Treatment of Charbon by.. 574
Sodium, Small Doses of Sulphate of, in Gastric Catarrh.. 607
Solanine as a Sedative............................ 416
Soldier, The Importance of Feeding the........ 647
Soldiers, Chinese, for the United States Army... 103
Soldiers, Homesickness among.................. 421
Soldiers, Pennsylvania, in Philadelphia Hospitals.. 396
Soldiers, Sick, in the Philadelphia Hospitals. .. 386
Soldiers, Sick, What the Philadelphia Hospitals have done for the............ 386
Soldiers, The Responsibility for the Condition of our... .... 418, 431
Solution to Vaporize in the Chamber of Phthisical Patients.... 343
Somers, L. S. Tribromophenol-Bismuth as an Antiseptic in Chronic Suppurative Otitis Media... 924
Sore Throat, Cyclists'.... 179
Sound, The Perception of, by Nerves of General Sensation.. 274
Spasms affecting the Voluntary Muscles, An Unusual Case of.......... 770
Spasms, Chloral in the Treatment of Uterine.... 964
Specialism, The Increase of........... 567
Specimens, The Preparation of, for the Microscopist 500
PAGE
Spectacles, The Origin of.............. 356, 673, 902
Spermatorrhœa, Pills for......... 486
Spermine of Guinea-pigs, The, in Cancer......... 892
Spermine, The Action of Poehl's................. 346
Spiller, W. G. On Amyloid, Colloid, Hyaloid, and Granular Bodies in the Central Nervous System... 217
Spleen, The Ether Spray for Enlarged........... 426
Spondylitics, Growth in........................... 507
Spratling, E. J. Epilepsy and Digestion........ 485
Spratling, E. J. Letter to the Editor........... 748
Spratling, W. P. Letter to the Editor.......... 604
Staining of the Gonococcus......... 31
Staples, F. Bacteriology in the Progress of Medicine. A Few Notes from Current History 628
Stature of Professional Men, The............... 903
Stenosis, Uterine, as a Cause of Exophthalmic Goître... 467
Sterility in Aboriginal Women, The Influence of Coitus with White Men in inducing......... 681
Stinson, J. C. Review of the Several Methods of Operations for Hæmorrhoids; The Best Operation 663
Stomach, A Successful Case of Removal of the Entire.. 35
Stomach, A Vaginal Parasite in the............. 709
Stomach, Precision of Terms in Diseases of the. 54
Stomach, Removal of the, for Carcinoma........ 125
Stomach, The Surgey of the....................... 942
Stowell, W. L. Summer Diarrhœa.............. 115
Strabismus Cured by Curettage of the Nasopharynx.. 780
Stramonium, The Treatment of Asthma with... 200
Stránsky, F. L. Letter to the Editor........... 531
Straw, Charred, as a Dressing.... 33
Strictures, The Treatment of Deep Urethral, by Internal Urethrotomy........................ 282
Strontium, Bromide of, in Epilepsy............. 977
Strophanthus in Cardiac Diseases............... 142
Strophanthus in Urticaria........................ 358
Strychnine, Is the Continual Use of, Unwise ?... 525
Stubbert, J. E. Sanitarium Treatment of Pulmonary Tuberculosis......................... 159
"Suggestion," A Cure by......................... 287
Suggestion, The Apotheosis of................... 171
Suggestion, The Influence of, on Life........... 286
Suggestion, The Limitations of.................. 360
Suggestion, Therapeutic, during Ordinary Sleep. 708
Suggestion, Treatment of Seasickness, The...... 283
Suicide, Premeditated............................. 500
Suit, An Extraordinary Damage.................. 834
Sulphonal, Toxic Action of. The Peculiar Susceptibility of Women to the............... 58
Sunstroke, Acetanilide in......................... 940
Sunstroke," "Electric 131
Sunstroke in Philadelphia...... 59
Sunstroke, Thirty Cases of, in Philadelphia..... 285
Sunstroke, Three Deaths from, in Philadelphia. 68
Suppositories for Vaginismus......... 890
Suppositories, Lutaud's Vaginal................. 890
Suppository of Anusol.............................. 166
Suppuration of the Ear, The Treatment of, by Picric Acid......... 562
Suppuration, Oxygen Gas in, of the Middle Ear. 868
Suppuration, The Relation of, to Shortening of the Limbs in Tuberculous Diseases of the Hip Joint.. 649
Suppuration, The Treatment of Pelvic.......... 176
Suprarenal Glands of the Sheep, The Local Use of the Aqueous Extract of the, in the Nose and Throat.. 916
Surgeon, Contract, Appointment as, in the United States Army........................... 942
Surgeon of the *Yankee*, The Gallant............ 823
Surgeons, An Insufficiency of, in the French Army... 489
Surgeons, Aphorisms for Army.................. 140
Surgeons, Army, to Study British Military Medical Methods.................................. 859
Surgeon's Responsibilities, The................. 892
Surgery, Aseptic, in General Practice........... 774
Surgery, Conservative, of the Ovaries........... 534
Surgery, "Intervention" *versus* "Interference" in.. .. 779
Surgery, Mechanical................. 287
Surgery, The Triumphs of Modern............. 753
Surgical Aphorisms................................ 142
Susceptibility, The Peculiar, of Women to the Toxic Action of Sulphonal.................. 58
Suture of Muscles in a Case of Cleido-humeral Nearthrosis........ 241
Suture of Wounds of the Heart................... 825
Swain, H. L. The Local Use of the Aqueous Extract of the Suprarenal Glands of the Sheep in the Nose and Throat.............. 916
Sweating Hands, Treatment of.................... 526
Symphysiotomy..................................... 829
Symphysis Pubis, Rupture of the, during Labor. 832
Syncope, Cardiac, Massage of the Heart in...... 857
Syphilides, Impetiginous...... 166
Syphilis, A Case of Early Spinal, with Brown-Séquard's Paralysis....... 269
Syphilis and Pregnancy............................ 60
Syphilis Inoculated by Tattooing............... 866
Syphilis, Intravenous Injections of Mercury in.. 868
Syphilis, Observations on Cardiac............... 577
Syphilis of the Tongue, The Diagnosis between Tubercular, and Syphilitic Glossitis 791
Syphilis, Shall Patients be Informed that they have............... 560
Syphilis, The Ætiology and Nature of.......... 215

PAGE
Syphilis, The Points of Distinction between Cerebral, and General Paralysis of the Insane....... 256, 293, 375, 403
Syphilis, The Relation of Cancer to........ 645
Syphilis, The Relation of, to Cancers of the Mucous Membranes.................... 659
Syphilis, The Stages and Forms of......... 106, 360
Syphilitic Reinfection, A Case of............... 567

Tabes Dorsalis, The Treatment of............... 753
Tabes, Intermittency of the Argyll Robertson Pupil in.................................. 791
Tæniafuge, Beta-Naphthol as a..................... 93
Tæniafuge Mixture, A............................. 128
Tænia, The Treatment of......................... 55
Taft, R. M. An Operating Table and Chair designed for Use in an Office or Hospital...... 333
Taft, R. M. Extra-uterine Gestation of the Interstitial Variety terminating by Rupture into the Uterus. Recovery................ 330
Talipes Valgus, Tabetic................... 789
Tapeworm, A Prescription for Children with ... 93
Tapeworm, Black Oxide of Copper in the Treatment of.......... 271
Taylor, H. L. Growth in Spondylitics.......... 507
Tea as a Causative Factor in the Production of Nervous Disorders..........................13, 46
Teaching, The Art of, and the Test by Examination.................................. 715
Tea, Cold, as a Soldier's Beverage.............. 68
Tempora mutantur, nos et mutamur in illis..... 177
Temple of Æsculapius, Discovery of a.......... 501
Tenner, A. S. Letter to the Editor............. 893
Test for Semen, Florence's.... 97
Testimony, Expert, by Philadelphia Physicians.. 314
Testimony, Expert, in Malpractice Suits........ 672
Tetanus following Laparotomy.. 501
Tetanus, Injections of Carbolic Acid in......... 745
Tetanus, The Antitoxine Treatment of.......... 314
Tetanus, The Treatment of, by Means of Intracerebral Injections of Antitoxine........... 884
Tetanus, The Use of Antitetanic Serum in...... 680
Tetanus: Treatment by Trephining and the Intracerebral Injection of Antitetanic Serum 888
Tetany of Gastro-intestinal Origin in Children, The Treatment of.............. 402
Therapeutics, Arsenical, The Scientific Explanation of....... 249
Therapeutics, Infantile, A German Translation of Dr. Jacobi's Work on................. .. 153
"The Old Order Changeth"........................ 286
Thiersch's Solution...................... 171, 347
Thompson, F. A. Henoch's Disease, or Nervous Purpura.................................. 773
Threadworms in the Ear 179
Thyme, in the Shape of "Pertussin," as a Remedy.......... 274
Thymol as a Tæniafuge............................ 342
Thymus, Persistent, A Case of Epilepsy with... 443
Thyreoid Extract, Recurrent Cancer of the Breast treated by.......................... 35
Thyreoid Gland in Goître, The................. 32
Thyreoid Therapy, The Ultimate Results of, in Sporadic Cretinism......................... 84
Thyreoid, The Use of........... 535
Thyreoid Treatment, Goître in a Newborn Infant Cured by, of the Mother................... 716
Tinnitus Aurium, Cimicifuga in................. 135
Tinnitus Aurium, Further Observations on Cimicifuga as a Remedy for..................... 275
Tissue, Comparison of the Erectile, in the Nasal Mucous Membranes of a Bull and a Bullock. 732
Tobacco as a Causative Factor in the Production of Nervous Disorders..................... 13, 46
Tobacco rendered Harmless............. 788
Todd, F. C. The Implantation of an Artificial Vitreous as a Substitute for Enucleation of the Eyeball 397
Toes, Severance of Several, with Restoration... 314
Tongue, The Teachings of the, in Disease....... 500
Tonsil, Enlargement of the Lingual, as a Cause of Cough.................................... 476
Tonsil, Hypertrophy of the Pharyngeal......... 584
Tonsils, The Internal Secretion of the.......... 418
Toothache, The Temporary Relief of........... 854
Toronto, Views of 976
Toxine, A Tapeworm............................ 745
Toxines and Antitoxines, Martin and Cherry's Experiments on the Nature of the Antagonism between................................ 385
Tracheotomy under Local Anæsthesia.......... 533
Trachoma, The Prevention and Treatment of, at the House of Refuge......................... 623
Transmission of Disease by Certain Insects, The.. 593
Transport *Puebla*, Arrival of the, at Manila..... 859
Traveling, Luxurious... 501
Tremor, A Graphic Study of..................... 249
Trephining Openings, The Repair of.......... .. 528
Trephining Operations, The Use of Egg Membrane in, upon the Skull.................... 570
Trephining, Tetanus, Treatment by, and the Intracerebral Injection of Antitetanic Serum......... 888
Trilby's Prototype............................... 903
Trional, To Increase the Power of.............. 903
Troop Ships, Permanent, for the Army.......... 488
Truth in a Nutshell, The......................... 534
Tuberculin, Another........ 34
Tuberculin R. in Hip-joint Disease............. 564
Tuberculin R. in Ocular Tuberculosis, The Effects of...... 34
Tuberculin Treatment of Phthisis, The......... 571
Tuberculosis, Aims of a Society for the Prevention of.. 718
Tuberculosis, A Race of Immunes to............ 868
Tuberculosis conveyed from a man to a Cow.... 500
Tuberculosis, Creosote Valerianate in the Treatment of.................................... 106
Tuberculosis, How to Avoid..................... 680
Tuberculosis, Hyporespiration and Hyperrespiration in....... 358
Tuberculosis in New York, The Notification of... 647
Tuberculosis in Philadelphia, Further Protection against................................ 322
Tuberculosis, Laryngeal, at the Loomis Sanitarium 368
Tuberculosis, Ocular, The Effects of Tuberculin R. in 34
Tuberculosis of the Genitals in a Girl Four Years and a Half Old.............................. 321
Tuberculosis of the Larynx, Surgical Treatment of, in Connection with Tracheotomy........ 367
Tuberculosis of the Parotid Gland............. 536
Tuberculosis Problem, The...................... 198
Tuberculosis Pulmonalis, Heated Blood in the Treatment of Croupous Pneumonia and..... 207
Tuberculosis, Pulmonary, Common Errors in dealing with.......................... 866
Tuberculosis, Sanitarium Treatment of Pulmonary.. 159
Tuberculosis, The Fight against 743
Tuberculosis, The Influence of Phosphoric Acid with Creosote in........................ 501
Tuberculosis, The Parental Transmission of.... 319
Tuberculosis, The Serum Cure of.............. 105
Tuberculosis, The Treatment of Pulmonary, by Serotherapy................................. 391
Tuberculosis, The X Rays in the Diagnosis of... 978
Tuberculous Affections, Balsam of Peru in..... 528
Tuberculous Patients in Sanitariums, Treatment of Poor.......................... 319
Tuberculous Persons, Alveolar Abscess in...... 451
Tuberculous, The Relief of Fever in the........ 200
Tumor, Cerebral, A Study of Two Cases of 541
Tumor, Gastric, Insufflation of the Stomach for the Diagnosis of.............................. 976
Tumor of the Breast, Supposed Malignant, cured by the Continuous Current................. 606
Tumor of the Ovary, Solid, attended with Ascites, treated by Preliminary Tappings and Abdominal Section. Recovery......... 584
Tumor, Three Cases of Orbital, in Infants...... 34
Tumors, Ovarian Cystic, and their Complications.. 605
Tumors, The Treatment of Erectile, by Interstitial Injections of Iron Perchloride........... 670
Tuttle, J. P. Local Examination and Treatment of Disease of the Upper Rectum and Sigmoid Flexure...... 1
Typhoid, Bananas as a Food in................. 286
Typhoid, Bathing in and Drinking from Streams as a Cause of.... 79
Typhoid Fever, A Diagnostic Sign of........... 246
Typhoid Fever, Formaldehyde in............... 776
Typhoid Fever in Honolulu...................... 893
Typhoid Fever in the Borough of the Bronx.... 860
Typhoid Fever, Necrosis of the Liver in........ 98
Typhoid Fever, Sir William Gull's Directions concerning........ 566
Typhoid Fever, Ulcerative Orchitis following... 528
Typhoid Fever, Urine Diagnosis of............ 250
Typhoid Fever, Yellow Palms as a Sign of...... 719
Typhoid, The Responsibility for, in Military Camps.............................. 276
Typho-malarial Fever, Restore the Term........ 926

Ulcer, Leprous, of the Lip....................... 546
Ulcers of the Cervix Uteri, The Treatment of Painful.. 526
Ulcer of the Stomach, Gelatin in Hæmatemesis from... 672
Uniform, The Soldier's.......................... 892
Uniforms, Waterproof........................... 967
Universities in China............................ 216
University, Columbia.......... 859
University, Cornell, Professor Adami and the Faculty of Medicine of......................... 103
University of Cincinnati, The.................... 60
University of Havana, The........................ 684
University of Pennsylvania, The.. 59
University of Pennsylvania, An Eccentric Bequest to the.... 251
University of Pennsylvania and Large Hospitals, How the New War Tax on Bequests will affect the............................... 23
University of Tennessee, The.................... 755
Uræmia, Chronic, Salivation in the Course of... 168
Urethritis, The Symptomatology of............ 791
Uric Acid, The Significance of, in the Nasal Reflex Neuroses.................. 699
Urinals, Sawdust....................... 499, 892
Urination, Vicarious 251
Urotropine in the Treatment of Cystitis......... 833
Urticaria.. 56, 964
Urticaria of the Larynx, A Case of Chronic..... 963
Urticaria of the Mucous Membranes............ 645
Urticaria, Pilules for 881
Urticaria, Strophanthus in....................... 358
Urticaria, Topical Application for.............. 706
Uterus, Curetting of the, in Perimetric Affections.......... 107
Uterus, The Results of Operative Forward Fixation of the... 383
Uvula, The, in its Relations to Various Abnormal Conditions............................. 958

Vaccination Act, The Working of the Conscience Clause in the English......................... 565
Vaccination in England, Compulsory 287, 345
Vaccination Law, The Effect of the Conscience Clause in the British..... 967
Vagina, Rupture of the, during Labor.......... 673
Van Fleet, F. Letter to the Editor.. 136
Van Santvoord, R. The State of the Vasomotors in Acute Lobar Pneumonia, and its Bearing on Treatment.... 521
Varicella, The Rash of 680
Vegetations of the Vulvar Orifice, The Treatment of.. 881
Veins, Internal Jugular, Removal of Both 866
Venereal Diseases in the Indian Army, The Opposition of Certain Medical Women to the British Government's Management of....... 177
Venereal Diseases, Joint Troubles and their Relation to.. 976
Venesection, Indications for, The Restoration of Bleeding and......... 168
Venom, Snake, The Root of the Dahlia as a Protective against... 169
Vertigo, Unilateral-movement.................. 274
View, From Two Points of...................... 974
Virchow, Professor Hans, A Curious Accident to 930
Virtue has its own Reward........ 139
Vitreous, Artificial, The Implantation of an, as a Substitute for Enucleation of the Eyeball.. 397
Voisin. Death of Dr. Auguste.................. 312
Vomiting, Iodine in Obstinate... 200
Vomiting, Nervous................................ 280
Vomiting of Pregnancy, Orexin in the.......... 68
Vomiting of Pregnancy, The.............. 71
Vomiting of Pregnancy, The Pernicious........ 466

Wagner, H. L. Early Diagnosis in Whooping-cough 514
Wagner, H. L. Leprous Ulcer of the Lip....... 546
Wagner, H. L. Natural Immunity of the Mucous Membranes of the Respiratory Tract... 545
Wandless, H. W. A New Form of Instantaneous Cut-off.................................... 138
War, Some Points in the Recent................ 830
War, The *Saturday Review* on the Spanish-American.......... 646
Waring, The Late Colonel....................... 870
Warner, L. H. The Cultivation of the Plasmodium Malariæ and the Rational Treatment of Malarial Disease.......................... 835
Warts, A Simple Treatment of.................. 452
Water, Apenta, in Yellow Fever................ 396
Water, Better, for Philadelphia................. 67
Water, Buffalo Lithia, the Solvent Action of, on Urinary Calculi......... 903
Water, Philadelphia likely to Use Schuylkill, for Some Time to come......... 420
Water Treatment of Children's Diarrhœa....... 250
Wax, The Removal of, from the Ear. 215
Weather, Influence of the, on the Mental State . 98
Weight in Young Children, The Augmentation of, as a Precursor of Death 249
Wells, The Value of Artesian 709
Wells, W. A. On the Relationship of the Nose to Diseases of the Skin....................... 553
Wells, W. A. The Significance of Uric Acid in the Nasal Reflex Neuroses.................. 699
What a Small Boy can do: Casualties of One for One Week.......... 176
Whitmore, B. T. Professor Behring's Patent on Diphtheria Antitoxine........................ 104
Whooping cough, Early Diagnosis in........... 514
Whooping-cough, The Treatment of............ 271
Wiener, A. A Study of Two Cases of Cerebral Tumor, with a Report of the Results of an Operation in the one and an Autopsy in the other 541
Williamson, G. H. Letter to the Editor........ 861
Wilson, J. G. An Unusual Case of Spasms affecting the Voluntary Muscles.... 770
Wine of Cinchona, Commercial.................. 241
Wines and Liquors for the Sick, The Selection of 624
Witness, Expert Medical, The Qualifications for an..:... 881
Witnesses, The Responsibility of Medical Expert 22
Woman's Sphere, A Physician's View of........ 825
Wood, W. C. Solid Tumor of the Ovary attended with Ascites, treated by Preliminary Tappings and Abdominal Section. Recovery.. 584
Wood, W. Cerebral Eidola 771
Wood, W. Fissura Calcarina Hypertrophy and Atrophy. Two Interesting Cases.. 220
Wound, Stab, of the Thoracic Duct 215
Wounds of the Eye, Shot and Bullet............ 439
Wounds of the Eyeball, The Treatment of Penetrating.. 721
Wounds, Are the, Inflicted by Firearms Primarily Aseptic?.. 213
Wounds of the Mauser Bullet, The 286
Wounds, The Aseptic Treatment of Open....... 141

PAGE

Wright, J. Comparison of the Erectile Tissue in the Nasal Mucous Membranes of a Bull and a Bullock.................................. 732

X-Ray "Burn," The: Its Production and Prevention 18
X-Ray Diagnosis of Cerebral Tumors........... 46
X-Ray Pictures, the Fallacies of........... 573
X Ray Work. Short Exposures in............... 288
X Rays, Actual Therapeutical Results of the.... 274
X Rays, The, in the Diagnosis of Tuberculosis.. 978
Xylonite Hair Combs, A Serious Objection to... 97

Yager, T. J. Letter to the Editor.............. 387
Yellow Fever, Apenta Water in................. 396
Yellow Fever. "Immunes" and................ 345
Yellow Fever in Porto Rico..................... 504
Yellow Fever in the South...................... 488
Yellow Fever. Precautionary Measures against, in Philadelphia........................... 169
Yellow Fever, The Ætiology of.. 499
Yellow Fever, The Cuban Commission on 68
Yellow Fever, The Diagnosis between Dengue and.............. 174
Yellow Fever, The Government Monograph on... 348
Yellow Fever, The Government on the Lookout for.. 321
"Yellow" Journalism, The Scientific Value of.. 170

Zoster, Herpes, Isolated Vesicles of........... 285

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